



**SUBURBAN
RAIL LOOP**

Business and Investment Case

August 2021



**SUBURBAN
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AUTHORITY



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Acknowledgement of Country

Suburban Rail Loop Authority respectfully acknowledges the Traditional Owners of the land and pays respect to their Elders, past, present and emerging.

Table of Contents

Executive Summary	7
Melbourne is changing	39
1 The case for investment: why and how Melbourne needs to change	40
1.1 How we grow matters	41
1.2 Maintaining momentum	46
1.3 <i>Plan Melbourne</i> : planning for the next phase of growth	52
1.4 Shaping a Melbourne for the future	56
1.5 The need for action now	60
1.6 The solution	63
1.7 Defining SRL	66
1.8 Generating value for Victorians	68
1.9 Responding to and rebuilding after COVID-19	70
2 Background and purpose of this Business and Investment Case	74
2.1 Background to this Business and Investment Case	75
2.2 Scope and approach of this Business and Investment Case	75
2.3 The legislative and policy context for SRL	78
2.4 How this Investment Case complies with Victoria's High Value High Risk Guidelines	83
Part A: The need for SRL East and SRL North	85
3 Problems and anticipated benefits	86
3.1 Approach to identifying problems and benefits	87
3.2 Problem 1: Melbourne's monocentric urban form is constraining economic growth	89
3.3 Problem 2: Concentration of growth in inner and outer Melbourne is contributing to inefficient infrastructure and service provision	106
3.4 Problem 3: Inequitable access to jobs and services is entrenching disadvantage	115
3.5 Melbourne's challenges will worsen over time	126
3.6 Identifying and measuring benefits	127
Part B: SRL East and SRL North – Scope Options and Recommended Solution	133
4 SRL East and SRL North – development process	134
4.1 The importance of an integrated transport and precinct solution	135
4.2 Developing SRL East and SRL North	135
4.3 Precinct location options assessment	144
4.4 Baseline alignment	157
5 Recommended integrated transport and precinct solution (high-level scope)	158
5.1 SRL Precinct Principles and Ambitions	159
5.2 SRL East and SRL North rail infrastructure	165
5.3 SRL precinct development and activation	172
5.4 SRL scope and delivery	179

Part C: SRL East and SRL North Outcomes	183
6 Realising <i>Plan Melbourne</i>	184
6.1 A global city of opportunity and choice	185
6.2 A city of centres	187
6.3 A transport network for the future	190
6.4 Developing a local city	191
6.5 Increasing connections and opportunities for regional Victoria	191
6.6 SRL East and SRL North outcomes	195
7 Productivity outcomes	196
7.1 Boosting access to jobs	197
7.2 Unlocking economic growth	201
7.3 Driving prosperity for Victoria and Australia	211
8 Connectivity outcomes	213
8.1 A first for Melbourne – orbital rail travel	214
8.2 Taking cars off the road	221
8.3 Promoting active transport and other forms of public transport	224
8.4 Enhanced network resilience and asset use	230
8.5 Improving access to Melbourne Airport	230
9 Liveability outcomes	231
9.1 A more equitable Melbourne	232
9.2 Creating lifelong homes for diverse communities	235
9.3 Vibrant, inclusive and sustainable precincts	241
10 Value uplift	248
10.1 Value uplift and SRL East and SRL North	249
10.2 User benefits	249
10.3 Business benefits	250
10.4 Landowner benefits	253
10.5 Value uplift application	263
11 Value creation	264
11.1 Enhancing public value	265
11.2 Identifying value creation opportunities	266
11.3 SRL value creation mechanisms	267
11.4 Next steps	288
12 Overall evaluation: SRL East and SRL North	289
12.1 Key results	290
12.2 Overview of the approach to economic evaluation	294
12.3 Scenarios assessed	300
12.4 Scenario definitions	300
12.5 Results	307
Part D: Delivering SRL	319
13 Governance	320
13.1 Overview of SRLA	321
13.2 Governance	321
13.3 Victorian Government stakeholders	325
13.4 SRLA Policy Framework	326

14	Planning approvals process	327
14.1	Introduction	328
14.2	SRL East Transport Project	328
14.3	SRL East Structure Planning	330
14.4	Government land and third-party developments	331
14.5	Land assembly	331
14.6	Key interdependencies	331
14.7	Other planning issues and considerations	332
15	Risk management	333
15.1	Introduction	334
15.2	Key characteristics and risk profile	335
15.3	Approach to risk management	335
15.4	Management of key risks	340
16	Packaging and procurement	346
16.1	Background and context	347
16.2	Packaging and procurement options assessment framework	348
16.3	Key packaging and procurement considerations	349
16.4	Tender processes	351
17	Funding and financing	352
17.1	Funding strategy	353
17.2	Financing strategy	360
18	Strategic communications and engagement	364
18.1	Overview	365
18.2	Stakeholder engagement principles and objectives	366
18.3	Stakeholder identification and key issues	367
18.4	Engagement program	370
19	Implementation considerations	378
19.1	Development of Funding Submissions	379
19.2	Assurance processes	380
19.3	Managing delivery	382
19.4	Cross-agency engagement	383
19.5	Readiness and next steps	384
19.6	Exit strategy	386
	Glossary	387
	Appendix	400

For the purposes of this document, ‘SRL’ represents the SRL Program: an orbital rail line connecting Melbourne’s middle suburbs stretching from Cheltenham to Werribee comprised of individual rail projects (such as SRL East), together with a series of integrated initiatives to create value and improve areas around the new stations.





**SUBURBAN
RAIL LOOP**

Executive Summary

More than a rail line

What is Suburban Rail Loop?

Suburban Rail Loop is a multi-decade, city- and state-shaping program of investment that will transform Victoria's public transport system and transform how Victorians move around the city and State. SRL is more than a rail line – its social benefits will be profound and long lasting. Victoria is expected to grow to 11.2 million people by 2056 and Greater Melbourne will reach around nine million people – a similar size to London today. SRL is a once-in-a-generation opportunity to get ahead of the curve – recalibrating where and how our city will grow in the decades ahead. The social benefits it will deliver will be realised over decades, including fairer and more equitable access to employment opportunities, education, health and affordable housing for many thousands of Victorians.

SRL will transform Melbourne into a 'city of centres' – supporting vibrant suburbs outside the central business district (CBD) and inner city that will provide high quality jobs, greater housing choice, green and open space in attractive, highly accessible neighbourhoods.

At the core of SRL is a new 90km rail line following an orbital route through Melbourne's middle suburbs from Cheltenham to Werribee. The new line will link every existing major rail service from the Frankston line to the Werribee line, and provide a direct connection to Melbourne Airport.

As well as delivering significant transport benefits, SRL provides an opportunity to plan the services, amenity and infrastructure Melbourne will need outside of the CBD to accommodate a growing population while building on the qualities that make Melbourne one of the world's most liveable cities. SRL includes initiatives to trigger new investment and economic activity in precincts around each station, enabling clusters of jobs, businesses, services and housing in Melbourne's 'middle ring' and driving the development of easy-to-get-to, vibrant urban communities.

SRL will:

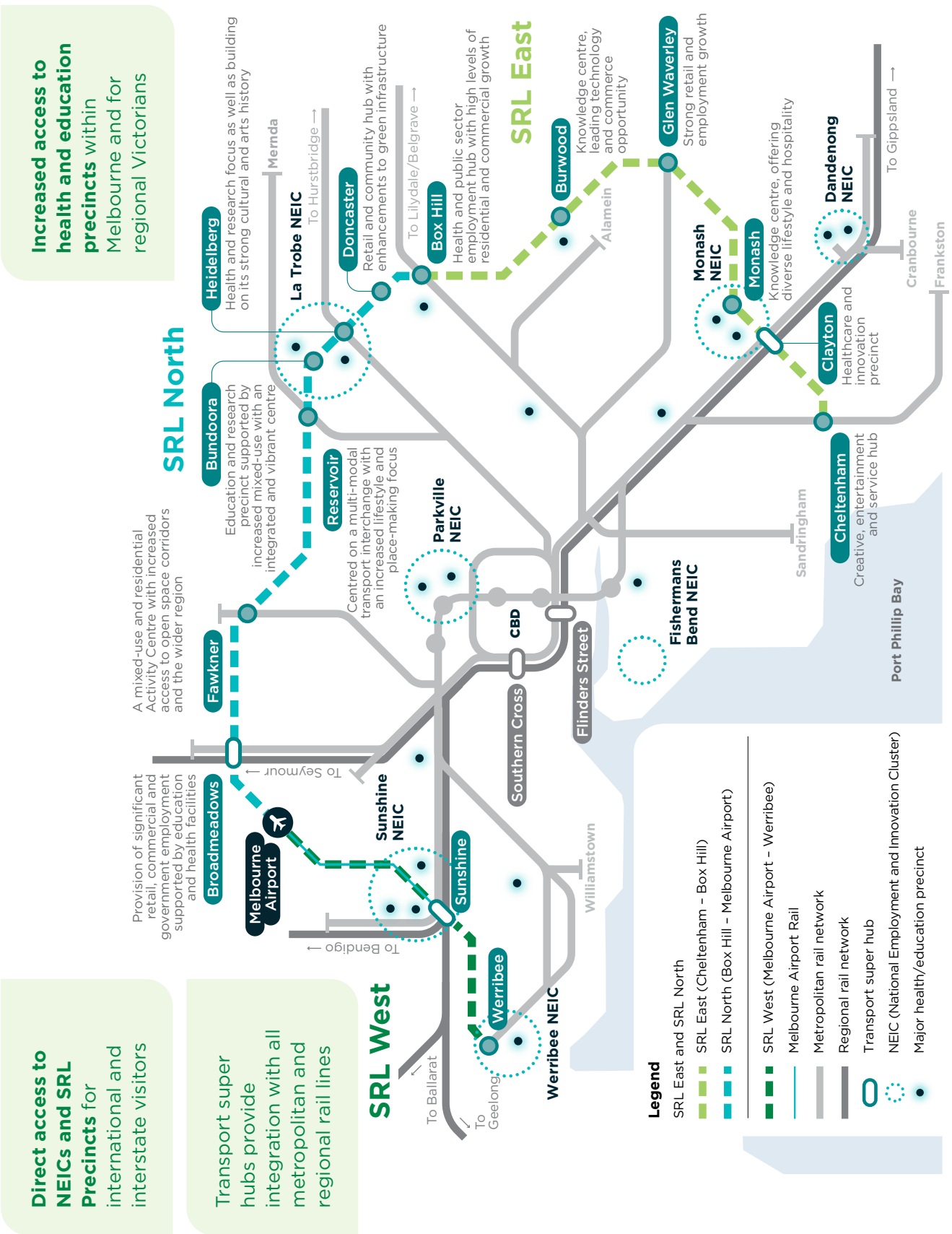
- Provide a 'turn up and go' metro-style rail service along the full length of the new rail line, with connections from the new orbital line to every major radial railway line between Frankston and Werribee
- Provide a second rail connection to Melbourne Airport
- Establish cross suburb connections for people to travel between major employment, health, education and activity centres outside Melbourne's CBD and improve access to jobs in those precincts
- Deliver new transport super hubs at Clayton and Broadmeadows and link to the super hub at Sunshine. These super hubs will connect regional passengers to the new orbital rail line, providing more direct and convenient journeys to destinations across the city – instead of having to travel through the CBD
- Unlock new possibilities in the 1600 metre radius surrounding each SRL Station (referred to as the SRL Precincts) through a range of place-making initiatives including new planning settings, new and upgraded community facilities, new and improved walking and cycling links, open and public space, and investment to attract anchor commercial tenants
- Open up exciting prospects by creating development spaces over the underground stations or adjacent to the stations that can be used for housing, hospitality and retail areas, plazas and recreation spaces
- Boost the economic and employment potential of Melbourne's National Employment and Innovation Clusters (NEICs) at Monash, La Trobe, Sunshine and Werribee, Metropolitan Activity Centres (MACs) such as Box Hill and Broadmeadows, Health and/or Education Precincts (HEPs) at Clayton and Heidelberg, and Major Activity Centres such as Cheltenham, Glen Waverley and Reservoir
- Generate thousands of local job opportunities and help train the next generation of skilled workers.

SRL will be the biggest infrastructure investment ever undertaken in Victoria and will be completed in several stages over multiple decades. It comprises three sections. Cheltenham to Box Hill is referred to as 'SRL East' and Box Hill to Melbourne Airport is referred to as 'SRL North'. These two sections, and their cumulative benefits and outcomes, are the focus of this Business and Investment Case. The western section between Melbourne Airport and Werribee is referred to as 'SRL West'. SRL West will be subject to further investigation, planning and development. Planning for SRL West from the airport to Werribee will continue. There are already billions of dollars of investment in rail projects in the West, including projects such as Metro Tunnel, Melbourne Airport Rail and the Western Rail Plan, and all of these will be coordinated to ensure provision is made to deliver SRL to Werribee as soon as possible.

This Business and Investment Case articulates the strategic rationale for SRL and focuses on establishing the specific case for investment in SRL East and SRL North (from Cheltenham to Melbourne Airport). It outlines the scope of these two sections and explains the process through which they have been defined. It describes and quantifies the significant and long lasting benefits and outcomes to be delivered by SRL. Finally, it provides details about how SRL East from Cheltenham to Box Hill will be delivered.

The figure below shows the planned network, stations, precincts and stages of the SRL Program.

Figure ES-1: Suburban Rail Loop network plan



Reshaping the city

Why do we need Suburban Rail Loop?

SRL is an integrated city-shaping program of works and initiatives that will shift Melbourne's urban form and drive the transformation envisaged by *Plan Melbourne*. It will not simply change the way people move around Melbourne; it will reshape the city by influencing where and how people live, work, shop, play and travel every day. The combination of a new rail line, new stations and precinct investment will improve access to employment, education and services and increase housing diversity – breathing new life into Melbourne's middle corridor and opening up new opportunities in a more consolidated and sustainable city.

Plan Melbourne 2017-2050 is the Victorian Government's long-term planning strategy that sets out a vision for Melbourne to remain a global city of opportunity and choice. *Plan Melbourne* recognises that realising this vision requires more than just reacting to waves of demand; it requires planning ahead to shape where and how that demand materialises. Melbourne will need infrastructure that not only enhances how people move around the city, but that also changes where people choose to live and businesses choose to locate.

Major infrastructure has the potential to transform the shape and growth trajectory of a city. Businesses and households make decisions about where to locate and live in response to changes in travel times and improved accessibility. In turn, this trend redirects the property market, intensifying urban development and creating a shift in urban form.¹ This dynamic has been demonstrated by projects such as Melbourne's City Loop, CityLink and Western Ring Road, all of which helped re-balance Melbourne's lopsided growth from the south east to the north west and west.

When strategic infrastructure is integrated with targeted land use and precinct development, it has the power to reshape and unlock the economic potential of a city for generations. An integrated program can generate a range of benefits for individuals, households, businesses, communities and the broader economy. It can also help to make a city more inclusive and affordable, reducing disadvantage and opening up new opportunities in different parts of the city.

Projects this size take time to plan and deliver. It also takes time for a city's urban form to respond and for the benefits of the infrastructure to be realised. But Melbourne's strong history of ambitious city planning, forward-looking infrastructure investment and successful urban renewal shows that it can be done.



It is up to this generation to tip the balance towards a future where Victoria is socially and economically strong, environmentally resilient, and engaged with the opportunities of a rapidly changing world.

How we respond to the challenges we face will define the prosperity, sustainability and liveability of our city and state for generations to come.

Melbourne has no time to waste. We need to plan and invest wisely to cater to the needs of a more diverse and ageing population, break the link between congestion and growth; address housing affordability, mitigate and adapt to climate change, and ensure social and economic opportunities are accessible to all.

Plan Melbourne Summary, 2017-2050, page 3 https://www.planmelbourne.vic.gov.au/_data/assets/pdf_file/0009/377127/Plan_Melbourne_2017-2050_Summary.pdf

¹ Australian Transport Assessment and Planning (ATAP) Guidelines (2019), <https://www.atap.gov.au/framework/integrated-transport-land-use-planning/6-Strategic-or-city-shaping-infrastructure>

CASE STUDY

Melbourne's City Loop

Melbourne's City Loop was an infrastructure project that transformed the central city. It laid the foundation for the vibrant CBD that we know today. Together with targeted land use policies and initiatives such as 'Postcode 3000' (a policy that provided incentives to live in the CBD), the City Loop played a critical role in transforming Melbourne into a thriving economic, residential and cultural hub.

Through a mix of transport and land use initiatives, the City Loop reshaped Melbourne by:

- Supporting increased rail patronage
- Encouraging higher value residential and commercial development
- Unlocking development in the northern sections of the CBD, Southbank and St Kilda Road
- Catalysing an uplift in jobs and residents in the central city.

Drawing on the aspirations of *Plan Melbourne*, development of SRL has been guided by three objectives, which were identified in the SRL Strategic Assessment, released in 2018. The objectives are:

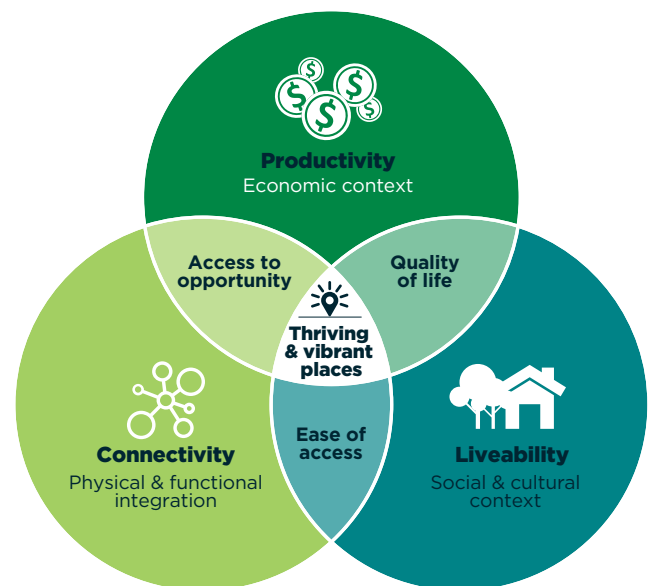
- Productivity
- Connectivity
- Liveability.

A detailed description of each SRL Objective is set out in section 1.6.2.

While these Objectives are described separately, they are fundamentally interrelated. For example, improving public transport access will be a key driver of enhanced connectivity, and it will also support productivity by encouraging increased clustering of economic activity. This interrelationship means that a broader range of positive outcomes can be realised where these objectives intersect.

The value creation philosophy articulated in Victoria's Value Creation and Capture Framework² has also underpinned the development of SRL. Value creation, value uplift and value capture principles have been, and will continue to be, embedded in all aspects of design and development – maximising the value to Victorians from this transformational investment.

Figure ES-2: Intersection between the three SRL Objectives



2 The Value Creation and Capture Framework is available here <https://www.vic.gov.au/value-creation-and-capture-framework>.

Defining SRL

How has SRL been developed?

In 2017-18, the Victorian Government investigated options to influence the distribution of population and employment across Melbourne. These investigations culminated in the Strategic Assessment: Suburban Rail Loop,³ which recommended an orbital rail line through Melbourne's middle suburbs.

Three broad potential corridors were considered: inner, middle and outer Melbourne. Following an assessment of the three options, the middle region was identified as the preferred corridor. Strengths of the middle corridor include the ability to:

- Connect four of Melbourne's NEICs (Werribee, Sunshine, La Trobe and Monash), Melbourne Airport (a critical transport gateway) and other important activity centres
- Provide better housing choice
- Integrate with the existing radial network
- Improve access for regional communities.

Following the Strategic Assessment, the Victorian Government announced its commitment to SRL in August 2018.⁴ In 2019-20, the Government allocated \$300 million for detailed planning and investigations, together with the establishment of the Suburban Rail Loop Authority (SRLA).⁵

SRL East, SRL North and SRL West

SRL has been defined in three sections.

SRL East comprises Cheltenham to Box Hill. SRL North comprises Box Hill to Melbourne Airport. Due to their scale and complexity, SRL will be completed in several stages over multiple decades. Planning and development work has commenced on SRL East, with initial and early construction to begin 2022. This section will be constructed in twin tunnels. The broad alignment and precinct locations for SRL East have been confirmed, including new underground stations at Cheltenham, Clayton, Monash, Glen Waverley, Burwood and Box Hill.

The alignment for SRL North is indicative and subject to further investigations.

SRL West extends from Melbourne Airport to Werribee. SRL West will be subject to further investigation, planning and development. There are already billions of dollars of investment in rail projects in the West, including projects such as Metro Tunnel, Melbourne Airport Rail and the Western Rail Plan, and all of these will be coordinated to ensure provision is made to deliver SRL to Werribee as soon as possible.

The baseline SRL route is shown in [Figure ES-1](#).

Better transport and services being delivered in the west

As part of Victoria's Big Build more than \$20 billion is being invested into major infrastructure projects in Melbourne's west.

The Metro Tunnel, Melbourne Airport Rail, Geelong Fast Rail and Sunbury Line Upgrade, together with the delivery of SRL West will transform train travel, making getting to work, school and health services quicker and easier.

These projects will reduce congestion, cut travel times and provide more trains more often on every train line in the western suburbs.

Melbourne Airport Rail will connect a new station at the airport to Sunshine via a dedicated train line for the first time. An upgraded Sunshine Station super hub will also provide a direct connection for passengers using Geelong, Ballarat and Bendigo services. City-bound trains will run every two to three minutes from Sunshine in the peak, providing direct access to the Metro Tunnel, Southern Cross and Flinders Street.

SRL will have a key interface with the Sunshine Station super hub and will be developed in parallel with these key projects to deliver cross suburb travel and even better transport outcomes for the west.

3 Development Victoria, Strategic Assessment Suburban Rail Loop, (2018), https://bigbuild.vic.gov.au/_data/assets/pdf_file/0006/325572/Suburban-Rail-Loop-Strategic-Assessment.pdf

4 Media release from the Premier of Victoria, Underground Suburban Rail Loop to Connect Victoria, (28 August 2018), <https://www.premier.vic.gov.au/underground-suburban-rail-loop-connect-victoria>

5 *State Capital Program 2019-20*, Budget Paper No. 4

Developing SRL East and SRL North

SRL is a once-in-a-generation opportunity to shape the future of Melbourne. Maximising the benefits of this investment requires an integrated transport, land use and precinct solution. As well as aligning with *Plan Melbourne 2017-2050*, development of the program has been based on an integrated solution that combines a new orbital rail network with planning and land use initiatives to connect and activate key precincts and economic clusters.

Building on this foundation, defining the route for SRL East and SRL North has involved considering and identifying:

- Anchor precincts – Places of State Significance with the strongest alignment to the SRL Objectives were selected as anchor precincts, including National Employment and Innovation Clusters (NEICs), Metropolitan Activity Centres (MACs), Health and/or Education Precincts (HEPs), and Major Activity Centres. Melbourne Airport is also an anchor precinct due to its importance as a transport gateway
- Precinct locations – A list of potential precinct options was identified by overlaying the SRL Objectives on the middle corridor of Melbourne. These options were narrowed down to the SRL Precinct locations by assessing them against five criteria: productivity, connectivity, liveability, cost and deliverability, and taking into account detailed technical studies and advice
- SRL sequencing – A sequenced delivery approach has been identified to deliver SRL over multiple decades. This will enable the Victorian Government to manage delivery of its broader pipeline of infrastructure projects and support the capacity of the domestic and international construction industry to deliver Australia's pipeline of mega projects. It will also stage and help manage disruption across the city – keeping Melburnians moving while SRL is delivered.

The case for investment

This Business and Investment Case articulates the strategic need for SRL and identifies the problems and challenges the program will help to address.

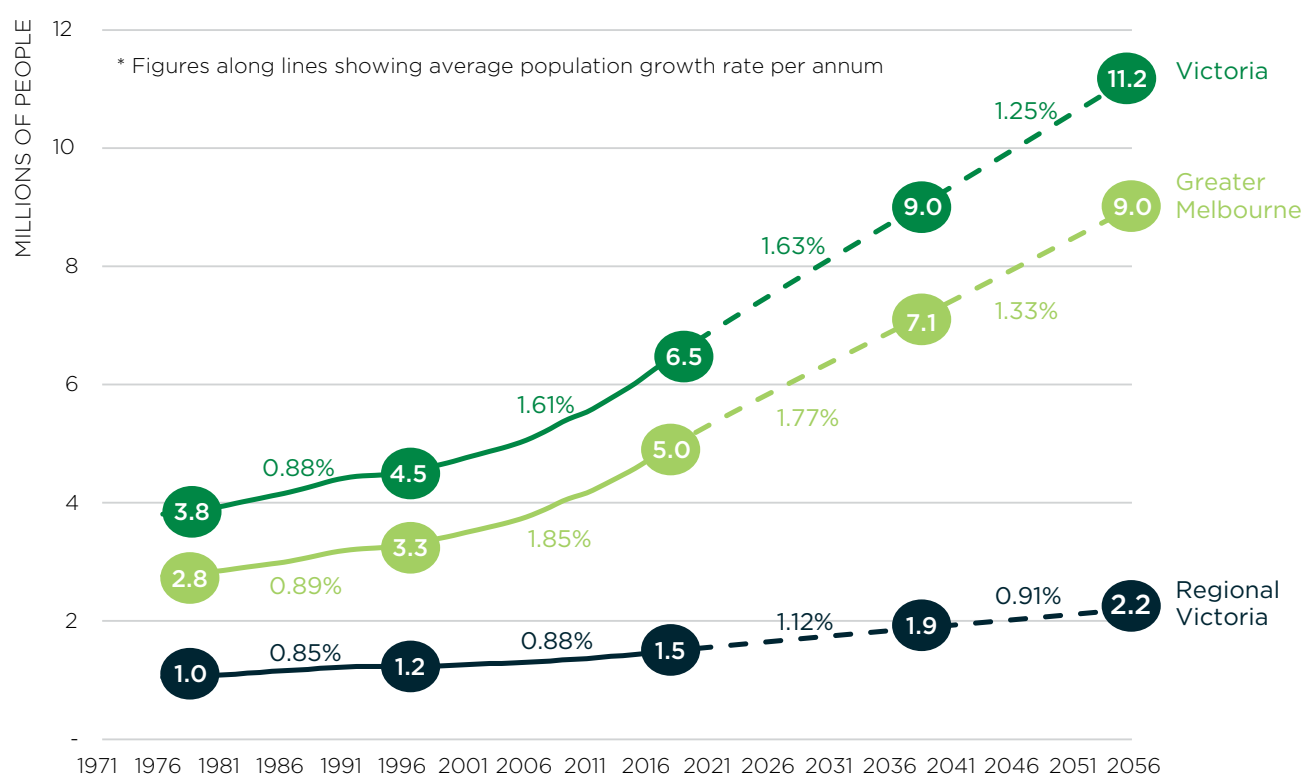
Why and how Melbourne needs to change

Victoria has undergone significant change in the last three decades, experiencing strong economic growth since the 1990s. This has been driven by:

- Strong economic management
- Reorientation of the economy towards knowledge-based services
- Rapid population growth.

The reorientation of the economy has changed the types of employment opportunities available in Melbourne, as well as where they are located. These opportunities, combined with Melbourne's attractiveness as a place to live, have been a magnet for the best talent from around the world, contributing to rapid population growth. Victoria is now expected to grow to 11.2 million people by around 2056 and Greater Melbourne will reach around nine million people – a similar size to London today.

Figure ES-3: Historical and projected population in Victoria by major regions, 1976-2056



Source: Australian Bureau of Statistics (ABS), *Australian Historical Population Statistics (2019)* and *Victoria in Future, Population and Household Projections (2019)*

While natural increases in population will contribute to this growth, a significant proportion will continue to be driven by migration. Cities compete for investment and talent both domestically and globally. Melbourne has significant strengths and advantages that provide the opportunity to position the city as one of the world's foremost new knowledge economies, powering the next generation of Victoria's – and Australia's – productivity and economic growth.⁶

COVID-19 pandemic and population growth

Migration has been the primary driver of Australia's growth for decades. The COVID-19 (coronavirus) pandemic has forced the closure of international borders and halted migration. While population growth is expected to slow in the next two years, the outlook remains highly uncertain. Modelling undertaken in relation to the impacts of COVID-19 by DoT shows that population growth may be delayed by two to four years, but will still reach similar levels in the longer term. For example, the growth originally forecast for 2020 is expected to be realised by 2022, while 2052 growth levels are expected to be realised by 2056.

Source: *COVID-19 related scenario and sensitivity testing for projects*, Department of Transport, September 2020

⁶ Victorian Government, *Plan Melbourne 2017-2050*, p. 20, https://planmelbourne.vic.gov.au/_data/assets/pdf_file/0007/377107/Plan_Melbourne_2017_Outcome_1_PDF.pdf

Melbourne's central city will continue to play a key role in attracting talent and investment, however, it was not designed to be the single centre supporting a city of nine million people. Unless we plan for and invest in population-serving infrastructure, there is a risk that one of two scenarios may eventuate:

- Population growth does not occur as projected and we miss other opportunities to stimulate Victoria's economic activity, leading to a decline in quality of life
- Population growth does occur as projected but leads to reduced liveability because Melbourne's urban form struggles to adapt to a city of nine million people, exacerbating congestion and crowding and resulting in a loss of productivity and leading to a decline in quality of life.

Both of these scenarios will be compounded by broader structural challenges:

- **Slowing productivity growth:** Victoria's multifactor productivity has been growing at a lower rate over the last 10 years relative to the decades prior.⁷ Melbourne's crowded and congested transport network, and corresponding reduction in accessibility, will make doing business in the city less efficient and attractive, and the potential for productivity gains will be lost
- **Declining workforce participation:** Melbourne's population is ageing. By 2051, the percentage of Melbourne's population aged 65 and over is projected to increase from 13.8 per cent to 20.5 per cent.⁸ An older population means fewer workers and a lower workforce participation rate
- **Reduced job accessibility:** Melbourne's lack of affordable housing and relative lack of housing density in the well-served inner and middle suburbs, has driven an expansion of the city's urban footprint. This means people are forced to live further away from employment opportunities, making it harder to attract and maintain employment. Longer work commutes can also reduce workforce productivity by increasing the amount of unproductive time
- **Maintaining liveability:** Melbourne's liveability is essential for cohesive communities and maintaining population growth. Population growth that is not planned and well managed may lead to a decline in liveability. Consequently, Melbourne may become a less attractive place for people to live and businesses to locate.

Melbourne's key challenges

SRL will deliver on *Plan Melbourne's* vision for Melbourne by addressing three critical problems that are affecting Melbourne's ability to remain a global city of opportunity and choice.

Problem 1: Melbourne's monocentric urban form constrains economic growth

Melbourne's urban form is focused on the central city. Benefits from businesses being closely clustered together (including opportunities for spillover and cross-pollination that can drive innovation and productivity) and good accessibility make the central city a very attractive location for businesses and residents. This monocentric form has served the city well but as Melbourne moves from a city of five million people to a city of nine million (see [Figure ES-3](#)), this monocentric urban form will start to constrain economic growth.

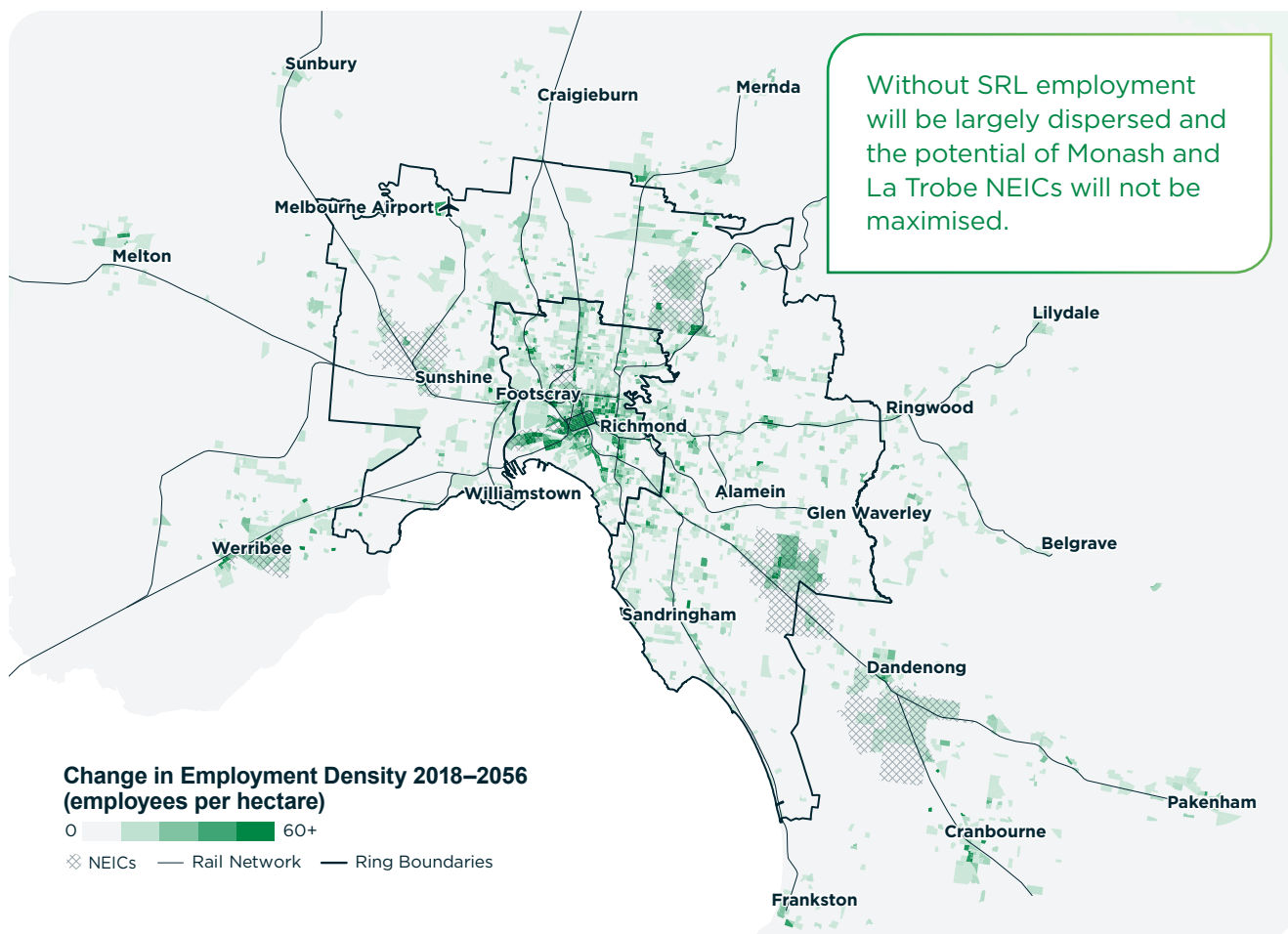
While the central city is Victoria's major economic and employment centre, approximately 70 per cent of jobs are located in Melbourne's suburbs.⁹ Businesses are generally dispersed across the middle and outer suburbs, although there are some emerging economic clusters, including NEICs, MACs (such as Broadmeadows) and HEPs (such as Heidelberg). Projections indicate this pattern of settlement will continue, with only small increases in economic activity in areas such as the Monash and La Trobe NEICs (see [Figure ES-4](#)).

⁷ ABS, *Estimates of Industry Multifactor Productivity* (2019-2019)

⁸ Victorian Government, *Plan Melbourne Addendum* 2019, p. 2, https://www.planning.vic.gov.au/_data/assets/pdf_file/0030/453369/FINAL-Plan-Melbourne-Addendum-2019.pdf

⁹ Australian Bureau of Statistics, *Census of Population and Housing, Employed Persons, Place of Work* (2016)

Figure ES-4: Melbourne's projected change in employment density, 2018-2056



Source: *Small Area Land Use Projections (SALUP) based on DELWP Projections 2018 (Unpublished)*

With employment dispersed across the middle and outer suburbs, there is significant demand for orbital travel. For example, around 55 per cent of employment-generated travel demand in Melbourne's middle suburbs is for orbital trips within the middle ring – that is, for people who both live and work in the middle ring.¹⁰

However, Melbourne's rail and tram network principally provides access to and from the CBD. While this radial network facilitates excellent public transport connectivity and coverage within the city's inner suburbs, as distance from the CBD increases gaps in public transport accessibility widen. Some of these gaps are filled by the bus network, but it does not have the same capacity as the rail and tram network. Access to activity centres around the metropolitan area outside of inner Melbourne is largely unserved by the existing high capacity public transport network, leading to a high reliance on car travel.

Outside of the central city, the dispersed distribution of businesses and jobs across Melbourne obstructs productivity, and will ultimately reduce the city's long-term competitiveness. A failure to reshape Melbourne's urban form has a number of significant risks:

- Businesses scattered across the suburbs will miss out on the cross-pollination and spillover benefits that come from being clustered with other businesses or from good accessibility to employees, customers and suppliers
- Travel times to work will increase as Melbourne continues to grow outwards, reducing job accessibility and affecting workforce participation rates, productivity and broader economic growth
- Melbourne's central city will come under more pressure, and the benefits of businesses being clustered together will begin to be outweighed by the costs

¹⁰ Australian Bureau of Statistics (2016), Census

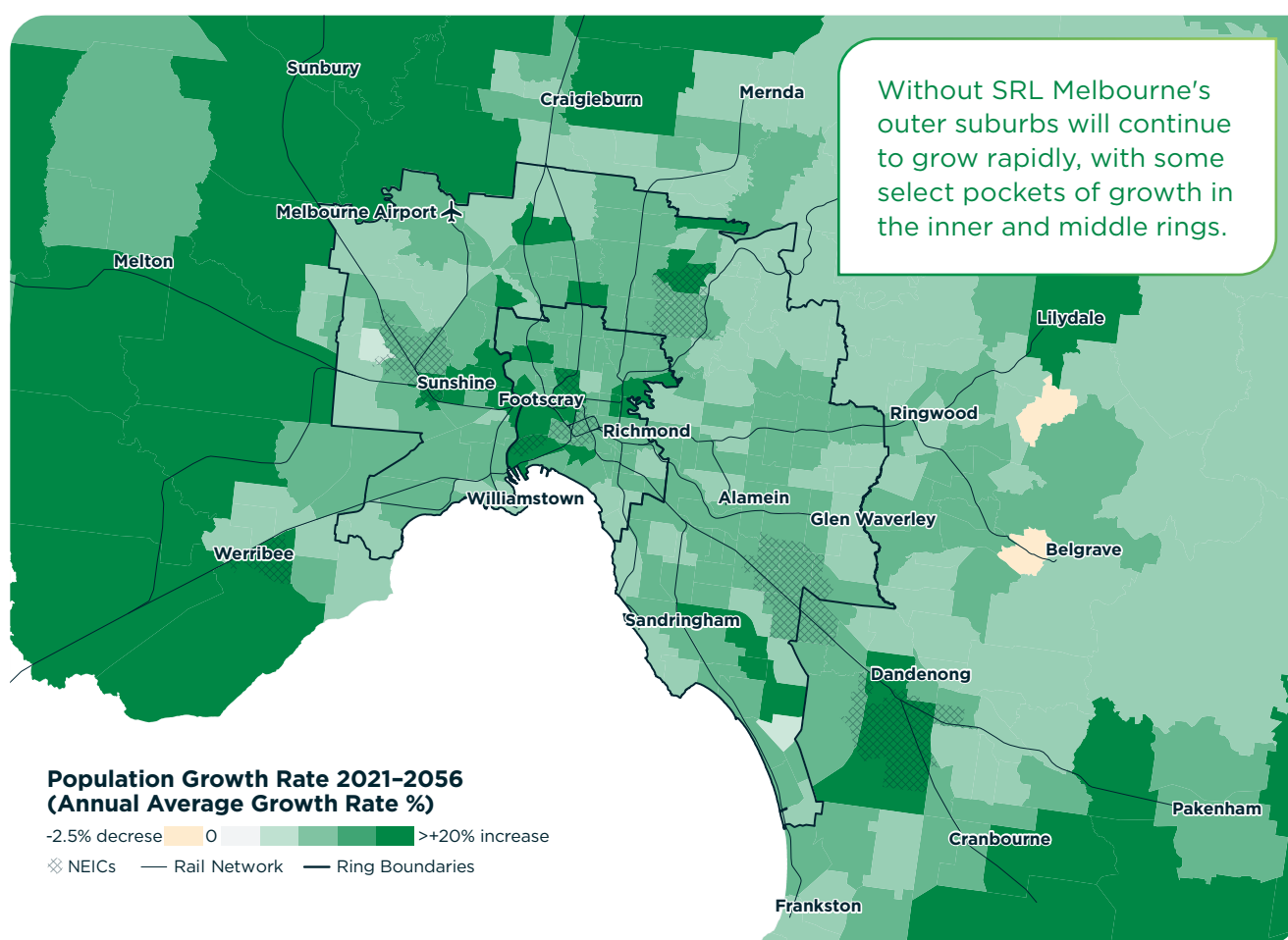
- As workers seeking high value jobs converge on the central city each day, congestion and crowding on the transport network will further increase
- Emerging high value, knowledge-based employment centres will fail to reach their full potential
- Melbourne will become a less attractive investment location and businesses may locate in Australia's other major cities, diminishing the productive potential of the Victorian economy.

Problem 2: The concentration of population growth in the inner and outer suburbs of Melbourne is contributing to inefficient infrastructure and service provision

A significant majority of Melbourne's recent population growth has occurred in the inner and outer suburbs. Despite having access to good levels of population-serving infrastructure (including public transport), except for some pockets such as Doncaster and Box Hill, growth in Melbourne's middle suburbs has remained low.

This pattern of urban development is projected to continue. [Figure ES-5](#) shows that population growth rates are expected to be highest in Melbourne's inner core and outer suburbs in the west, north and south east, with comparatively moderate growth in the middle ring.

Figure ES-5: Melbourne population growth rate, 2021-2056



Source: SALUP based on DELWP Projections 2018 (Unpublished)

This uneven growth across Melbourne is contributing to:

- Unaffordable housing in inner Melbourne
- Inefficient leveraging of existing infrastructure in Melbourne's established suburbs across the middle ring
- A lack of sufficient infrastructure and access to services in the city's outer suburbs, as well as higher costs (per person) for infrastructure provision
- Increasing pressure on the legislated urban growth boundary, potentially exhausting greenfield growth areas
- Limited public transport accessibility and higher car dependency for people living in Melbourne's outer suburbs, particularly in greenfield areas
- Longer travel distances, crowding and congestion across Melbourne
- Impacts on the natural environment, including through higher greenhouse gas emissions.

An independent study by Infrastructure Victoria found that the cost of providing infrastructure (excluding transport) in outer areas can be two to four times higher than in established areas, where existing infrastructure has the capacity to support growth.¹¹ With the expected pattern of growth projected to continue, existing services and infrastructure in established middle suburbs will not be effectively and efficiently leveraged. Instead, new infrastructure will need to be built in the outer suburbs. This will have significant impacts for the efficient and cost effective provision of services and infrastructure.

Melbourne's growth pattern also affects access to jobs and services. Compared to a person living in the inner suburbs, a person living in the outer suburbs typically has fewer local employment opportunities, forcing them to travel further for work. This trend is repeated in terms of access to services, such as healthcare and education, with many of Melbourne's major health and tertiary education institutions located in the central city or middle suburbs.

Problem 3: Inequitable access to jobs and services is entrenching disadvantage

Affordability is a key barrier for many households looking to buy or rent in Melbourne's established inner and middle ring suburbs. This is encouraging some households to move to the outer suburbs in search of more affordable choices. Diversity of housing type is also limited in Melbourne. For example, there is a lack of medium and higher density housing suited to families with children, particularly outside inner Melbourne.¹² Evidence suggests that some Melburnians would prefer to live in medium and higher density housing closer to amenity and services if there were suitable and affordable housing choices in these places.¹³

While housing might be more affordable, transport costs are typically higher in outer suburbs, outweighing the benefits of cheaper housing costs. The Affordable Living Index – which measures typical housing and transport costs in a given area – indicates that living affordability for the most vulnerable households (those in the bottom 40 per cent of households by income) will worsen in the coming decades.¹⁴ [Figure ES-6](#) shows that, despite higher housing costs, living costs are lower in inner Melbourne than in many middle and outer suburbs. Worse living affordability in the outer suburbs entrenches disparity across the city.

11 Infrastructure Victoria, *Infrastructure Provision in Different Development Settings*, Volume 1 Technical Paper (2019)

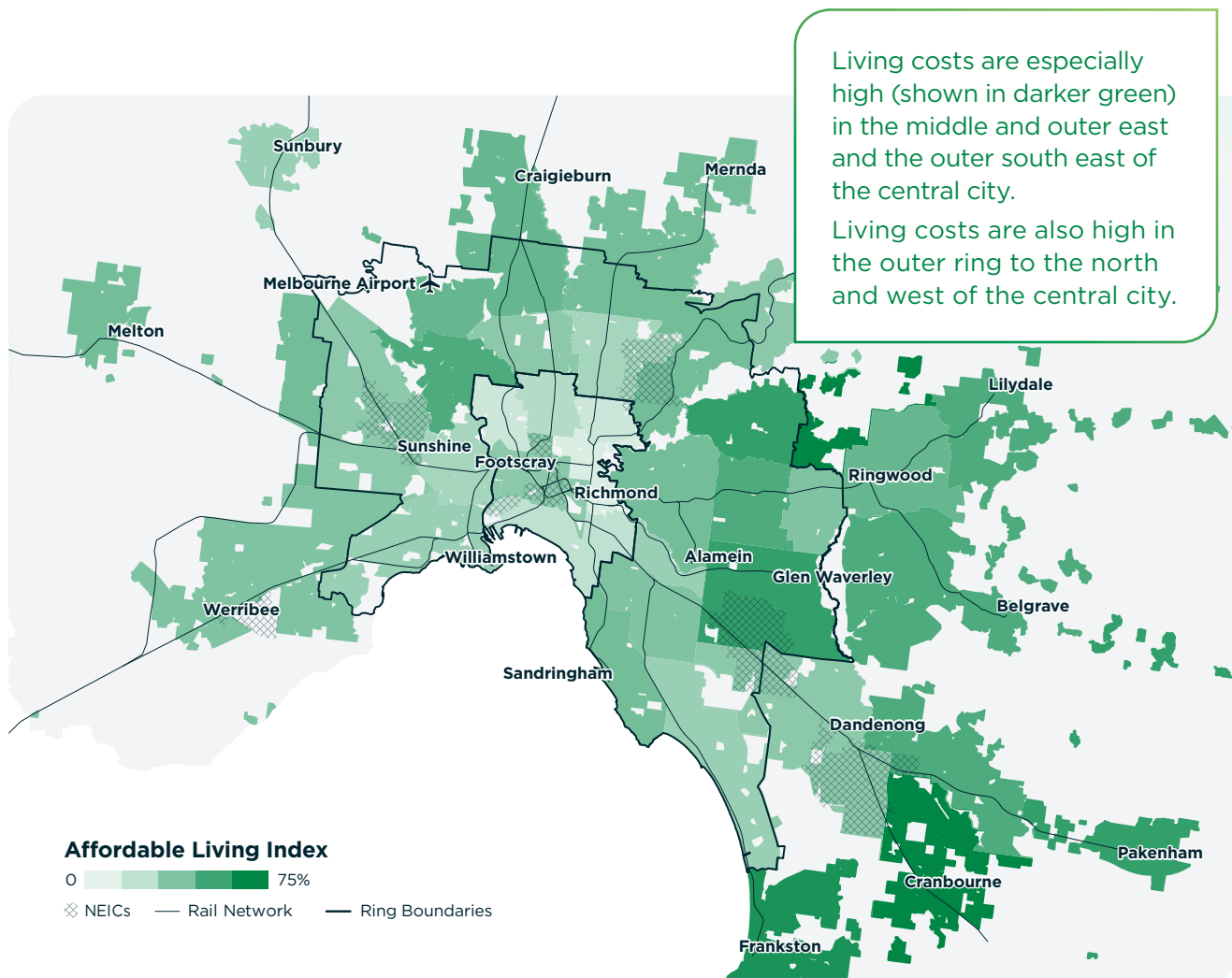
12 Nearly 70 per cent of dwellings across Greater Melbourne are separate houses, ABS Census (2016).

13 Grattan Institute, *Housing Affordability – Reimagining the Australian Dream* (2018), p. 53, <https://grattan.edu.au/wp-content/uploads/2018/03/901-Housing-affordability.pdf>

14 KPMG's Affordable Living Index. The Affordable Living Index uses outputs from MABM which are combined with housing cost data derived from the Australian Bureau of Statistics' 2016 Census.

More people are living further away from key centres and their places of work. Key workers, such as teachers, nurses, paramedics and fire and emergency workers, and non-public sector workers such as cleaners, retail and hospitality staff are especially affected as they are increasingly unable to afford to buy a home near their jobs. Access to employment opportunities is a key factor for a person securing a job. As people live further away from jobs, more are likely to choose work that may not fully align with their qualifications and skills. This entrenches economic disparity. Inequitable access to services also diminishes social inclusion and overall community health and wellbeing.

Figure ES-6: Affordable Living Index, 2018



Source: KPMG analysis based on ABS and Melbourne Activity and Agent Based Model (MABM)

Melbourne's current and projected growth pattern risks entrenching disadvantage and means that:

- More people will live further away from key employment centres and high value, knowledge-based jobs
- More key workers will be excluded from living in Melbourne's inner and middle ring
- Melburnians will forgo the benefits of 'living locally' in 20-minute neighbourhoods where they can access most of their daily needs within a 20-minute walk, cycle or public transport journey
- There will be inequitable access to services, amenities and cultural and recreational opportunities, potentially leading to different outcomes for different communities
- As more people live in suburbs with poor access to services and amenities, more communities will have poor social inclusion and more people will experience worse health and wellbeing.

The need for action now

History indicates that city-shaping initiatives are often commenced at a critical juncture, such as during an economic crisis (such as the Great Depression in 1929) or periods of significant change (such as the population boom of the 1950s).

Melbourne now finds itself at a critical juncture – not only in its evolution as a global city dealing with strong population growth, but it is also facing an uncertain global economic outlook as a result of a worldwide pandemic. The latest OECD Economic Outlook says prospects for the global economy have 'brightened' and that some countries (including Australia) are expected to recover relatively quickly to pre-pandemic GDP per capita levels. Unless plans to manage population and employment growth are supported by the right infrastructure, Melbourne remains at risk of ongoing unsustainable urban expansion, increasing congestion, flatlining economic growth and declining liveability.

Melbourne is not alone in the challenges it faces. Sydney's regional plan, *A Metropolis of Three Cities*, aims to re-shape Sydney as three unique but connected cities.¹⁵ Sydney Metro, currently New South Wales' largest transport project, is critical to changing the shape of the city and realising this vision. The integration of Sydney Metro with regional land use planning is a contemporary example of proactive rather than reactive infrastructure investment and of leveraging major transport investment to create a more accessible, multi-centred city. Construction of Sydney Metro is well underway.

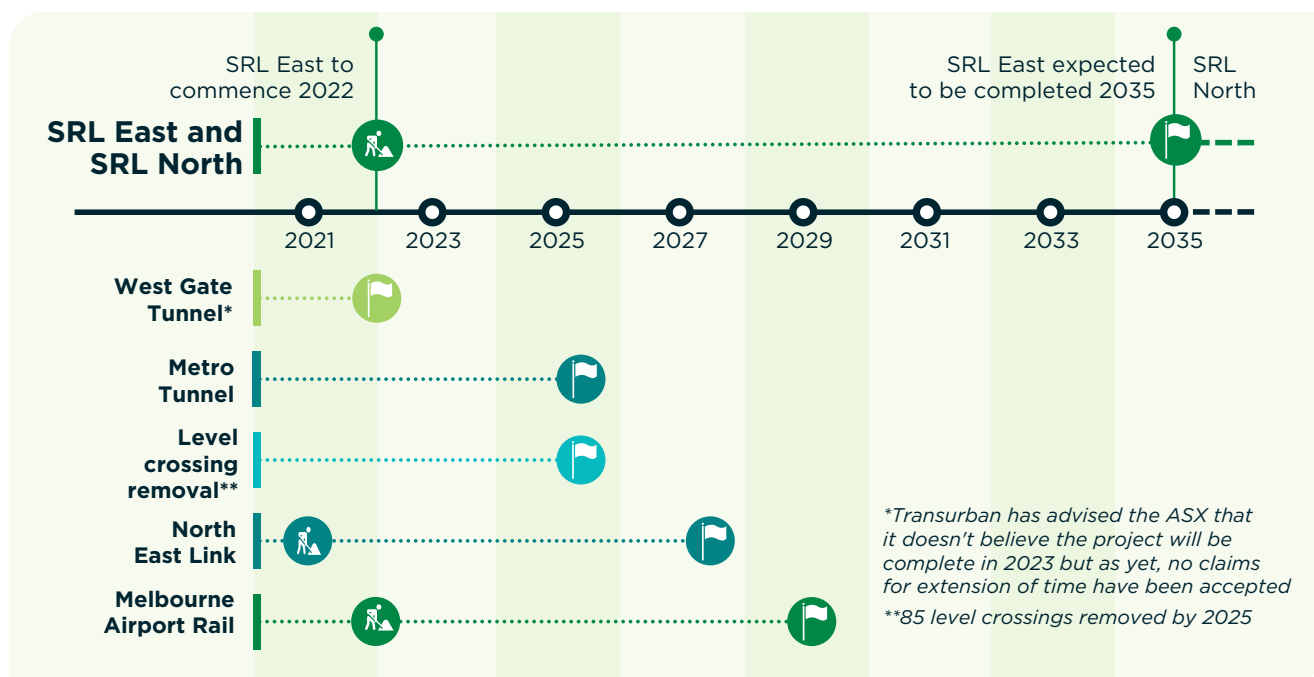
Action needs to be taken now to prepare Victoria for future challenges and build the resilience of Melbourne and Victoria in the face of a testing and uncertain global economic environment, and to other risks to economic growth such as climate change, an ageing population and declining productivity. It is also vital to realise *Plan Melbourne's* vision to ensure Melbourne remains a global city of opportunity and choice, not only for the immediate decades ahead but also for the second half of the 21st Century.

As Australia's economy recovers and international borders reopen, Melbourne needs to rebuild and retain its reputation as a highly liveable city so that it can continue to attract the best talent. Delivering more opportunities for Victorians in regional areas is also critical to take some of the pressure off Melbourne, boost vital regional industry sectors and support thriving regional cities and towns.

To achieve these critical objectives, decisive and planned action is needed now to shape Melbourne, its precincts and growth areas for the future. The costs of delaying action will be high and the best and most effective opportunities for investment may be lost – with significant negative repercussions for Victoria.

SRL is part of a steady pipeline of infrastructure projects in Victoria. Construction of SRL East will commence as other major infrastructure projects are winding down. A steady pipeline is critical for ensuring that Victoria is ready for the future, but also to enable the state to retain the talent pool and resources needed to deliver these major projects.

Figure ES-7: Pipeline of major infrastructure projects in Victoria



15 Greater Sydney Commission, *Greater Sydney Regional Plan: A Metropolis of Three Cities – connecting people* (March 2018)

Realising the *Plan Melbourne* vision

How does SRL deliver *Plan Melbourne*?

Planning for the next phase of growth

Recognising the challenges facing Melbourne, the Victorian Government developed *Plan Melbourne 2017-2050*. This long-term planning strategy sets out a vision for Melbourne to remain **a global city of opportunity and choice**. This vision is guided by nine principles (shown in [Figure ES-8](#)).

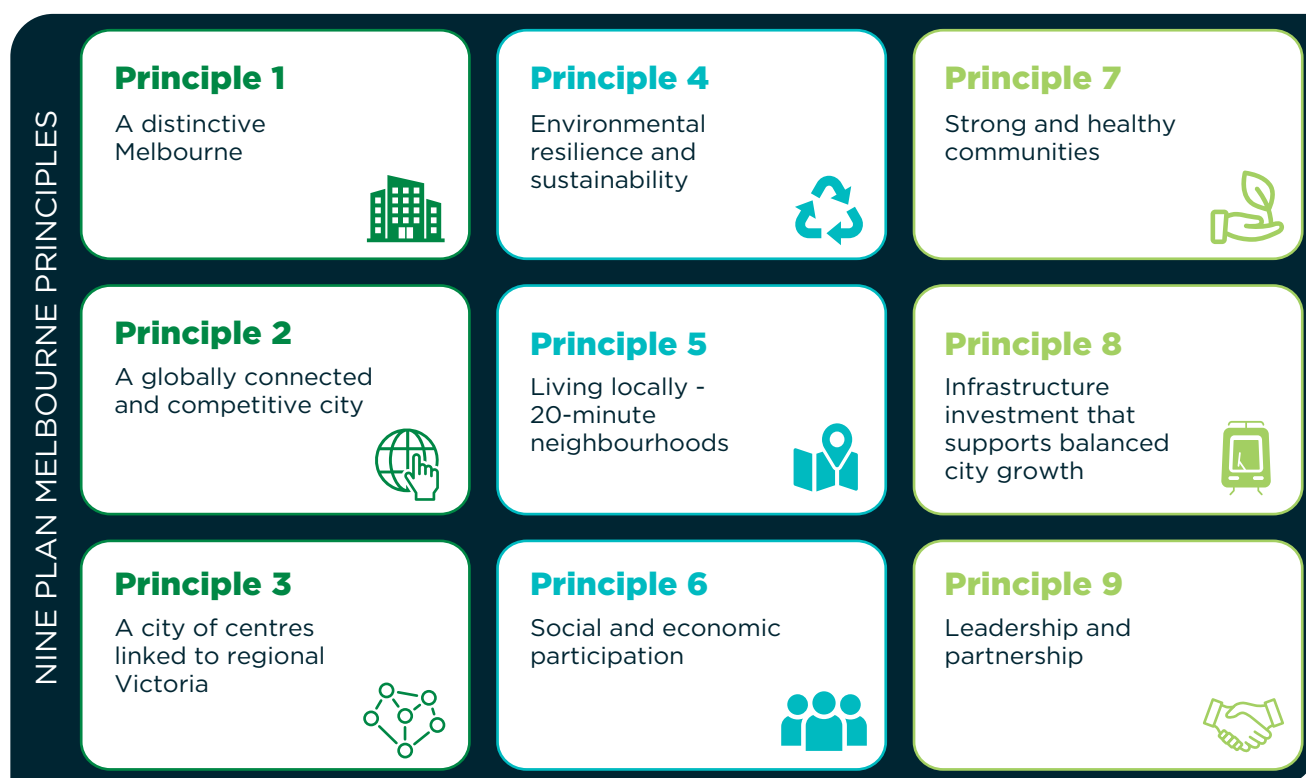
As well as creating a city of centres linked to regional Victoria (see Principle 3), *Plan Melbourne* prioritises:

- Reducing urban expansion – housing density needs to increase in the right locations, with good access to jobs and services
- Creating neighbourhoods that support local living – people can access most of their ‘daily needs’ within a 20-minute journey
- Providing more housing choice – ensuring Melbourne remains affordable.

These priorities reflect *Plan Melbourne*’s broader contributions to maintaining liveability and planning for and managing population growth. The SRL Objectives – Productivity, Connectivity and Liveability – are drawn from *Plan Melbourne*’s priorities and overarching vision.

An integrated transport plan did not accompany *Plan Melbourne*. SRL addresses this gap for large areas of Melbourne in the longer term.

Figure ES-8: *Plan Melbourne* guiding principles



Shaping Melbourne's growth to realise the vision

SRL will shape Melbourne's growth to deliver *Plan Melbourne's* vision of a global city of opportunity and choice. It will deliver against the central themes and principles of *Plan Melbourne* and increase connections and opportunities for regional Victoria. By encouraging growth in the middle corridor, SRL will also help ease pressure on the urban growth boundary and ensure existing infrastructure is better leveraged.

Creating a city of centres

SRL will connect and drive the development of four NEICs and two MACs identified in *Plan Melbourne*. SRL East and SRL North, the focus of this Business and Investment Case, will connect Monash NEIC and La Trobe NEIC, as well as the Box Hill and Broadmeadows MACs. SRL West will also provide a connection to Melbourne Airport and between Sunshine NEIC and Werribee NEIC.

While the central city will continue as Melbourne's largest employment centre, Melbourne will become a 'city of centres'. SRL East and SRL North will create alternatives to the central city by:

- Improving public transport connections to and between emerging economic activity centres, including the two NEICs and two MACs described above, but also Melbourne Airport (Melbourne's premier interstate and international transport gateway) and other Major Activity Centres such as Cheltenham, Heidelberg and Doncaster
- Unlocking economic potential in suburban Melbourne through concentrated, place-focused investment
- Attracting population and jobs to SRL Precincts so that more people will live in areas with good public transport connections to employment precincts across Melbourne
- Breathing new life into SRL Precincts through new and more diverse housing and features such as plazas, retail centres and civic squares – making these precincts highly attractive places for businesses to locate and people to live, and providing local access to a range of services and amenities
- Encouraging population growth away from the urban fringe to precincts within the middle suburbs where people will have better access to jobs, amenity and services – enabling more Melburnians to live in 20-minute neighbourhoods.

Together, SRL East and SRL North will support around 545,000¹⁶ jobs in SRL Precincts in 2056, compared to around 192,000 in 2018.

These jobs will be, at most, a 20-minute walk from an SRL Station, making them easy to access for workers.

By 2056, the number of jobs in SRL Precincts will be roughly equivalent to the number of jobs in the central city today. In addition, around 232,000 households will call SRL Precincts home in 2056, compared to around 92,500 in 2018.¹⁷

With SRL East and SRL North, more people will work and live in precincts with good access to jobs, services and amenities. Communities, businesses and institutions located in SRL Precincts, and more broadly across Melbourne's middle corridor, will benefit from increased economic activity and the creation of more vibrant communities.

Over-station development

Over-station developments (OSD) and adjacent-to-station developments (ASD) are becoming standard practice for transport projects in many cities around the world, enabling buildings on land directly above and around the station box. Rail stations have become more than just transition zones and many cities have shown that OSD and ASD can create a community heart and focal point for residents and businesses within walking distance of the station. While Australian cities have been relatively slow to embrace OSD, it is increasingly seen as a viable way to create vibrant new urban places and provide employment, housing and entertainment options in areas with otherwise very limited space available.

The SRL Precincts offer exciting prospects for new development space over and adjacent to the new stations - with the potential to stimulate economic development and leverage investment by others.

¹⁶ CityPlan. Note, while two different Program Cases have been assessed for the purposes of the Business and Investment Case, the expected benefits highlighted in the Executive Summary are drawn from Program Case A.

¹⁷ CityPlan

Precinct Principles have been developed to guide the planning, design and development of SRL Precincts in a consistent manner and to ensure the benefits of SRL East and SRL North are realised over time. These principles include requiring each precinct to be accessible and inclusive, facilitate employment and industry pathways, support anchor institutions and leverage their competitive strengths, and be sustainable, green and resilient. Forward-looking ‘ambition statements’ (Precinct Ambitions) have also been developed for each SRL Precinct. These statements describe the proposed evolution of each SRL Precinct, acknowledging their unique characteristics and the role they will play in realising the *Plan Melbourne* vision. These statements will be refined through further engagement with stakeholders, local government and the community.

The table below shows the Precinct Ambitions for each SRL Precinct.

Table ES-1: Ambitions for SRL East and SRL North Precincts

SRL Station	Precinct Ambitions
Cheltenham (interchange station)	Cheltenham will become an integrated centre of connected shopping, employment and housing opportunities supported by a thriving community and entertainment hub with an attractive public realm for its workers and residents, as the southern gateway to the SRL corridor.
Clayton (transport super hub and interchange station)	Clayton will be both a leading health cluster and ‘transport super hub’ for Melbourne’s southern metropolitan and Gippsland region. Home to world-standard healthcare and leading-edge commercialised research and development innovations, it will also be a hub for local living services and maintain a high amenity environment.
Monash (new station)	Monash Precinct will be known globally for innovation, building on Monash University’s strengths in science, technology, engineering and mathematics (STEM) to attract and retain leading global firms. Significant employment growth will be supported by an attractive public realm, comprehensive walking, cycling and public transport networks, and a diverse lifestyle and hospitality offering.
Glen Waverley (interchange station)	Glen Waverley will be a centre for workers, students and residents, accessible from across the eastern metropolitan region and anchored by a vibrant multicultural core. Central Glen Waverley will grow through an intensified mix of businesses, retail, services and entertainment uses, within a pedestrian- and cycling-friendly local environment.
Burwood (new station)	Burwood will have significant mixed-use activity areas and be a major education precinct for Victoria, anchored by Deakin University’s strengths as a leader in technology and commerce. An activated public realm along the Burwood Highway corridor will support more jobs and residents and enhanced access to Gardiners Creek will be supported by comprehensive walking and cycling links.
Box Hill (interchange station)	Box Hill will continue to grow as a Metropolitan Activity Centre and strategic multi-modal transport hub for Melbourne’s east. Growth in health and public sector jobs will be supported by continued mixed use development and high quality landscaped central areas that are attractive for pedestrians. The precinct will remain a multicultural hub, providing amenity and community infrastructure for its diverse population.
Doncaster (new station)	Doncaster will continue to grow as a dynamic Major Activity Centre, anchored by the Westfield Shopping Centre and Manningham Civic Centre with a broad range of businesses, employment opportunities, community services, and a vibrant night time economy to support its diverse local community.
Heidelberg (interchange station)	Heidelberg will be the eastern gateway to the La Trobe NEIC, home to a significant medical precinct that will maximise employment opportunities in health and supporting industries. Building on its rich history of culture and the arts, Heidelberg will flourish with high visitation to its cultural heritage sites and institutions along the Yarra River.

SRL Station	Precinct Ambitions
Bundoora (new station)	Bundoora will be a lively university city, the integral education and research precinct of the La Trobe NEIC, highly connected to other precincts through an integrated multi-modal transport interchange. Hosting a vibrant and thriving mixed-use town centre, Bundoora will support a flourishing residential, student and working community.
Reservoir (interchange station)	Reservoir will remain a highly liveable and connected precinct, providing new opportunities for population and employment growth centred on a multi-modal transport interchange and a vibrant main street.
Fawkner (interchange station)	Fawkner will be a new and distinctive mixed-use and residential activity centre connected to the station and Sydney Road, providing local connectivity and quality public realm and landscape.
Broadmeadows (transport super hub and interchange station)	Broadmeadows will be a growing commercial and services hub for the northern region, leveraging its proximity to Melbourne Airport to provide significant retail and commercial employment. The precinct will be supported by important health and education facilities and diverse housing options for residents.

** Note: The preferred SRL North precinct locations are preliminary only and subject to further options analysis, technical investigations and consultations. The final SRL Precincts for SRL North will be confirmed as part of future Funding Submissions.*

Building a transport network for the future

SRL East and SRL North will transform travel across and around Melbourne by:

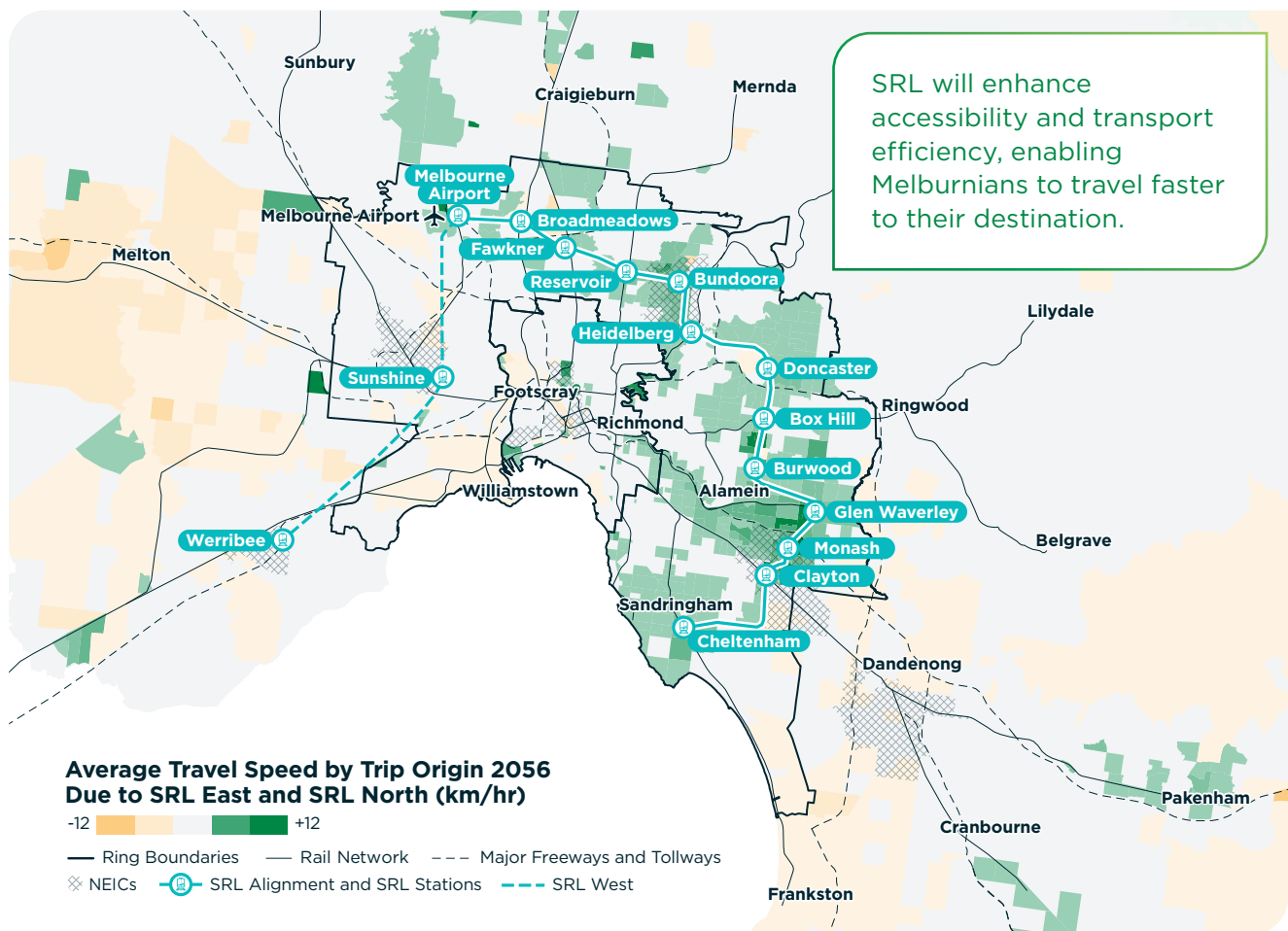
- Taking cars off the road and reducing congestion – by 2056, 606,000 private vehicle trips will be taken off the network and close to 90,000 vehicle hours will be saved each day
- Creating high capacity, orbital public transport connections – in 2056, these two SRL sections will carry more than 430,000 passengers orbitally by rail each day
- Saving people time – on average, trips between SRL Precincts will be more than 40 minutes faster by public transport in 2056 with SRL East and SRL North
- Creating sustainable travel options that will help Victoria reach net zero emissions by 2050 – in 2056 there will be more than 230,000 extra public transport trips per day across Greater Melbourne compared to a future without SRL East and SRL North
- Making healthier travel choices – in total, Melburnians are expected to take about 2.4 million additional trips by walking or cycling per day in 2056 compared to 2018
- Decreasing the demand on some strained sections of the existing radial rail network
- Providing direct and reliable access to Melbourne Airport – with a journey from Cheltenham to Melbourne Airport taking up to 55 minutes
- Creating a resilient and reliable network – providing ‘turn up and go’ services, together with reduced peak period crowding and the ability to transfer between radial lines via the new orbital rail line.¹⁸

These changes will improve the efficiency of the city’s broader transport network, improving the quality and speed of journeys for commuters. Overall, it is estimated that more than 80 per cent of Melburnians will experience improved transport efficiency during peak periods.¹⁹

¹⁸ VITM and MABM

¹⁹ VITM and MABM

Figure ES-9: Change in travel speed for all types for journeys due to SRL East and SRL North, 2056



Source: Victorian Integrated Transport Model (VITM)

Developing a 'local city'

The 20-minute neighbourhood is a principle of *Plan Melbourne* and is central to creating inclusive, vibrant and healthy communities.

SRL will support the creation of 20-minute neighbourhoods by building transport infrastructure that reshapes the city and supports more local journeys by public transport and fewer trips by cars. Precinct development and initiatives in SRL Precincts will be guided by the hallmarks of 20-minute neighbourhoods, with opportunities to incorporate aspects such as cool and green open spaces and vibrant and attractive station plazas and civic squares.

SRL will consolidate jobs in precincts and provide more housing choice in the right places, close to jobs and services. As more people call these precincts home, the rate of growth on the urban fringe will reduce. With SRL East and SRL North, there will be a 1.5 per cent decline in urban expansion in 2056, with more than 16,000 additional households locating within the inner and middle ring suburbs rather than the outer ring.²⁰

SRL Precincts will also encourage a variety of housing options that cater to a range of household types and lifestyles, leading to diverse and inclusive communities.

²⁰ CityPlan. The following municipalities were deemed "growth areas" for the purpose of this analysis: City of Cardinia, City of Casey, City of Hume, City of Melton, Shire of Mitchell within Metropolitan Melbourne, City of Whittlesea and City of Wyndham.

Improving connections and opportunities for regional Victorians

Regional rail services will be connected to SRL East and SRL North via interchanges at two transport super hubs: Clayton and Broadmeadows. A third transport super hub at Sunshine will be enhanced by the delivery of SRL West, with regional passengers travelling from Western Victoria able to connect to the rest of the SRL network at Sunshine.

Regional Victorians travelling into Melbourne via the Clayton and Broadmeadows transport super hubs from regional Victoria will no longer have to travel through the CBD to access world-class education and health services, jobs and retail in the middle suburbs. In 2056, regional passenger alightings and boardings will increase to around 8,500 per day at Broadmeadows, with more than half of all passengers on regional services approaching Melbourne from the Hume corridor alighting at Broadmeadows. At Clayton, regional passenger movements will triple to around 7,000 per day. Similar to the Hume corridor, more than 40 per cent of regional passengers approaching Melbourne from the Gippsland corridor will alight at Clayton.²¹

More direct connections to Melbourne's middle ring via SRL East and SRL North means that – for the first time – many regional Victorians will have:

- A new rail link to Melbourne Airport
- Significantly improved access to more employment opportunities in Melbourne's middle corridor – for example, in 2056 people travelling by public transport from Warragul in the Gippsland region will have access to an additional 280,000 middle ring jobs within a 120-minute journey²²
- Direct access to health, education and employment opportunities in Melbourne's middle corridor, including institutions such as Monash and La Trobe universities, the Monash Medical Centre, Monash Children's Hospital, the Victorian Heart Hospital, Box Hill Hospital and the Austin Hospital
- Significantly improved travel times between the regions and Melbourne's middle suburbs, potentially making a number of regional centres and towns more attractive for investors, residents, businesses and tourists. For example, a resident of Heidelberg could save around half an hour in accessing East Gippsland by transferring at Clayton via SRL East.²³

These improvements to connectivity and accessibility represent a significant step-up in the ability of regional Victorians to access services and jobs, and of regional businesses to reach larger pools of skilled workers and new customers, suppliers and markets.

SRL East and SRL North will lead to a combined 5 per cent increase in V/Line boardings across Melbourne by 2056.²⁴ Regional passenger loads will increase by around 20 per cent on the Hume corridor and 10 per cent on the Gippsland corridor, representing a significant change to regional service passenger demands.²⁵ Potential upgrades to local transport networks surrounding the transport super hubs may support even further growth in regional passengers.

21 VITM 2056

22 VITM Program Case

23 VITM Program Case

24 VITM 2056

25 VITM 2056

Creating value for Victoria

What are the broader benefits and opportunities of SRL?

As well as helping to realise *Plan Melbourne*, SRL East and SRL North will generate a range of specific benefits for Victoria. These benefits can be categorised into the three Objectives (Productivity, Connectivity and Liveability) as well as broader economic benefits.

Enhancing productivity

Key productivity benefits generated by SRL East and SRL North include:

- Around 545,000 jobs²⁶ will be located in SRL Precincts by 2056, clustering employment activity and unlocking the economic potential of Melbourne's middle corridor
- By making jobs more accessible and reducing commute times, SRL East and SRL North will help to improve workforce participation, particularly for people with additional commitments such as caring responsibilities
- Leveraging and attracting anchor tenants will encourage the clustering of knowledge-based industries and create places of innovation – Monash alone will support 119,500 knowledge-based jobs in 2056²⁷
- Clustering knowledge-based jobs in accessible SRL Precincts will give Melburnians the opportunity to access more suitable jobs. This will improve individual productivity and wellbeing, delivering benefits for both the economy and households alike
- The potential workforce pools of SRL Precincts are anticipated to grow substantially due to SRL East and SRL North. The number of workers able to access Monash by public transport is projected to grow from 800,000 to 1.2 million between 2036 and 2056, and Bundoora from 400,000 to 1.6 million – both equivalent to or greater than the workforce catchment of Melbourne's CBD today²⁸
- Around \$6 billion to \$9.7 billion in agglomeration benefits in present value terms will be generated by increasing effective job density through greater accessibility (between people and jobs and between businesses) and clustering²⁹
- SRL East and SRL North will deliver combined benefits of around \$14.9 billion to \$19.8 billion in present value terms to public transport users from benefits such as travel time savings and reduced crowding on trains and trams, and provide road users \$10 billion to \$12.3 billion in present value terms via benefits such as reduced congestion and travel time
- SRL will provide better access to interstate and international markets with new connections to Melbourne Airport, opening up new opportunities for businesses and boosting productivity
- SRL will help to ensure Melbourne remains competitive and can attract the best talent from around the world.

Leveraging anchor tenants

A range of initiatives and investments will be investigated to attract or leverage existing anchor tenants in SRL Precincts to create more jobs and stimulate economic activity in the precinct.

Anchor tenants provide precincts with a number of benefits, including:

- Catalysing the clustering process in the early stages of an industry, where uncertainty is strong and no obvious location has emerged
- Attracting start-up firms to the same precinct
- Employing workers with highly specialised skills at a faster rate than a number of different small and medium enterprises
- Transferring global market knowledge to local networks.

Leveraging existing anchor tenants provides an opportunity to attract linked or complementary businesses to a precinct.

26 CityPlan

27 CityPlan

28 CityPlan. Workforce catchment represents the number of workers that live within an 'acceptable commute' from a given precinct using public transport. It takes into account that some people are willing to travel further than others. As distance from the precinct grows, fewer people are willing to commute. It does not use a fixed travel time budget.

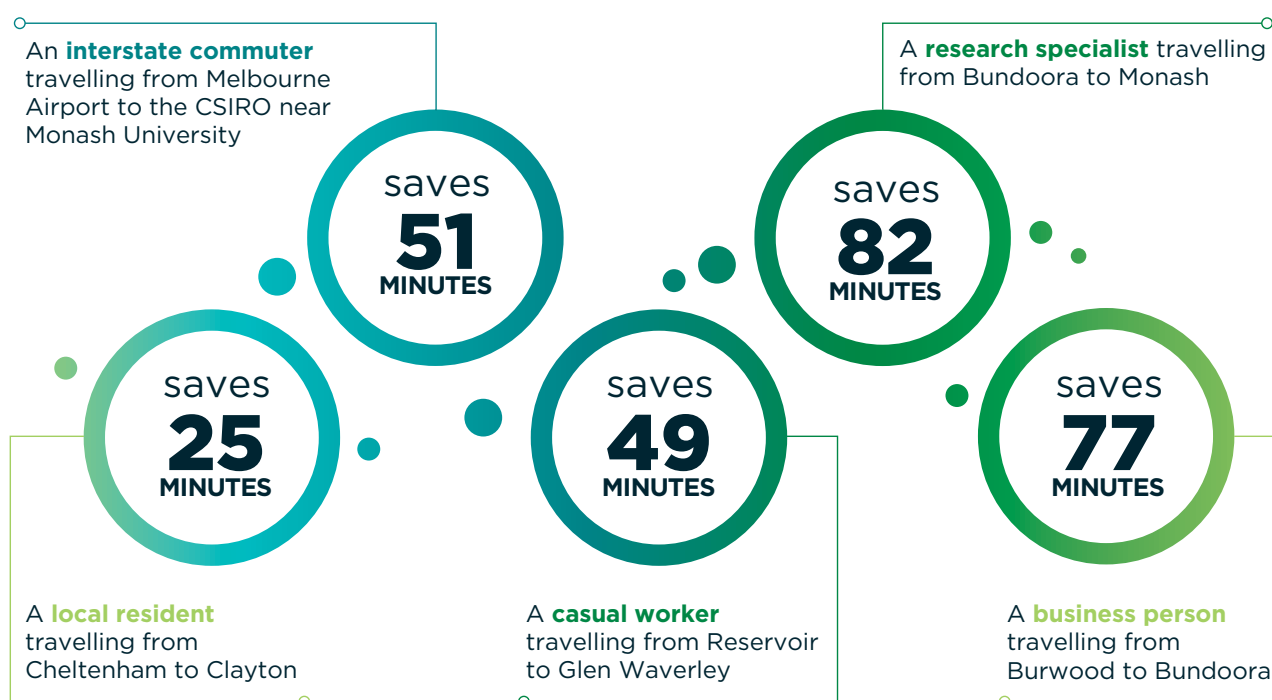
29 VITM Program Case

Increasing connectivity

Key connectivity benefits generated by SRL East and SRL North include:

- Creating high capacity, orbital public transport connections – in 2056 SRL East and SRL North will carry more than 430,000 passengers each day,³⁰ supporting people to access jobs, services and amenities across Melbourne using rail
- Encouraging more people to travel by public transport – in 2056 there will be more than 230,000 extra public transport trips per day across Greater Melbourne compared to a future without SRL East and SRL North³¹
- Taking cars off the road and reducing congestion – with SRL East and SRL North there will be around 606,000 fewer vehicle-based journeys across Melbourne per day by 2056³²
- Substantially reducing journey times for public transport trips between Melbourne's middle suburbs, as illustrated below.

Figure ES-10: Public transport travel time savings (minutes) between SRL Precincts due to SRL East and SRL North (AM peak), 2056



Source: VITM Program Case

30 VITM Program Case

31 VITM Program Case

32 VITM Program Case

SRL East and SRL North will also promote active transport by integrating each station design with precincts and neighbourhoods, and providing safe and secure cycle storage facilities at each station. By 2056, it is estimated that around 70 per cent of passengers will access the SRL Stations using active transport.³³

Improving liveability

Key liveability benefits generated by SRL East and SRL North include:

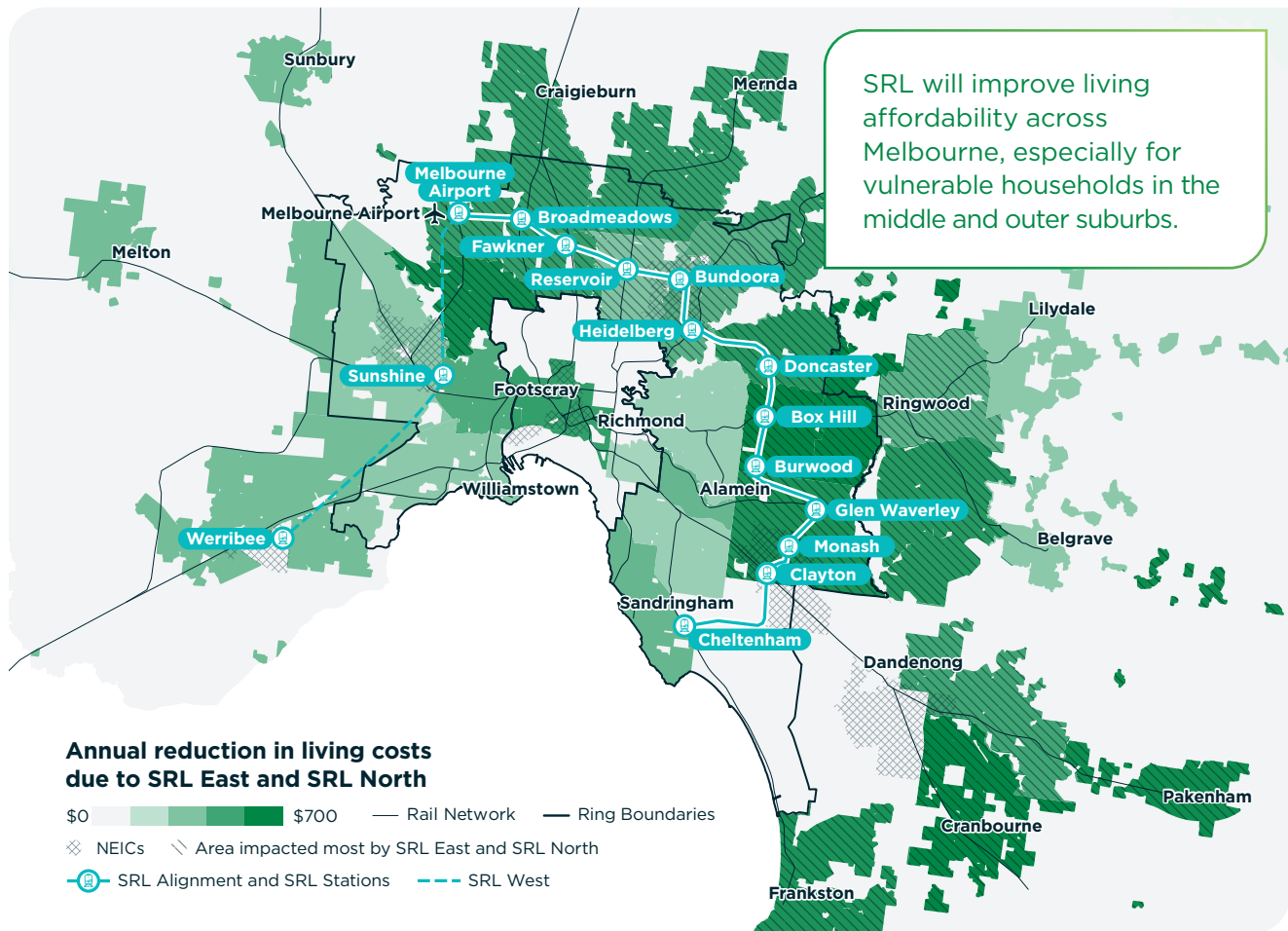
- Improving living affordability for the most vulnerable Melburnians (i.e. households in the bottom 40 per cent by income). Households in proximity to the SRL East and SRL North corridor and in Melbourne's outer northern and south eastern suburbs will see the greatest reductions in cost of living due to SRL. These are some of the most disadvantaged areas of Melbourne – 630,000 of households in the bottom 40 per cent by income are projected to live in these areas by 2056, accounting for 43 per cent of Melbourne's total bottom 40 per cent households³⁴
- Encouraging more people to use active transport, increasing levels of physical activity in communities and generating an expected health benefit of around \$1.6 billion to \$1.7 billion in present value terms for the Victorian economy
- Creating precincts with better access to population-serving infrastructure and services, including education and health
- Opportunities to embed features such as green open spaces and good walking and cycling paths that support vibrant, inclusive, safe, connected and healthy neighbourhoods
- Embedding sustainability in design and developments (including by opportunities to use recycled materials in construction) and taking cars off the road, creating sustainable precincts and helping to reduce Victoria's total carbon emissions
- Giving people more choices about where they can live and encouraging people to live in places with good access to jobs, services and amenities
- Supporting more diverse housing that meets the needs of different household types and lifestyles, with SRL East and SRL North together accommodating an estimated 47,500 additional households in 2056.³⁵

33 VITM, note access analysis excludes rail transfers from the radial line.

34 CityPlan

35 CityPlan

Figure ES-11: Change in Affordable Living Index (ALI) with SRL East and SRL North, 2056



Source: KPMG analysis based on ABS and MABM³⁶

³⁶ Modelling illustrated in this figure only takes account of the impact of SRL East and SRL North (Cheltenham to Melbourne Airport); therefore, changes to affordable living in the west are not expected.

Economic benefits of SRL

SRL is not a standard transport project. It is a multi-generational, transformative, city- and state-shaping program of investment. It will take time to deliver but its benefits will be significant and long lasting. With an integrated approach to transport and land use planning, SRL will deliver a wide array of community benefits beyond improved public transport accessibility.

These benefits will manifest over differing time horizons – in the near term, by meeting an infrastructure need, and in the longer term, where proactive investment in infrastructure will both anticipate infrastructure needs and propel growth and economic benefits for Melbourne and Victoria. As both sections will be delivered as integrated land use and transport projects, the benefits generated by SRL East and SRL North are linked intrinsically to both the enhanced transport connections and precinct development initiatives. As such, the economic benefits are assessed by taking into account both elements.

The economic appraisal of SRL East and SRL North considers a broad range of costs and benefits. Key elements of the appraisal include:

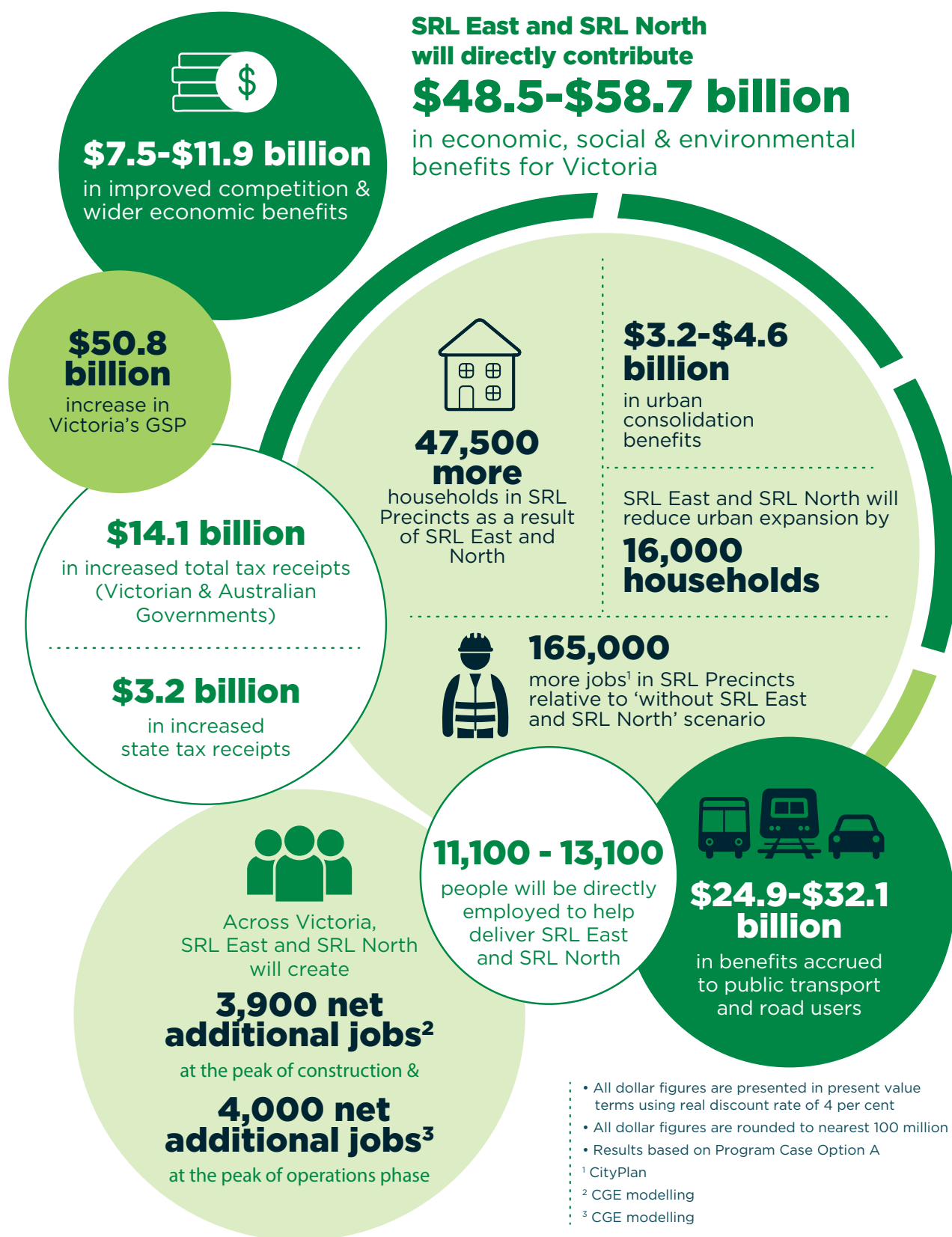
- A programmatic approach to appraisal, recognising that the of SRL East and SRL North will be sequenced over multiple decades, consistent with the appraisal of similar city-shaping projects such as the Sydney toll road West Connex and Sydney Metro
- Transport and land use modelling appropriate for the scale and impact of SRL East and SRL North, including the incorporation of modern, holistic demand modelling techniques (using the land use and transport interaction model, CityPlan)
- Inclusion of Wider Economics Benefits (WEBs) and Urban Consolidation Benefits (UCBs) as part of the central appraisal, alongside a conventional Cost Benefit Analysis (CBA)
- Analysis of the geographic and social distribution of the impacts of SRL East and SRL North, including through the use of the Melbourne Activity and Agent Based Model (MABM)
- Use of scenario based analysis and uncertainty testing, including in relation to COVID-19 impacts, advances in technology (such as autonomous vehicles) and potential policy changes
- Analysis of the macroeconomic impacts of SRL, including increased global competitiveness and improved business productivity.

The economic evaluation has assessed and compared incremental costs and benefits of two Program Cases relative to the Base Case. As SRL North is still in early planning stages and consequently delivery timelines are yet to be confirmed, two different dates for the commencement of services have been used to define the Program Cases.

The appraisal found that SRL East and SRL North have a Benefit Cost Ratio of between 1.1 and 1.7.

Key economic benefits generated by SRL are highlighted in [Figure ES-12](#), and are described in more detail in [Chapter 12](#): Overall evaluation: SRL East and SRL North.

Figure ES-12: Economic benefits



Source: Suburban Rail Loop Economic Appraisal Report (2020)

A staged approach to a multi-generational investment

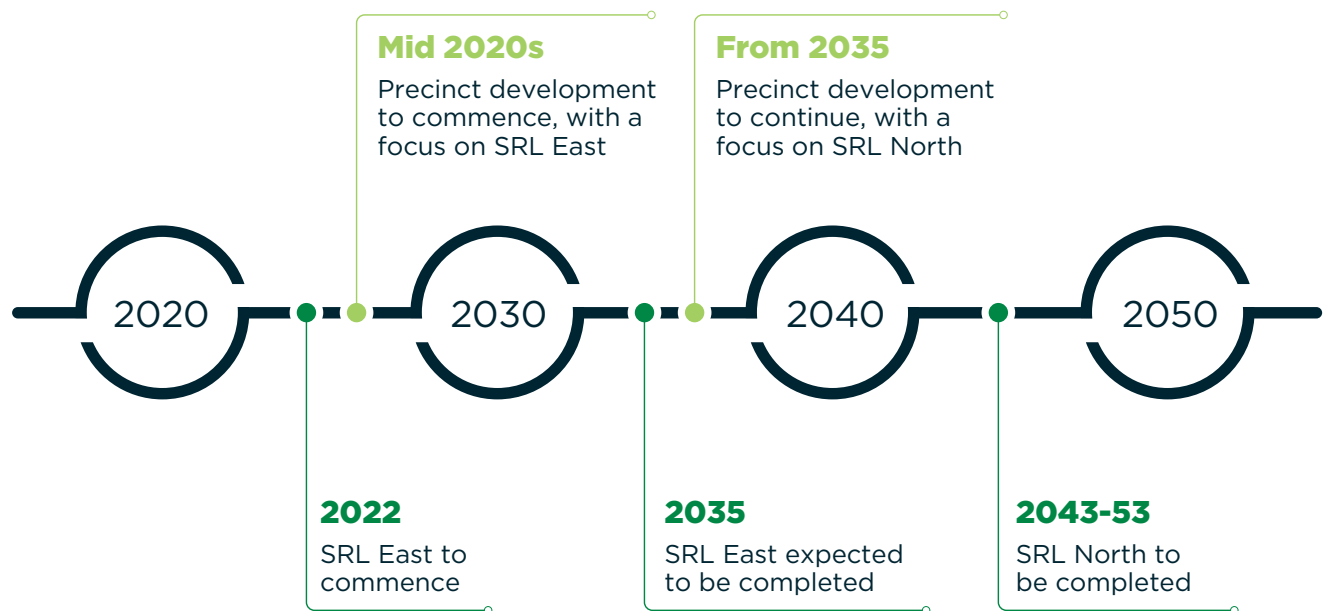
How will SRL East and SRL North be delivered?

A sequenced delivery approach

Construction of the SRL East rail line between Cheltenham and Box Hill will commence in 2022 and is expected to be completed by 2035. Planning for SRL East Precincts is well underway and a number of initiatives and investments, including short-term activities to engage the community, will be undertaken in parallel with construction of the SRL East rail line.

Subject to further detailed technical design, constructability and market capacity, SRL North is expected to be completed between 2043 and 2053. Future governments will have the option to adjust the proposed timeline for SRL North, including bringing forward works. SRL West will be subject to further investigation, planning and development, and a separate business case.

Figure ES-13: High-level delivery program timeline



Funding and financing

As part of the 2020-21 State Budget, the Victorian Government committed \$2.2 billion for Initial and Early works on SRL East – laying the groundwork for tunnelling, including preparation of tunnel boring machine launch sites and geotechnical investigations.³⁷

The Funding and Financing Strategy (F&F Strategy) for SRL (and SRL East and SRL North specifically) considers traditional funding approaches from State revenues, together with potential sources of new government revenues and alternative approaches to raising the capital required to fund delivery costs. At this stage, the SRL F&F Strategy will apply to SRL East, but can be expanded to cover SRL North if appropriate.

While there are some notable exceptions (such as toll roads), infrastructure projects in Victoria are most commonly funded from either existing tax revenue or other funding the state may receive (such as Australian Government contributions or the proceeds from the sale of assets). Given the scale of SRL and Victoria's broader fiscal objectives (such as balancing the state's current and longer-term budgetary position and credit rating), the following potential funding sources have been identified:

37 Victorian Budget 2020/21, Budget Overview

- Existing state budgetary capacity
- Australian Government funding
- New revenue sources that could include revenue from the value/benefits created by SRL (value capture revenues), commercial revenue streams and/or other more general revenues.

In respect of the potential new revenue sources, integrated land use and transport planning projects are especially powerful in generating value uplift and benefits for different groups in the community.³⁸ These value uplifts and benefits can be monetised and used to partially fund a project, alleviating the burden on traditional sources of funding.³⁹ This approach has been used previously in Victoria (for example, CityLink and the City Loop) and is also consistent with the approach taken by contemporary infrastructure projects around the world (such as Crossrail in London and Hudson Yards in New York). It is increasingly recognised that traditional funding sources alone are an insufficient and inequitable means for covering the total cost of a large-scale, transformative infrastructure project.

The SRL F&F Strategy draws from local and international precedent to assess potential value capture mechanisms. It recognises there are multiple choices and trade-offs that need to be considered in the design of appropriate mechanisms.

Planning and environmental approvals process

The primary planning approvals pathway of the SRL East Transport Project will involve an Environment Effects Statement (EES) assessment by the Minister for Planning, and an accompanying Planning Scheme Amendment (PSA). Precinct Planning for SRL East will require the development of SRL Structure Plans (including broad consultation) and subsequent PSA as implementation.

Packaging and procurement

Procuring SRL East is the immediate focus and priority for SRLA.

A key consideration for packaging and procurement is market conditions, and in particular, the impact of Australia's infrastructure project pipeline on market capacity and constraints. This is particularly relevant for SRL East, with Victoria and other states currently in the midst of an infrastructure boom.

SRLA is adopting a five-step process to developing its packaging and procurement strategy in accordance with Department of Treasury and Finance (DTF) and Infrastructure Australia procurement guidelines. This process includes data gathering, packaging analysis, procurement options considerations, market validation and recommended approach.

A number of issues need to be considered in developing an appropriate packaging and procurement strategy for the SRL East rail line, including packaging size and complexity, the requirement for line-wide works, flexibility and innovation, management of interfaces, systems integration, operations and maintenance, program scheduling, cost certainty and market capacity and appetite.

SRLA will work closely with the development market, key precinct stakeholders and other program partners to develop tailored packaging and procurement strategies that facilitate the successful delivery of the SRL Precincts.

To procure the delivery of SRL East, multiple competitive tender processes will be undertaken in accordance with relevant government guidelines and frameworks.

³⁸ Infrastructure Victoria, *Value Capture – Options, Challenges and Opportunities for Victoria: Policy Paper* (October 2016), p. 21

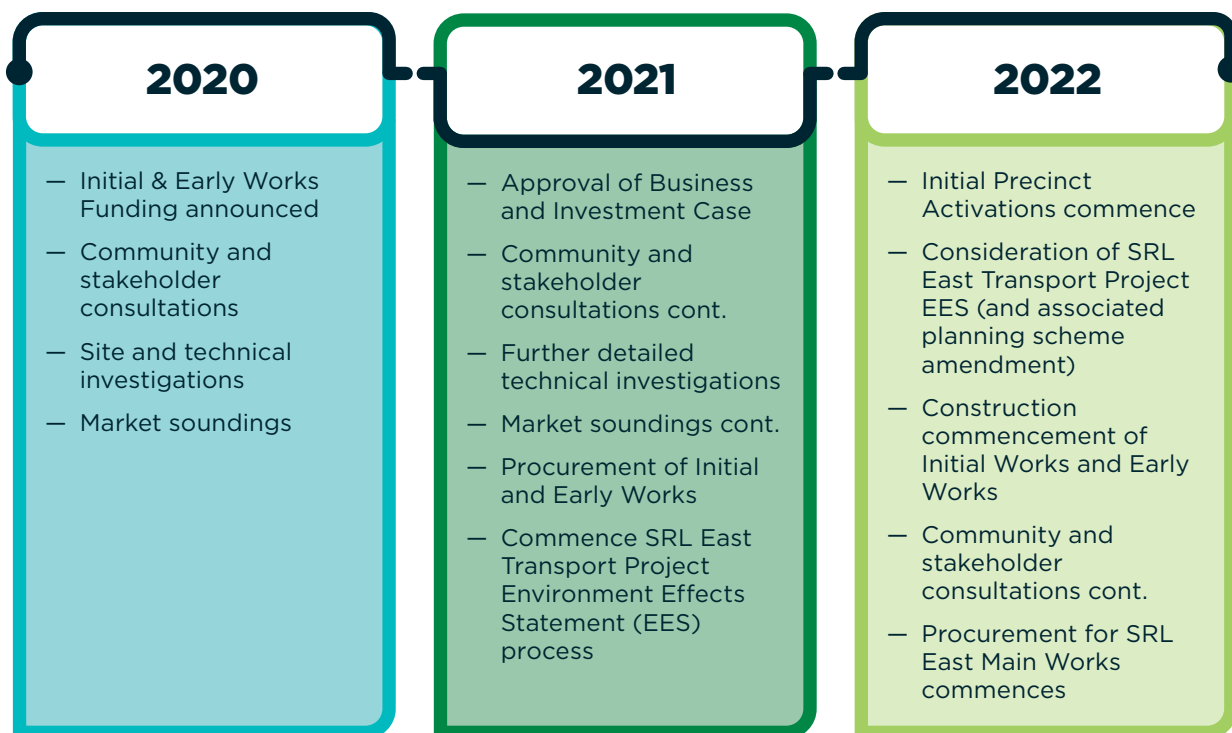
³⁹ Transport for London, *Land value capture: final report* (February 2017) p. 6

Implementation

Matching the sequenced staged delivery approach adopted for SRL East and SRL North, a series of Funding Submissions will be developed for the various components of the program for the Victorian Government's detailed consideration and funding approval.

Key upcoming target milestones are provided in [Figure ES-14](#). More detailed information on timelines and implementation considerations will be documented in the relevant Funding Submissions.

Figure ES-14: Indicative target milestones to 2022



SRL West will be subject to further investigation, planning and development. Projects in Melbourne's west currently in planning stages or delivery, including Metro Tunnel, Melbourne Airport Rail and the Western Rail Plan, will be coordinated to ensure provision is made to deliver SRL to Werribee as quickly as possible.

SRL and the impact of COVID-19

How does the coronavirus pandemic affect SRL?

The outbreak of COVID-19 and its rapid global spread in early 2020 sent shockwaves around the world. Throughout 2020 and 2021, countries have continued to struggle to control the virus, manage fast-spreading variants and resurging waves of infection, as well as deliver large-scale vaccination programs. The World Health Organization (WHO) warned in April 2021 that the pandemic is 'a long way from over', despite high vaccination rates in some countries,⁴⁰ and there is considerable uncertainty about the future course of the pandemic and its longer-term effects.

The pandemic has had a profound impact on Australia and at the time of releasing this Business and Investment Case, Australia is still grappling with COVID-19 and its variants.

Australia's real Gross Domestic Product (GDP) fell an unprecedented 7 per cent for the June 2020 quarter, following a series of nationwide lockdowns and restrictions on interstate travel, closure of the national border and other measures taken to limit the spread of the virus.⁴¹ Victoria experienced its first economic downturn in 28 years.⁴² However, both the national and Victorian economies are recovering strongly and the overall global economic outlook has improved.⁴³ While there are positive signs, the 2021-22 Victorian State Budget noted that the nature of the pandemic means that 'risks to the economic outlook remain elevated'.⁴⁴ In particular, contractions in economic output and employment may continue to occur if further public health restrictions need to be imposed.

Given Australia's reliance on net overseas migration, the pandemic will temporarily slow population growth. The Australian Government is predicting a sharp fall in net overseas migration due to COVID-19: from a net inflow of around 154,000 persons in 2019-20 to a net outflow of around 72,000 persons in 2020-21, with only slight recovery expected in 2021-22.⁴⁵ Even once international borders reopen, it is unclear how overseas migration will be affected in the medium term.

The long-term economic consequences of the pandemic are uncertain. Potential long-term changes in community behaviour include more people working from home, more local trips, reduced public transport patronage (coupled with a reversion to cars or an increase in active transport) and changed travel and migration patterns. To the extent that the COVID-19 pandemic does bring about some long-term change, SRL will be well placed to harness the opportunities this creates.

Regardless of the uncertainty surrounding the immediate and short-term consequences of the pandemic, many of the long-term challenges of population growth (including urban expansion and increased demands on Melbourne's transport system) will persist. Melbourne is still expected to overtake Sydney and become Australia's largest city in 2026-27. Melbourne's urban form will need reshaping to meet the demands of future generations while remaining a productive, sustainable and highly liveable city.

40 Reuters (13 April 2021), 'Coronavirus pandemic 'a long way from over', WHO's Tedros says', <https://www.reuters.com/business/healthcare-pharmaceuticals/coronavirus-pandemic-a-long-way-over-whos-tedros-says-2021-04-12/>

41 ABS, Australian National Accounts; National Income, Expenditure and Product (June 2020)

42 ABS, Population and COVID-19 (December 2020)

43 Australian Budget 2021-22, Budget Overview, <https://budget.gov.au/2021-22/content/overview.htm>

44 Victorian State Budget 2021-22, *Budget paper No.2*, Strategy and Outlook, <https://www.budget.vic.gov.au/budget-papers>

45 Australian Government (December 2020), Population Statement Overview, <https://population.gov.au/publications/publications-population-statement.html>

New opportunities and persisting challenges

Changes to community behaviour present several opportunities for Melbourne and SRL. For example, the preference for more local travel and shorter commutes may encourage some businesses to locate outside of the central city, closer to where people live. This may reinforce the vision of Melbourne as a city of centres. SRL can capitalise on these trends by attracting businesses to SRL Precincts.

Overall, there has been a renewed appreciation for walkable environments, safe cycling paths and places, and facilities and activities that encourage social connection and cohesion. SRL can capitalise on this by supporting more people to 'live locally' through the approach to precinct development. The development of SRL Precincts will provide better access to services and amenities that provide people with local and convenient access to their 'daily needs'.

Maintaining a sense of community spirit and connection is very important for combatting social isolation – a growing problem that has been exacerbated by the pandemic.⁴⁶ Through thoughtful urban planning and design, and consultation with the local community and stakeholders, SRL will build on the character and sense of place in these communities, as they grow.

Stimulating the economy

SRL East and SRL North will be key levers for economic stimulus as part of Victoria's post COVID-19 recovery in the medium term by:

- Creating direct employment in their planning and delivery within sectors such as construction (including housing and office construction in SRL Precincts), engineering and project management
- Building confidence in Victoria's economy and the Victorian Government's commitment to a pipeline of major projects
- Catalysing private sector investment in SRL Precincts; for example, as part of over-station developments and adjacent-to-station developments
- Generating increased demand for population-serving jobs in SRL Precincts.

By adopting a phased approach, SRL can be flexible and responsive to changing market conditions that are likely to persist while the pandemic continues. In addition, a place-focused approach positions SRL East and SRL North to unlock the potential of emerging economic clusters across Melbourne's middle suburbs and to drive productivity and economic growth – particularly in critical sectors such as health and education. More broadly, a place-focused approach may be a highly effective tool to help the community and economy recover from the pandemic.⁴⁷

Dealing with uncertainty

Additional uncertainty analysis has been undertaken within this Business and Investment Case to understand the potential implications of the COVID-19 pandemic on the case for investment. The uncertainty scenario conservatively assumes that economic growth, population and immigration forecasts, and land use uplifts will be delayed from business-as-usual estimates by two years in the early years after the pandemic, increasing to four years by 2056 as a result of compounding impacts.⁴⁸ It also assumes higher levels of working from home. Further details regarding this scenario are detailed in Chapter 12: Overall Evaluation and Appendix C.1.: Demand Modelling Report.

46 The use of crisis and support organisations, such as Lifeline and Beyond Blue, increased by more than 20 per cent and 40 per cent respectively during the COVID-19 crisis compared with before the pandemic (see State Budget 2021-22, Chapter 3 of Budget Paper No.2). In April 2020, the Victorian Government provided additional surge funding of \$59.4 million to address mental health needs during the pandemic: <https://www.premier.vic.gov.au/surge-funding-helping-our-mental-health-system-during-crisis/>. The 2021-22 State Budget made further record investment in Victoria's mental health system (see State Budget 2021-22, Chapter 3 of Budget Paper No.2).

47 KPMG, *COVID-19: Recovering local economies from global crises*, <https://home.kpmg/uk/en/home/insights/2020/06/covid-19-how-local-economies-can-recover-from-a-global-crisis.html>

48 DoT, COVID-19 related scenario and sensitivity testing for projects, Department of Transport, September 2020



**SUBURBAN
RAIL LOOP**

**Melbourne is
changing**

1 The case for investment: why and how Melbourne needs to change

Chapter summary

- Victoria is expected to have a population of 11.2 million people by 2056. Nine million people will live in Greater Melbourne by 2056 – similar in size to London today. While ongoing efforts must be made to boost productivity and encourage higher workforce participation in Victoria, population growth will continue to drive and sustain economic growth and improve living standards.
- Melbourne must be prepared for this projected population growth. Without effective management, population growth may create new or exacerbate existing challenges that could negatively impact Victoria's economic performance, Melbourne's prized liveability and Melburnians' quality of life.
- In 2017, the Victorian Government released *Plan Melbourne* – a long-term planning strategy that sets out the vision for Melbourne to remain a global city of opportunity and choice. *Plan Melbourne* proposes a fundamental re-shaping of the city into a 'city of centres', made up of well-connected 20-minute neighbourhoods that support a consolidated and sustainable city.
- Strategic or 'city-shaping' transport infrastructure is a powerful force for change. When integrated with targeted land use and precinct development, city-shaping infrastructure can lead to a shift in urban form, unlocking economic and employment growth in places beyond the central city.
- Melbourne is at a critical juncture – not only in its evolution as a global city managing strong population growth, but also as a city dealing with ongoing economic fragility and uncertainty as the result of a worldwide pandemic. To secure the city's future, we need to do more than just react to waves of demand; we need to plan where and how that demand materialises. Decisive action is needed now to shape Melbourne, its precincts and growth areas for future generations.
- City-shaping infrastructure takes time to plan and deliver. It also takes time for the urban form to respond and the benefits to be realised. Melbourne's long history of forward-looking, ambitious city planning and successful record of precinct development and urban renewal shows that it can be done.
- SRL involves city-shaping infrastructure that will fundamentally shift Melbourne's urban form and realise the transformations envisaged by *Plan Melbourne*. It will deliver a new 90km rail link connecting Melbourne's middle suburbs, along with a series of integrated initiatives to create value and improve the precincts around the rail link's new stations.
- SRL will support growth in Melbourne's middle corridor, creating centres of gravity outside of the central city that will trigger new investment, economic activity and jobs. It will open up new possibilities in existing neighbourhoods and precincts. SRL will give Melbourne a world-class transport system that is up to the task in the coming decades and revolutionise how people move around the city and access Melbourne from regional Victoria. It will support Melbourne to become a more consolidated and sustainable city, maintaining its global reputation for liveability.
- While COVID-19 is expected to lead to lower population growth in the short to medium term, analysis undertaken by the Department of Transport (DoT) shows that over the next 36-years, growth may be delayed by two to four years but will still reach similar levels in the longer term.
- Regardless of the short-term consequences of the pandemic, a high quality public transport system – including the step-up in accessibility and connectivity delivered by SRL – will continue to be the key to a productive, liveable Melbourne as the city continues to grow.

1.1 How we grow matters

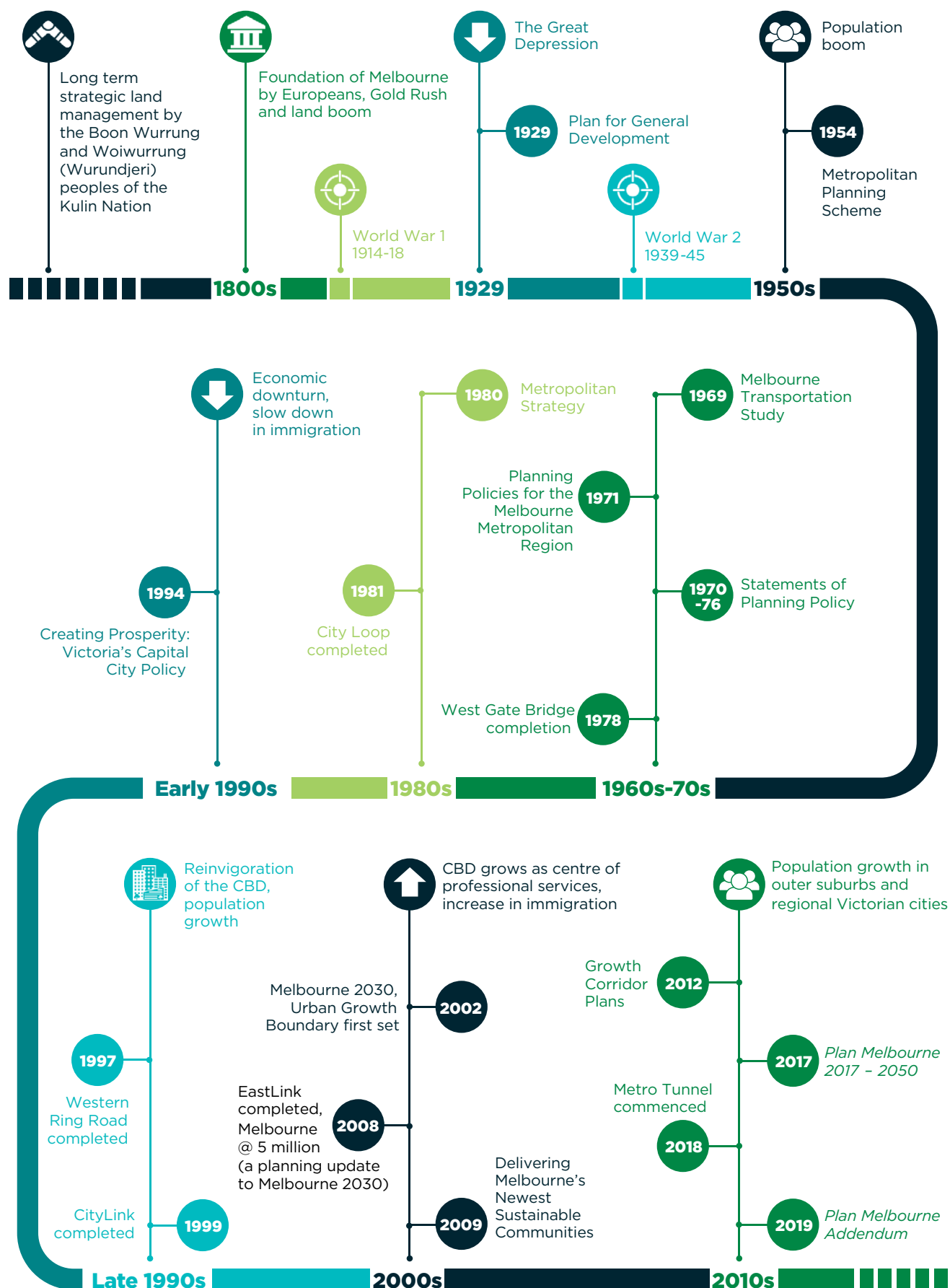
The Boon Wurrung and Woiwurrung peoples of the Kulin Nation lived on the land now called Melbourne for at least 40,000 years prior to European settlement in 1835. Countless generations of Aboriginal people of the Kulin nations laid the foundations of what became Melbourne and Victoria using, among many other ingenious techniques, fire to turn their corner of Australia into a land of abundance.

1.1.1 A long history of forward-looking, ambitious city planning

Since European settlement, Melbourne has experienced waves of growth-led transformations, each playing a lasting role in the development of the city's urban form, economic structure and identity. Today, Melbourne is a diverse, highly liveable and distinctive city that supports Victoria as a powerhouse of the Australian economy.

The attractive and globally competitive Melbourne of today is thanks, at least in part, to the wisdom and foresight of previous generations. Dating back to Robert Hoddle in the 1830s, Melbourne has benefitted from strategic and ambitious planning. Several strategic and long-term plans have been instrumental to shaping Melbourne, as outlined in [Figure 1-1](#).

Figure 1-1: Melbourne's history of strategic and long term planning



The legacy of each of these strategic long-term plans is evident in the urban form of Melbourne today. For example:

- *Melbourne Transportation Study* (1969) identified Melbourne's future freeway network – much of which has been built and has endured
- *Planning Policies for the Melbourne Metropolitan Region* (1971) established a 'corridor' approach to urban growth and identified green wedges of 'non-urban' land – most of which are still sustained today
- *Creating Prosperity: Victoria's Capital City Policy* (1994), transformed and revitalised the central city to help it become the cultural heart of Melbourne that we know today.⁴⁹

Time and time again, Melbourne's leaders have had the foresight to imagine the city in more than 50 years' time and properly plan and reshape it to meet the needs of future generations.

In the last two decades, as the city has experienced unprecedented population growth and a rapidly changing economic and industry base, the integration of land use planning and major transport initiatives has been a powerful contributor to 'shaping the city'. Through initiatives such as *Melbourne 2030*, *Plan Melbourne 2017-2050*, the West Gate Tunnel and the Metro Tunnel, efforts have been made to rein-in Melbourne's urban expansion, support major growth corridors, increase density in key metropolitan centres and improve the city's accessibility and connectivity. These initiatives have shaped – and continue to shape – Melbourne as a diverse, liveable and distinctive city.

The City Loop was first proposed and planned for in 1929, well ahead of its construction and delivery in 1980. Similarly, the 1954 Plan and the 1969 Plan were the geneses of the urban form and infrastructure that now make Melbourne one of the world's most liveable cities (including providing the foundation for important transport initiatives such as the West Gate Bridge, Western Ring Road, CityLink and EastLink).

1.1.2 A strong history of precinct development and urban renewal

As well as investment in major city-shaping transport projects, Melbourne has a strong history of planned and deliberate precinct development and urban renewal (refer [Figure 1-2](#)). Early precinct planning sought to transform the use of large underused sites caused by major changes in the pattern of industrial land use. From the late 1980s onwards sites such as Southbank and Docklands, and also Beacon Cove and Kensington Gardens, offered opportunities to introduce new uses (typically skewed towards residential) into locations with good proximity to transport and existing services. These sites were typically owned or controlled by the Victorian Government and were delivered through master planned renewal and Government-funded infrastructure investment.

Alongside this, the concept of transport-oriented development was embedded in the planning system to encourage urban renewal within existing areas. This was first adopted by the 1954 Plan and District Centres, and actively implemented from the 1980s. Through changes to the planning system, the Victorian Government sought to decentralise employment and increase residential densities in locations with good access to transport and retail and other services.

In recent years, the two approaches have been combined, linking master planned large landholdings and major infrastructure investment with complementary planning changes to deliver comprehensive precinct renewal. The best practice examples bring together higher density housing and employment in the one place and deliver improved access to services and jobs for existing communities.

While some smaller scale precincts have taken five to 10 years to achieve their first development and activity milestones, larger scale mixed-use precincts have required greater long-term planning, investment and development timeframes. Many larger scale precincts take at least 20 to 30 years to realise their full potential. In Victoria and around the world, planning and curating distinct, vibrant and successful precincts has been an important element in matching population growth with jobs growth and ensuring that infrastructure evolves over time to meet the needs of urban communities.

49 Department of Planning and Community Development, *Managing Melbourne: Review of Melbourne Metropolitan Strategic Planning*

Figure 1-2 lists examples of precinct development and urban renewal in Melbourne since the 1990s.

Figure 1-2: Recent precinct development in Melbourne



Collingwood Arts Precinct (Collingwood Yards)



Thriving contemporary arts precinct

An independent not-for-profit social enterprise to provide a permanent and affordable home for artists and creatives and structured support to small and medium creative organisations, as well as artists and complementary businesses. Supports the local area as a home for creative and high-value employment enterprises.

Adaptive reuse creating connections to the past

Key heritage elements celebrate the history of the site and is attractive for visitors, guests, collaborators and the public. Repurposing government-owned facilities provides a creative hub and resource to the local community.

Fishermans Bend Planned



Linking Melbourne's CBD to the bay

Four distinct mixed-use areas and a large employment zone with approximately 30,500 jobs (as of 2016) and 60,000 expected in 2051.ⁱⁱⁱ Integrated transport planning and infrastructure. Provides a leading design, engineering and advanced manufacturing precinct.

Designated a major urban renewal area

Targeting the delivery of homes for 80,000 residents by 2050^{iv} with supporting public domain including parks, schools, roads, transport and community facilities.

Arden Planned



Urban renewal project centred around transport offering

This urban renewal project spans 50ha in North Melbourne around the Metro Tunnel Project's new Arden Station.

Innovation and employment precinct aspiration

New neighbourhood for Melbourne's inner north west, allowing for expansion of Parkville to support Melbourne's research and innovation agenda, accommodating approximately 34,000 jobs and homes for approximately 15,000 residents by 2051.^v

Vibrant inner-city neighbourhood

Pedestrian friendly streetscapes, active transport links and community spaces.

i Development Victoria, *Revitalising Central Dandenong*, <https://www.development.vic.gov.au/projects/revitalising-central-dandenong>

ii Australian Bureau of Statistics (ABS) – Census 2016, Population and Housing

iii SGS Economics & Planning, prepared for Fishermans Bend Taskforce, *Fishermans Bend Economic and Employment Study – Final Report* (November 2016)

iv Fishermans Bend project website, <https://www.fishermansbend.vic.gov.au/>

v City of Melbourne, Arden urban renewal precinct, <https://www.melbourne.vic.gov.au/building-and-development/urban-planning/local-area-planning/Pages/arden-urban-renewal-precinct.aspx>

1.2 Maintaining momentum

1.2.1 The story of Victoria's recent economic success

Victoria has undergone significant change in the last three decades, experiencing strong economic growth since the 1990s.

This has been driven primarily by:

- Strong economic management
- Reorientation of the economy towards knowledge-based services
- Rapid population growth.

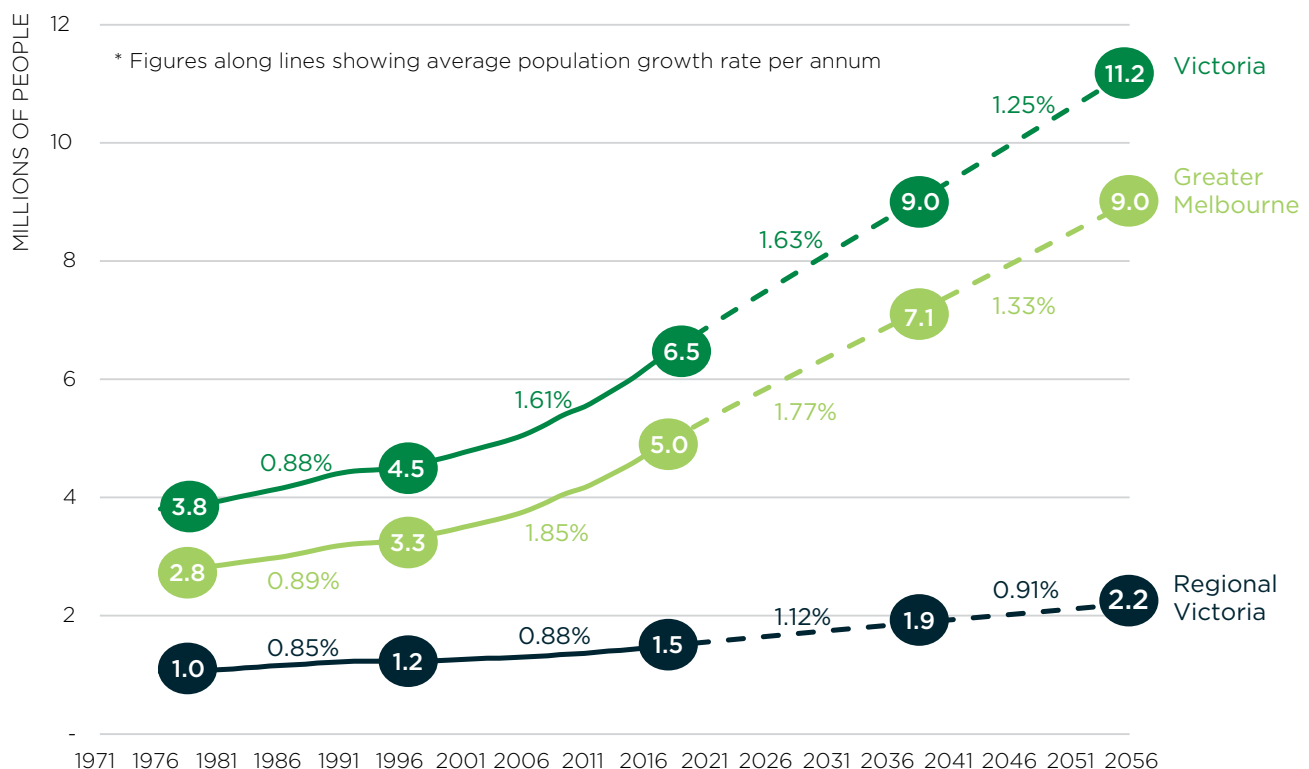
The reorientation of the economy has changed the types of employment opportunities available in Melbourne, as well as where they are located. These new types of employment opportunities, together with Melbourne's enviable liveability, have attracted the best talent from around the world, contributing to rapid population growth.

Victoria is now expected to grow to 11.2 million people by 2056.⁵⁰ Nine million people will live in Greater Melbourne by 2056 – a similar size to London today (Figure 1-3). While natural increases in population will contribute to this growth, a significant proportion will continue to be driven by migration.

Knowledge-based jobs

For the purpose of this Business and Investment Case, knowledge-based jobs means jobs in the following Australia and New Zealand Industries Classification (ANZIC) industries: financial and insurance services; information media and telecommunications; rental, hiring and real estate services; professional, scientific and technical service; administrative and support services; public administration and safety; education and training; and healthcare and social assistance.

Figure 1-3: Historical and projected population in Victoria by major regions, 1976-2056



Source: ABS, *Australian Historical Population Statistics (2019)* and *Victoria in Future, Population and Household Projections (2019)*

Cities compete for investment and talent both domestically and globally. Melbourne has significant strengths and advantages that provide the opportunity to position the city as one of the world's foremost knowledge economies, powering the next generation of Victoria's, and indeed Australia's, productivity and economic growth.⁵¹

⁵⁰ Information about population projections and the COVID-19 pandemic is provided in section 1.9.

⁵¹ Victorian Government, *Plan Melbourne 2017-2050, (2017)*

CASE STUDY

Historical drivers of Australia's economic growth

Long-term economic growth is driven by a combination of productivity growth, labour force participation growth and population growth.

More efficient production within the economy – known as ‘increased productivity’ – has historically been the primary driver of economic growth and increased Gross Domestic Product (GDP) in Australia.ⁱ Between the early 1970s and 2015, the average hours of work in Australia doubled in productivity, correlating with a near doubling of household incomes over the same period.ⁱⁱ Productivity surged during the 1990s, with multifactor productivity growing at an average 2.2 per cent per year,ⁱⁱⁱ together with similarly strong growth in quality adjusted labour productivity per hour worked (see Figure 1-4).

Productivity

Productivity is defined as the ratio with which inputs (such as labour or capital) are converted into valued output, and is a measure of the efficiency of production and the main driver of economic performance.

In more recent years, productivity growth rates have been comparatively weaker (see Figure 1-4). A city's urban form can affect its productivity. For example, long commutes mean productive time is lost.

Figure 1-4: Annual change in GDP and productivity (quality adjusted labour), 1995-2016



Source: ABS 3105.0.65.001 Historical Population Statistics, ABS 5260.0.55.02 Estimates of Industry Multifactor Productivity, Australia

i Australian Government, 2015 Intergenerational Report Australia in 2055, (2015)

ii Australian Government, 2015 Intergenerational Report Australia in 2055, (2015)

iii Australian Government, 2015 Intergenerational Report Australia in 2055, (2015)

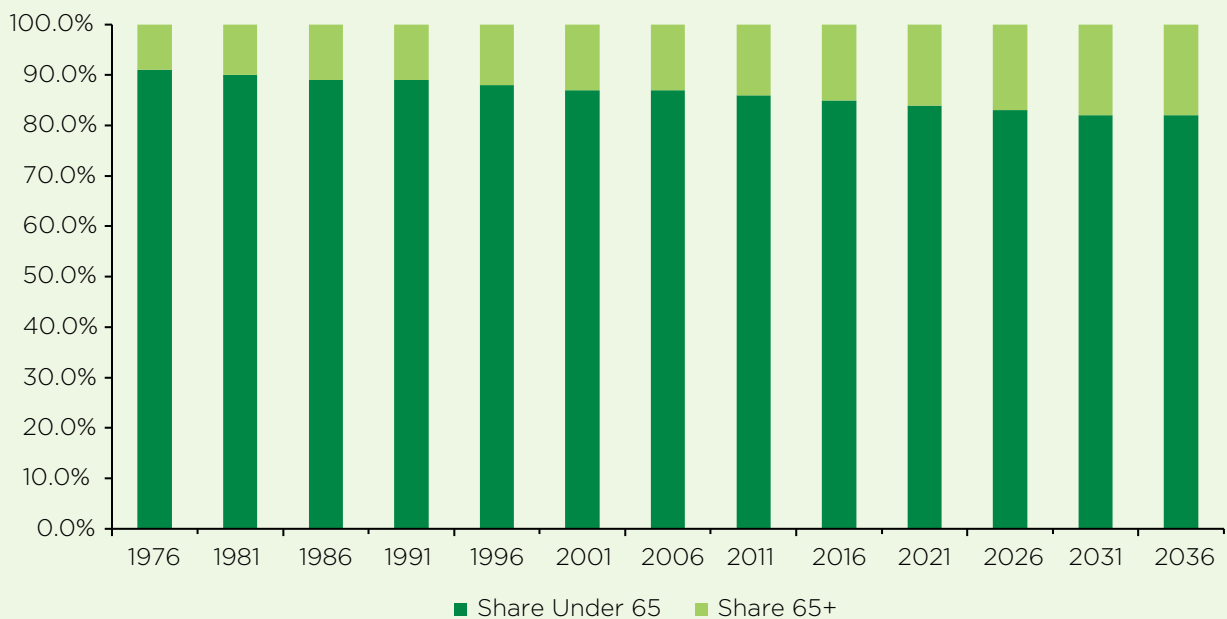
When more people are working, there is more productive capacity in the economy, which can generate economic growth. A number of factors influence whether a person works – for example, caring responsibilities, relative socio-economic disadvantage or job accessibility. A key factor is a person's age – people are most likely to work between the ages 15 to 64.^{iv}

While Australia's workforce participation has been relatively strong and contributed to GDP growth in recent times, it may stagnate or even decline in the coming decades. Australia's population is ageing and a growing proportion of the population is over 65 years old. This means that a greater proportion of the population will be less likely to work.

Participation rate

Participation rate means for any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

Figure 1-5: Historical and projected older population (65+) in Victoria, 1976-2036



Source: ABS 3101.0 Australian Demographic Statistics, Victoria in Future, Population and Household Projections (2019)

Flattening productivity and an ageing population are likely to diminish the share of GDP per person over the longer term, reducing the standard of living for all Australians. Consequently, the Australian Government's Intergenerational Report urges the need for continued efforts to boost productivity and encourage higher workforce participation to drive economic growth and maintain living standards.^v

Australia has relied heavily on population growth to drive economic growth in recent decades, and steady population growth will continue to be needed to sustain future economic growth.

Australia's recent population growth has overwhelmingly been driven by changes in Net Overseas Migration (NOM). Migration has been the primary driver of Australia's growth for decades – in 2019, the gap between NOM and the natural population increase was nearly 100,000 people (up from around 14,000 people in 2010).

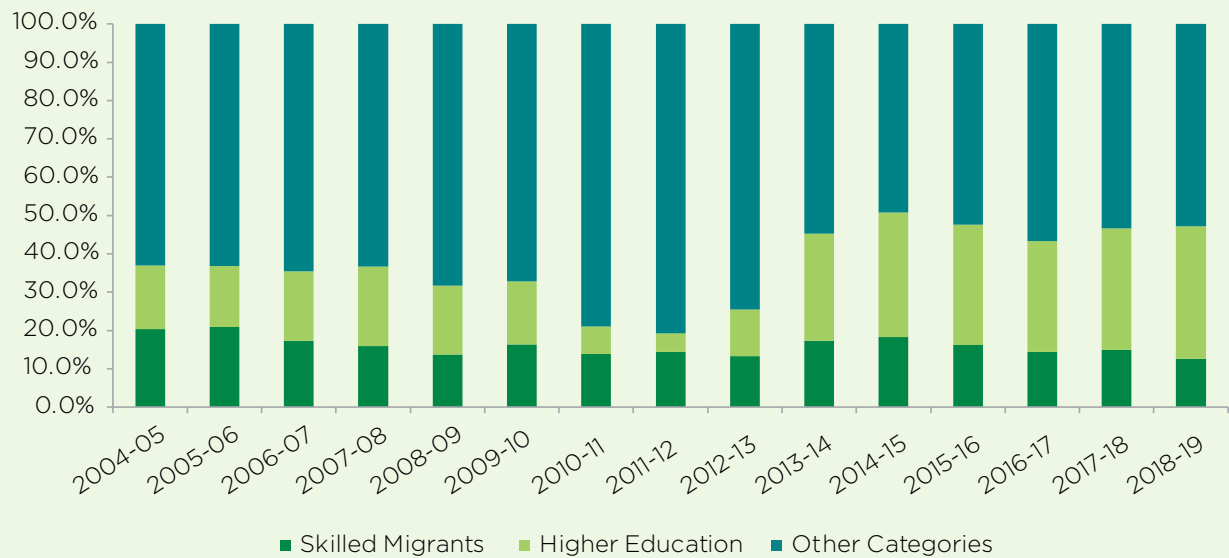
iv Treasury projections as reported in Commonwealth of Australia, March 2015, 2015 Intergenerational Report: Australia in 2055

v Commonwealth of Australia, 2015 Intergenerational Report Australia 2055, Executive Summary, p. x and p. xxi

Migration has been an important source of labour for Australia, especially in more recent years with targeted policies designed to encourage skilled migration to address identified skills gaps.^{vi}

Skilled migrants and higher education students have grown from less than 30 per cent of selected NOM visa classes in 2008-09 to approximately 47 per cent in 2018-19 (see [Figure 1-6](#)).

Figure 1-6: Categories of migrants by visa type, 2004-2019



Source: ABS, *Net overseas migration, Arrivals, departures and net, State/territory, Major groupings and visas - Calendar years, 2004 onwards*

While overseas migration has fallen sharply during the COVID-19 pandemic (see section 1.9), it is expected to continue to help grow Australia's workforce pool once international borders re-open – migrants are, on average, younger than the resident population and therefore more likely to work. Continuing to attract skilled migrants can also boost productivity growth.

vi Commonwealth of Australia, *2015 Intergenerational Report Australia 2055*

1.2.2 Putting the brakes on economic growth

Like Australia more broadly, Victoria's productivity growth is flattening and its population is ageing. The proportion of the population aged 65 years and over is expected to grow from 15.3 per cent in 2018 to 21.2 per cent in 2056.⁵² In terms of Melbourne, the proportion of the population aged 65 years and over will grow from 13.8 per cent in 2018 to 19.6 per cent in 2056. These factors are likely to slow GSP growth and reduce GSP per person, in turn affecting Victorians' standard of living.⁵³ As the analysis of Australia's GDP demonstrates, while concerted action will also be needed to lift levels of productivity and improve workforce participation, a growing population will continue to be a strong driver of economic growth.

To realise the benefits and to maximise value to Victoria, Melbourne must be prepared for the projected population growth. If we are not prepared, population growth may create or exacerbate a range of challenges that could negatively impact Victoria's economic performance. For example:

- Melbourne's crowded and congested transport networks will make doing business less efficient and the potential for productivity gains will be lost
- Crowding and congestion will reduce the liveability of the city, making it less attractive for people to live and work, slowing population and jobs growth
- As Melbourne's urban footprint expands, people will continue to live further away from employment opportunities, affecting their quality of life
- Increased travel times and worsening job accessibility may reduce labour force participation and make it more difficult to increase participation.

More broadly, unmanaged growth can affect people's comfort and quality of life; for example, through increased carbon emissions and pollution or increased pressure on population-serving infrastructure such as public green open spaces, schools and community facilities.

If we do not plan and manage how Melbourne grows, these challenges will worsen, constraining the city's economic potential and diminishing its liveability. These challenges will be compounded by the central city reaching a natural tipping point.

1.2.3 The pressures of growth

In the last two decades, Melbourne's central city has undergone rapid development and revitalisation. It is Melbourne's economic and cultural heart, and the city's primary 'centre of gravity'. While the city centre has been impacted by public health measures introduced to stop the spread of COVID-19, its importance, value and contribution to Melbourne will continue in the coming decades.

Between 2018 and 2056, 22 per cent of jobs created in Victoria are expected to be located in Melbourne's inner ring, predominately in the central city.⁵⁴ The inner suburbs surrounding the central city may be able to accommodate further job growth; however, many of these suburbs are already well developed, making the provision of new infrastructure or services more difficult. The inner suburbs are also very attractive for residential developments, making space very competitive.

Job accessibility

Job accessibility refers to a person's ability to travel to employment opportunities. Most people's travel time limit to work is 60 minutes. Generally, as a person's journey time increases, job accessibility decreases.

52 Department of Environment, Land, Water and Planning (DELWP) Projections 2018 (Unpublished)

53 Premier's Jobs and Investment Panel, *Enhancing Victoria's Economic Performance and Productivity: Discussion Paper* (June 2017)

54 Small Area Land Use Projections (SALUP) based on DELWP Projections 2018 (Unpublished)

While Melbourne's central city will continue to serve Victoria well into the future, it was not designed to be the sole centre supporting a city of nine million people. The very factors that make the central city so attractive for businesses will come under increasing pressure:

- Mass public transport is vital to the central city's success – committed projects such as the Metro Tunnel will increase transport capacity to the central city but this increased capacity will be quickly filled by population growth
- Demand for floorspace will continue to increase; however, the redevelopment potential of the Hoddle Grid is limited by factors such as heritage and lot size⁵⁵
- The number of major development opportunities in new growth centres (such as Docklands and Southbank) is declining and spreading well beyond the walking catchments of CBD stations – lessening the accessibility of these locations⁵⁶
- As floorspace supply becomes constrained, rents are likely to increase.

Recognising these challenges, *Plan Melbourne* identifies a number of major urban renewal precincts in inner Melbourne – such as Arden and Fishermans Bend – that will provide additional capacity. However, as redevelopment opportunities reduce over time, competition between businesses to rent floorspace in prime locations may increase, leading to higher rent costs. Indeed, for more than a decade, rent increases in the central city have been outstripping inflation rates – real costs have increased between 30 and 50 per cent over a 10-year period in the CBD, Southbank and Docklands.⁵⁷

The pressures of monocentric growth have been experienced in other cities around the world. For example, Downtown Toronto now accounts for less of the regional office market than in the 1980s, and it has also become less diverse from a sector perspective.⁵⁸ Sydney, too, is experiencing a supply constraint in its central city office market – due to constrained commercial floorspace, high rents for prime office space and limited suitable sites for additional development.⁵⁹

In the coming decades, the disbenefits of locating in the central city may start to outweigh the benefits. The central city may become less attractive for businesses, lessening Melbourne's ability to compete on a national and international scale. The central city needs to be linked to an extensive network of clusters, precincts and gateways, turning Melbourne into a city of centres. In particular, key emerging economic centres across Melbourne's middle corridor – including the Monash and La Trobe National Economic and Innovation Clusters (NEICs) – represent an opportunity to cultivate centres outside the central city that will attract diverse, knowledge-based businesses and jobs.

1.2.4 Planning without city-shaping investment is not an option

Unless we plan and actively shape Melbourne's growth, there is a risk that one of two scenarios may eventuate:

- Population growth does not occur as projected and we miss other opportunities to stimulate Victoria's economic activity, leading to a decline in quality of life
- Population growth does occur as projected but leads to reduced liveability because Melbourne's urban form struggles to adapt to a city of nine million people, exacerbating congestion and crowding and resulting in a loss of productivity and leading to a decline in quality of life.

The challenges we face are not insurmountable – as in the past, there is an opportunity now to reimagine and reshape Melbourne to meet the needs of future generations.

⁵⁵ Urbis, *Unlocking Melbourne's CBD* (2018)

⁵⁶ Urbis, *Unlocking Melbourne's CBD* (2018)

⁵⁷ KPMG analysis of rental data sourced from Knight Frank, (2009-2019).

⁵⁸ Professor Greg Clark and Dr Tim Moonen, *Agglomeration, Centres, and District Plans for the Greater Sydney Commission* (July 2016)

⁵⁹ See for example City of Sydney, *Employment and floor space survey* (2017); Redman, E., 'Sydney and Melbourne lead the world for office rent growth', *The Urban Developer* (November 2017); Knight Frank, *Global Outlook 2019* (2019)

1.3 *Plan Melbourne: planning for the next phase of growth*

Recognising the challenges facing Melbourne, the Victorian Government developed *Plan Melbourne 2017-2050*. This long-term planning strategy sets out a vision for Melbourne to remain a global city of opportunity and choice. This vision is underpinned by nine guiding principles that reflect *Plan Melbourne's* broader vision for maintaining liveability and planning and managing population growth.

Plan Melbourne contains seven outcomes, 32 directions and 90 policy directions that are designed to accommodate Melbourne's future population and employment growth. It identifies Places of State Significance that will be the focus for investment and growth and names the locations. These include the central city and locations in the middle and outer suburbs that are existing or emerging 'economic clusters'. Planning for population-serving infrastructure (including transport links) is needed to support these 'economic clusters'. An integrated transport plan did not accompany *Plan Melbourne*.

Figure 1-7: *Plan Melbourne* guiding principles



1.3.1 A city of centres

Plan Melbourne recognises that Melbourne's urban form needs to be reshaped to support economic growth, jobs growth and investment. Melbourne needs to become a city of centres, linked to regional Victoria. The benefits of a city of centres or 'polycentric' urban form has been recognised by cities around the world, including Toronto and London.

CASE STUDY

Transitioning to polycentric cities

Toronto, Canada

Downtown Toronto is the city's major activity centre – home to around 400,000 jobs.ⁱ It is a vibrant and attractive central business district, attracting both businesses and residents. Toronto's radial subway system primarily connects people to and from Downtown Toronto. The subway system is supported by a streetcar network that moves people to and from Downtown Toronto but offers some cross-city connectivity. Planners recognised the limitations of Downtown Toronto and sought to develop four secondary centres to manage future job growth. One of these secondary centres, North York, has been particularly successful. It is now a vibrant urban centre and home to around 40,000 jobs.ⁱⁱ

London, United Kingdom

London has evolved over the years to resemble a polycentric city,ⁱⁱⁱ supported by its extensive metro system and relatively high density living. Strategic public transport development has spurred redevelopment in areas outside of the traditional central business districts. For example, the extension of the Jubilee underground rail line has supported Canary Wharf to become one of London's major business districts.^{iv} In 2014, Canary Wharf accommodated around 129,300 jobs.^v

i Professor Greg Clark and Dr Tim Moonen, *Agglomeration, Centres, and District Plans for the Greater Sydney Commission* (July 2016)

ii Professor Greg Clark and Dr Tim Moonen, *Agglomeration, Centres, and District Plans for the Greater Sydney Commission* (July 2016)

iii New London Architecture, *London Towns: Shaping the polycentric city*, (2017)

iv New London Architecture, *London Towns: Shaping the polycentric city*, (2017)

v Tower Hamlets, *Local Employment by Industries* (February 2014)

Plan Melbourne suggests that a city of centres can be achieved by 'focusing on key employment areas, planning for their development, targeting infrastructure investment and ensuring they are linked to transport networks – positioning Melbourne as Australia's pre-eminent knowledge economy, services sector and freight hub'.⁶⁰

To realise this vision, *Plan Melbourne* identified seven NEICs across Greater Melbourne: Sunshine, Monash, La Trobe, Fishermans Bend, Parkville, Dandenong and Werribee. Unlike other suburban activity centres, each NEIC is anchored by existing public and private knowledge-based organisations.⁶¹ Strategic development of NEICs (and other suburban activity centres and precincts) will help Melbourne to realise a more diverse, resilient and polycentric urban form. NEICs have the opportunity to:

- Serve as alternatives to the central city, alleviating pressure on the central city without losing the benefits of concentrated economic activity
- Improve access to jobs across Melbourne, especially high value, knowledge-based jobs.

In a separate analysis of the NEICs undertaken for Infrastructure Victoria,⁶² Professor John Stanley and Dr Peter Brain found that 'Monash and La Trobe have emerged from this analysis as probably having the most pressing transport needs...indicating potential for significant Gross Regional Product and productivity gains from lowering travel times, particularly public transport travel times within these NEIC catchments.' Other NEIC priorities identified in this analysis included:

- A need to improve high capacity transport connections to the NEICs
- Development of a strong core or designation of a town centre, particularly at Monash and La Trobe
- Investment in place-making initiatives – including population-serving infrastructure, active transport and an emphasis on greening – to help attract the businesses and talent on which NEICs will rely.

60 *Plan Melbourne, Melbourne is a productive city that attracts investment, supports innovation and creates jobs*, <https://www.planmelbourne.vic.gov.au/highlights/a-city-structure-to-deliver-jobs-and-investment>

61 *Plan Melbourne Review, Ministerial Advisory Committee Report* (June 2015)

62 Stanley, J & Brain, P, *Investing in Melbourne's National Employment Clusters* (2016), p. 8 <https://www.infrastructurevictoria.com.au/wp-content/uploads/2019/04/Professor-John-Stanley-and-Dr-Peter-Brain-Investing-in-Melbournes-National-Employment-Clusters.pdf>

While Fishermans Bend and Parkville have been the focus of strategic planning in recent years, there is unrealised potential in the remaining NEICs. Unlocking this potential will be critical for driving future economic growth and productivity gains for Victoria.

1.3.2 Building a transport network for the future

Population projections indicate that Melbourne's transport system will need to cope with an additional 11.8 million trips per day by 2050.⁶³ To ensure Melbourne remains a sustainable and liveable city, the share of public transport and active transport trips across Melbourne must increase. To achieve this outcome and meet future transport challenges, significant, well-planned investment in infrastructure is required. Transport planning must be integrated with land use planning to maximise the benefits derived from future infrastructure investments.

To support a productive city, Melbourne's transport system must link people to jobs and businesses to markets. *Plan Melbourne* emphasises the importance of high quality public transport connections to job rich areas. To attract businesses and workers alike, Melbourne's NEICs will need to be well connected to public transport, as well as to walking and cycling paths.⁶⁴

1.3.3 Supporting Victorians to live locally

To create a healthier and more inclusive city, *Plan Melbourne* adopts the principle of a 20-minute neighbourhood. These neighbourhoods support people to 'live locally' by providing most of their everyday needs within a 20-minute walk, cycle or local public transport journey from their home. Benefits of a 20-minute neighbourhood include:

- Improved health outcomes for the community, including through increased physical activity
- Better social connections and a sense of place within a community
- Reduced reliance on cars and lower transport costs
- Reduced pollution.⁶⁵

Twenty-minute neighbourhoods are critical to creating a consolidated and more sustainable city – more local trips reduce the strain on the city's transport network, contribute to healthier living and generate social benefits linked to reduced time to access services.

Another key aspiration of *Plan Melbourne* is to manage urban expansion. While *Plan Melbourne* recognises that greenfield or urban fringe development will be important for accommodating Melbourne's future population growth, it prioritises increasing the share of population growth in Melbourne's established suburbs.⁶⁶ These established suburbs have good levels of existing population-serving infrastructure that can be leveraged to service Melbourne's growing population. To facilitate this, established suburbs will need more housing diversity and choice to give people more options about where and how they live.

63 Victorian Government, *Plan Melbourne 2017-2050, Addendum 2019* (2019)

64 Victorian Government, *Plan Melbourne 2017-2050*

65 Victorian Government, *20-Minute Neighbourhoods: Creating a more liveable Melbourne*

66 Victorian Government, *Plan Melbourne 2017-2050*

1.3.4 What it will take to realise *Plan Melbourne*

To transform Melbourne and realise *Plan Melbourne's* vision, a fundamental step change is required. Victoria will need to invest in infrastructure that not only transforms how people move around the city, but

- Where a business chooses to locate
- Where a person chooses to live
- Where a person chooses to work
- The mode of transport a person chooses to use.

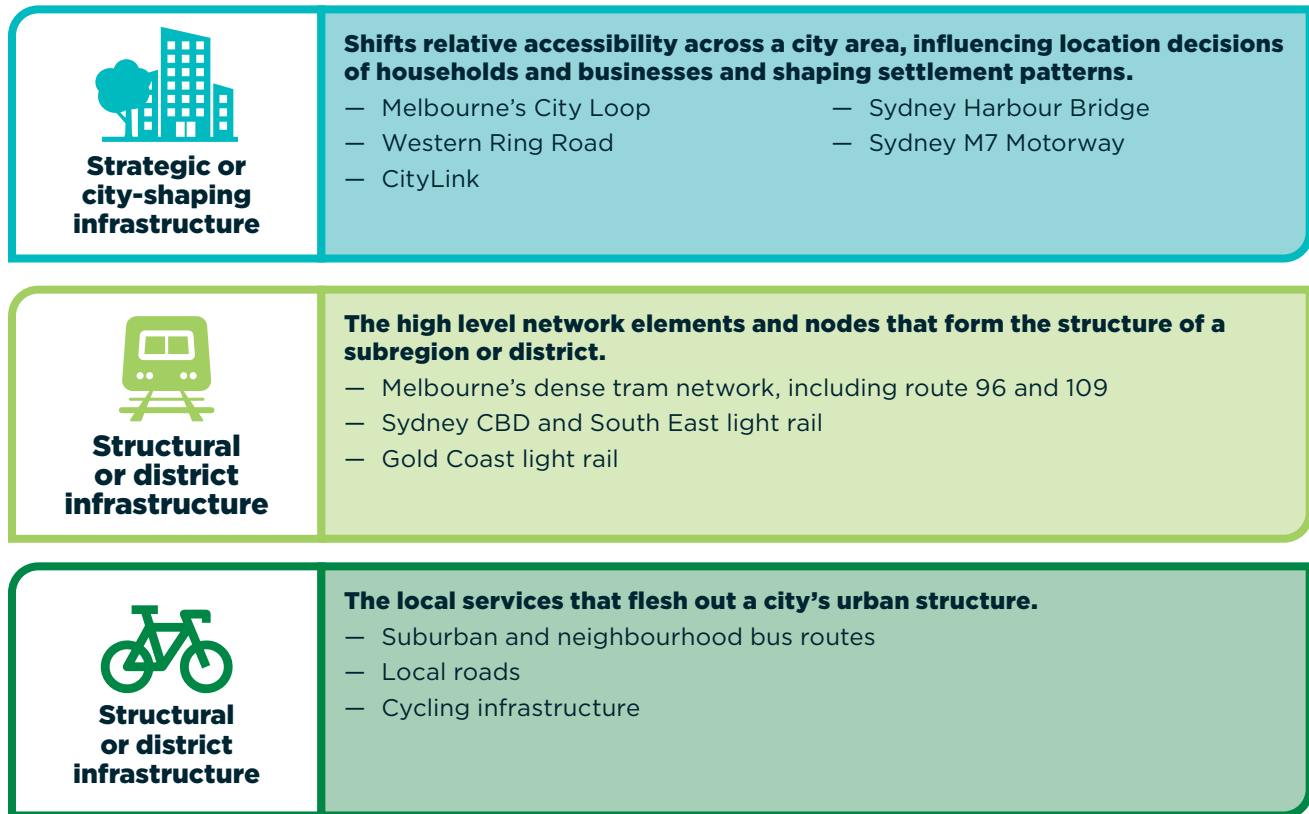
Public transport connectivity will invariably influence these decisions, but it is not the only consideration. Quality and attractive public spaces, access to services and amenities (including green open spaces) and the sense of being part of thriving and vibrant neighbourhoods are all important and have the power to influence these decisions.

At its core, *Plan Melbourne* advocates for infrastructure investment that has the power to fundamentally reshape the city.

1.4 Shaping a Melbourne for the future

1.4.1 The power of city-shaping infrastructure

Figure 1-8: Transport infrastructure categories



Not all infrastructure projects are the same. Some are designed to have a broad, strategic impact, while others have a more local focus. The distinction between the different types of infrastructure projects is outlined in the Australian Transport Assessment and Planning (ATAP) Guidelines (see [Figure 1-8](#)).⁶⁷

Generally, local or follower transport infrastructure services a local area. It is vital to community wellbeing and place-making, but it does not shape urban form. Structural infrastructure forms part of a region's urban framework; however, like local or follower infrastructure, it does not substantially change relative accessibility across a city or shape its urban form.

Strategic or 'city-shaping' transport infrastructure has the power to alter relative accessibility across a city and change a city's development patterns and growth projections. It influences where a business chooses to locate and where a person chooses to live. It can make locations more attractive, catalysing urban renewal in some areas, while easing pressure on others. More broadly, it can continue to influence behavior and generate land use changes long after it has been built.

When new areas become more attractive because of city-shaping infrastructure, this redirects the property market and intensifies urban development, leading to a shift in urban form. This shift can include increasing density and new mixed-use opportunities in a precinct.⁶⁸ This dynamic is evident in projects such as Melbourne's City Loop, the West Gate Bridge, the Western Ring Road and CityLink, all of which have helped to rebalance Melbourne's lopsided growth from the south east to the north west and west.

It is also evident in Melbourne's Regional Rail Link project – as illustrated in the following case study.

⁶⁷ Australian Transport Assessment and Planning (ATAP), *ATAP Guidelines* (2019), <https://www.atap.gov.au/framework/integrated-transport-land-use-planning/4-Types-of-transport-infrastructure-investment>

⁶⁸ Australian Transport Assessment and Planning (ATAP), *ATAP Guidelines* (2019), <https://www.atap.gov.au/framework/integrated-transport-land-use-planning/4-Types-of-transport-infrastructure-investment>

CASE STUDY

Regional Rail Link

Influencing Melbourne's urban form

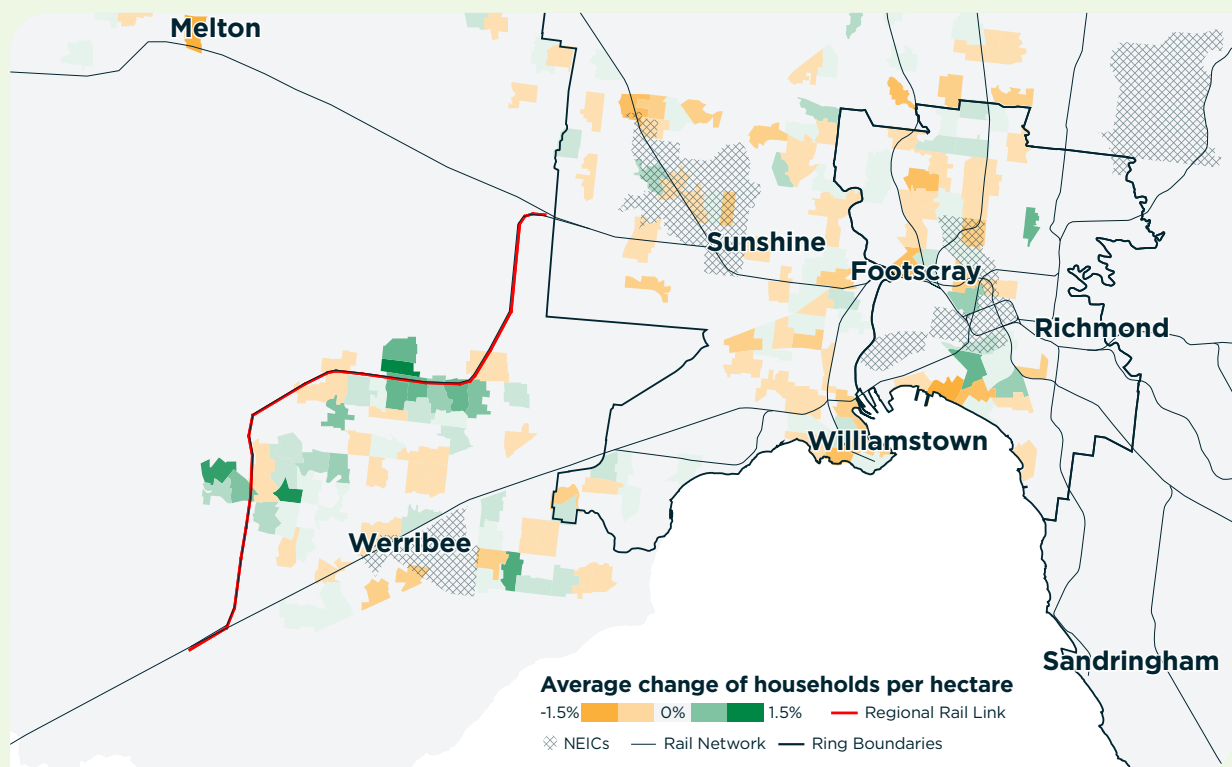
Regional Rail Link (RRL) is a 48 km commuter railway in Melbourne's western and south western suburbs that opened in 2015. At the time of construction, the RRL project was one of the largest and most expensive rail projects ever built in Victoria,ⁱ and was designed to:

- Improve the capacity and reliability of rail services by re-routing Geelong corridor trains to the west of Melbourne
- Separate regional and metropolitan train lines.

The project included new stations at Tarneit and Wyndham Vale. This generated huge improvements in accessibility to Melbourne's western suburbs, leading to:

- Substantial growth in housing and population in the local areas concentrated around the new train stations, outstripping the previous land use projections (as shown in [Figure 1-9](#))
- Higher than expected growth in passenger numbers on the new RRL servicesⁱⁱ
- Tarneit and Wyndham Vale stations rapidly becoming among the busiest in Victoria – within just two years of opening.ⁱⁱⁱ

Figure 1-9: Regional Rail Link influence on housing development, 2021



Source: CityPlan

i VAGO Victorian Auditor-General's Office, *Assessing Benefits from the Regional Rail Link Project* (2018), p. 11, <https://www.audit.vic.gov.au/sites/default/files/2018-05/20180510-Regional-Rail-Link.pdf>

ii VAGO Victorian Auditor-General's Office, *Assessing Benefits from the Regional Rail Link Project* (2018), p. 11, <https://www.audit.vic.gov.au/sites/default/files/2018-05/20180510-Regional-Rail-Link.pdf>

iii Wyndham City, *Wyndham City 2020-21 Victorian Pre-Budget Submission* (2019), p. 16, <https://www.wyndham.vic.gov.au/sites/default/files/2019-12/Wyndham%20City%202020-21%20Vic%20Budget%20Submission.pdf>

1.4.2 An integrated approach to land use and transport planning is critical

An integrated land use and transport planning approach to infrastructure development maximises the social, economic and environmental outcomes from both infrastructure and land use planning.⁶⁹

To reshape the city, Melbourne needs to harness the combined power of city-shaping transport infrastructure and precinct development. On their own, each of these actions would be insufficient to realise the change required. To maximise value for Melbourne and Victoria, and to genuinely influence people's choices, investment in city-shaping transport infrastructure must be accompanied by changes to land use and the appropriate provision of population-serving infrastructure.

CASE STUDY

How the City Loop reshaped Melbourne

Melbourne's City Loop was a city-shaping infrastructure project that transformed the central city and laid the foundation for the vibrant CBD now enjoyed by residents, workers and visitors. Together with significant underground rail investment, targeted land use policies and initiatives such as 'Postcode 3000' (a policy that provided incentives to live in the CBD), the City Loop played a critical role in reshaping the CBD into the economic and cultural heart that it is today.

More than a transport project

The City Loop was designed to solve an array of transport network and land use challenges. At the time of the City Loop's investment, there was significant crowding for commuters alighting at either of the CBD's two stations: Flinders Street and Spencer Street.ⁱ Other challenges were beginning to emerge; for example, rail patronage was declining and operational inefficiencies, such as the need to turn back trains at the CBD, would soon become problematic.ⁱⁱ

The City Loop, comprising a new underground rail loop, four new stations and a new viaduct – together with a swathe of supporting land use initiatives – successfully upgraded the operational efficiency of rail transport to and from the CBD. The project reduced congestion, rebalanced station patronage (so that Flinders Street was no longer servicing 90 per cent of commuters) and vastly increased the maximum capacity of the system.

Centre Place, Melbourne



Source: Robert Blackburn (via Visit Victoria)

i History of Melbourne's Metropolitan Rail System and the Adoption of the Underground Loop Concept, [Archive website](#)

ii City Loop history, [Archive website](#)

69 Infrastructure Victoria, *Victoria's 30-year Infrastructure Strategy*, (December 2016) p. 16.

An innovative funding strategy

Value capture principles were embedded in the City Loop project. As well as traditional sources of funding (e.g. the state budget), the City Loop was funded by:

- A levy on passenger tickets
- A city-wide levy collected by the Melbourne Metropolitan Board of Works – originally aimed at funding 25 per cent of project costs
- A special council rates levy collected by the City of Melbourne – originally aimed at funding 25 per cent of project costs.ⁱⁱⁱ

The city-wide and council rates levies acknowledged that many different groups in the community would benefit from this major city-shaping infrastructure – not simply the passengers. For example, local commercial and residential property owners would benefit from the revitalisation of the CBD, which would be accompanied by increasing property prices – the special council rates levy ensured this cohort contributed to project costs in exchange for the benefit.

Reshaping the city

Patronage of CBD transport services increased as a result of the City Loop.^{iv} However, with its strategic associated land use initiatives, the City Loop also catalysed a broad range of city shaping changes. The relocation of the rail stabling yards away from the centre of the CBD, the above-ground redevelopment of Melbourne Central and the development of the St Kilda Road and Southbank precincts helped to encourage higher-value residential and commercial development and increase the number of jobs in the CBD.^v More broadly, development in the CBD was redistributed as the City Loop opened up access to the northern parts of the CBD.^{vi}

The City Loop was essential for transforming what architectural commentator Norman Day described in 1978 as ‘an empty useless city centre’ to the vibrant, multi-faceted hub of economic, residential and recreational activity that it is today.^x

The impact of the City Loop and the related land use initiatives continued long after it was built. In 1996, the estimated population of the central city was around 40,000 people;^{vii} today, it is close to 180,000.^{viii} Estimates indicate that as at 2011, the City Loop had generated 74,000 jobs that would not have been located in Melbourne otherwise.^{ix}

Evaluating the City Loop

The City Loop is an integral part of the fabric of Melbourne. It demonstrates that city-shaping projects can provide myriad benefits that are realised over different time horizons.

If the City Loop was evaluated before its construction (in the 1970s) – but without regard to its role as city-shaping infrastructure and therefore not including the land use impacts, wider economic benefits and urban consolidation benefits – and using the same discount rate as used for ‘structural’ and ‘follower infrastructure’ of 7 per cent, it would have delivered a BCR of 0.6.^{xi} However, we know that without the City Loop Melbourne would not be the city that it is today. This illustrates that for multi-generational, city-shaping and transformative projects such as SRL East and SRL North, evaluation should be undertaken to ensure that all benefits, including those that span generations, are appropriately assessed as part of the investment decision making process.

iii Infrastructure Victoria, *Value Capture – Options, Challenges and Opportunities for Victoria: Policy Paper* (October 2016), p. 15

iv Department of Infrastructure (Vic), *MURL Booklet*

v SGS Economics and Planning for the Department of Transport, *Long run economic and land use impacts of major infrastructure projects: Final Report* (2012), NELP-Long Run Economic and Land Use Impacts of Major Infrastructure Projects

vi City of Melbourne, *Postcode 3000: A city transformed?* (2013-2014), <https://www.melbourne.vic.gov.au/arts-and-culture/city-gallery/exhibition-archive/Pages/Postcode-3000---A-city-transformed.aspx>

vii Department of Infrastructure, *Implications of Population Change in Metropolitan Melbourne* (Technical Report 6: Planning Melbourne for the 21st Century), https://www.planning.vic.gov.au/_data/assets/pdf_file/0017/100691/Implications-of-Population-Change-in-Metropolitan-Melbourne-2000.pdf

viii ABS, *Population Estimates by Local Government Area, 2001 to 2019*

ix SGS Planning & Economics for the Department of Transport, *Long run economic and land use impacts of major infrastructure projects* (July 2012)

x City of Melbourne, *Postcode 3000: A city transformed?* (2013-2014). <https://www.melbourne.vic.gov.au/arts-and-culture/city-gallery/exhibition-archive/Pages/Postcode-3000---A-city-transformed.aspx>

xi Based on analysis undertaken by KPMG, described in further detail in Chapter 12

1.5 The need for action now

History indicates that city-shaping initiatives are often commenced at a critical juncture, such as during an economic crisis (such as the Great Depression in 1929) or periods of significant change (such as the population boom of the 1950s).

Melbourne now finds itself at a critical juncture – not only in its evolution as a global city dealing with strong population growth, but also facing an uncertain global economic outlook as a result of a worldwide pandemic. Unless plans to manage population and employment growth are supported by the right infrastructure, the city faces increasing urban expansion, worsening congestion, flatlining economic growth and declining liveability.

Melbourne is not alone in the challenges it faces. Sydney's regional plan, *A Metropolis of Three Cities*, aims to reshape Sydney as three unique but connected cities.⁷⁰ Sydney Metro, currently New South Wales' largest transport project, is critical to changing the shape of the city and realising this vision. The integration of Sydney Metro with regional land use planning is a contemporary example of proactive rather than reactive infrastructure investment and of leveraging major transport investment to create a more accessible, multi-centred city. Construction of Sydney Metro is well underway, giving Sydney the advantage of being able to attract and retain the best talent and resources in the construction industry for future stages of the project.

⁷⁰ Greater Sydney Commission, *Greater Sydney Regional Plan: A Metropolis of Three Cities – connecting people* (March 2018), <https://gsc-public-l.s3-ap-southeast-2.amazonaws.com/greater-sydney-region-plan-0618.pdf?pMbPYxwen5IHg4GSB6td4yKiKVogFi4c>

CASE STUDY

A Metropolis of Three Cities

Sydney, Australia

A Metropolis of Three Cities – The Greater Sydney Region Plan documents a vision to reshape Greater Sydney to rebalance growth and deliver its benefits more equally and equitably across the city. The plan aligns land use, transport and infrastructure planning to position the city to respond to critical current and emerging challenges, including:



Imbalances in job accessibility

Approximately 500,000 jobs are concentrated in the Harbour CBD on the eastern edge of Greater Sydney, reinforced by radial rail and road networks that extend out across the city from the CBD, with increasing travel times for many workers.



Geographic constraints

The geography of Sydney is defined by waterways, ridges, ravines and national parks that place spatial limits on the extent of Greater Sydney, impeding road and rail development and constraining accessibility.



Traditional transport modes

Suburban areas of Greater Sydney have historically been formed by car-based transport, particularly in western parts of the city. This has placed significant strains on existing road infrastructure, particularly on the eastern Harbour CBD.



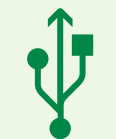
Shifting demographics

Central and western parts of Greater Sydney are experiencing a decline in the working age population, leading to pressure for access to health and education services that are more concentrated toward the eastern region and other hubs.



A population shift to Western Sydney

By 2060, Greater Western Sydney will be home to 4.3 million people – almost 60 per cent of Sydney's population – and the region will be the third largest economic area in Australia (after the Sydney and Melbourne CBDs). Significant investment in infrastructure, and integrated land use and transport planning, will be needed to manage growth of this scale sustainably.



Technology driven changes in cities

Rapid advancements in technology across industries and communities are changing the way cities operate, influencing how and where people work and the distribution of goods and services. Without adapting to these changes, city planning and infrastructure will be unable to support diverse needs across the Greater Sydney region.

In the face of these challenges, the New South Wales Government recognised that a monocentric urban form is increasingly unable to meet the desired growth and investment outcomes for the Greater Sydney region of the future.

A Metropolis of Three Cities aims to reshape the region to adapt to these challenges. The plan adopts a polycentric urban form built around three distinct but connected cities: the Eastern Harbour City, the Central River City and the Western Parkland City. The plan aims to support residents to live within 30 minutes of their jobs, services and cultural and recreational places, and seeks to improve economic outcomes for industries and wellbeing outcomes for residents.

New transport links are critical to realising the ‘three cities’ vision. This includes construction of Sydney Metro, which will connect key areas in each of the three cities. For example, Greater Parramatta is a key economic centre in the Central River City and will be connected by Sydney Metro to Sydney Olympic Park and the Eastern Harbour City CBD. The Sydney Metro project is anticipated to amount to more than \$45 billion in public capital investment and multi billion-dollar operational public private partnerships.ⁱ

i Australia and New Zealand Infrastructure Pipeline, *Sydney Metro*, 31 July 2020

Action needs to be taken now to prepare Victoria for future challenges and build Melbourne’s and Victoria’s resilience to a testing and uncertain global economic environment, and to other risks to economic growth such as climate change, an ageing population and declining productivity. It is also vital to realise *Plan Melbourne’s* vision to ensure Melbourne remains a global city of opportunity and choice, not only for the immediate decades ahead but also for the second half of the 21st Century.

To achieve these critical objectives, Melbourne needs to do more than just react to waves of demand; we need to plan where and how that demand materialises. Victorians want a stronger economy. Melbourne needs to retain its reputation as a highly liveable city so that it can continue to attract the best talent.⁷¹ It is also critical to deliver more opportunities for Victorians in regional areas – to take some of the pressure off Melbourne, boost vital regional industry sectors and support thriving regional cities and towns. Decisive and planned action is needed now to shape Melbourne, its precincts and growth areas for the future.

City-shaping infrastructure takes time to plan and deliver. It also takes time for urban form to respond and for the benefits of city-shaping infrastructure to be realised. But Melbourne’s strong history of strategic planning and thoughtful infrastructure investment – such as the City Loop, the Western Ring Road or CityLink – shows that it can be done.

SRL is a city and State-shaping program of works that will fundamentally shift Melbourne’s urban form and drive the transformations envisaged by *Plan Melbourne*. It will support Melbourne’s growing middle suburbs, creating centres of gravity outside of the central city that will trigger new investment, economic activity and jobs. It will open up new possibilities, opportunities and choices in existing neighbourhoods and precincts. SRL will give Melbourne a world-class public transport system that is up to the task in the coming decades and revolutionise the way people move around the city and access Melbourne from regional Victoria. It will support Melbourne to become a more consolidated and sustainable city, maintaining its global reputation as a highly attractive place to live and work.

71 Martin Neil Baily and Nicholas Montalbano, *Clusters and Innovation Districts: Lessons from the United States Experience* (May 2018), https://www.brookings.edu/wp-content/uploads/2018/05/es_20180508_bailyclustersandinnovation.pdf

1.6 The solution

1.6.1 Suburban Rail Loop: More than a rail line

SRL is a multi-generational, transformative, city- and state-shaping program of investment and initiatives that will enhance Victoria's public transport system and deliver urban renewal outcomes for Melbourne. It delivers a new 90km rail link connecting Melbourne's middle suburbs, along with a series of integrated initiatives to create value and improve the precincts surrounding the rail link's new stations.

SRL will:

- Provide a 'turn up and go' metro-style rail service along the full length of the new rail line, with connections from the new orbital line to every major radial railway line between Frankston and Werribee
- Provide a second rail connection to Melbourne Airport, complementing Melbourne Airport Rail
- Establish a direct rail connection between major employment, health, education and activity precincts outside Melbourne's CBD, catalysing urban renewal across Melbourne's middle suburbs
- Drive targeted investment in the 1600 metre radius surrounding each SRL Station (referred to as the SRL Precincts) through a range of place-making initiatives including new planning settings, new and upgraded community facilities, improved walking and cycling links, and investment to attract anchor tenants
- Open up opportunities for development spaces over the underground stations or adjacent to the stations that can be used to deliver a diverse range of housing and new civic infrastructure such as retail areas, plazas and recreation spaces
- Boost the economic and employment potential of Melbourne's NEICs at Monash, La Trobe, Sunshine and Werribee and, Metropolitan Activity Centres (MACs) such as Box Hill and Broadmeadows, Health and/or Education Precincts (HEPs) at Clayton and Heidelberg, and Major Activity Centres such as Cheltenham, Glen Waverley and Reservoir
- Improve access to jobs, education institutions and health and other services across Melbourne's middle suburbs for Melburnians and people living in regional Victoria
- Deliver two new transport super hubs at Clayton, Broadmeadows and enhance a third at Sunshine that will all connect regional passengers to the new orbital rail line, providing more direct and convenient journeys to destinations across the city – instead of having to travel through the CBD
- Generate thousands of local job opportunities and help train the next generation of skilled workers.

1.6.2 Objectives of SRL

SRL responds directly to the vision for Melbourne set out by the Victorian Government in *Plan Melbourne 2017-2050*. Drawing on the aspirations of *Plan Melbourne*, development of SRL has been guided by three interrelated Objectives:

- Productivity
- Connectivity
- Liveability.

A detailed description of each objective is set out in [Table 1-1](#).

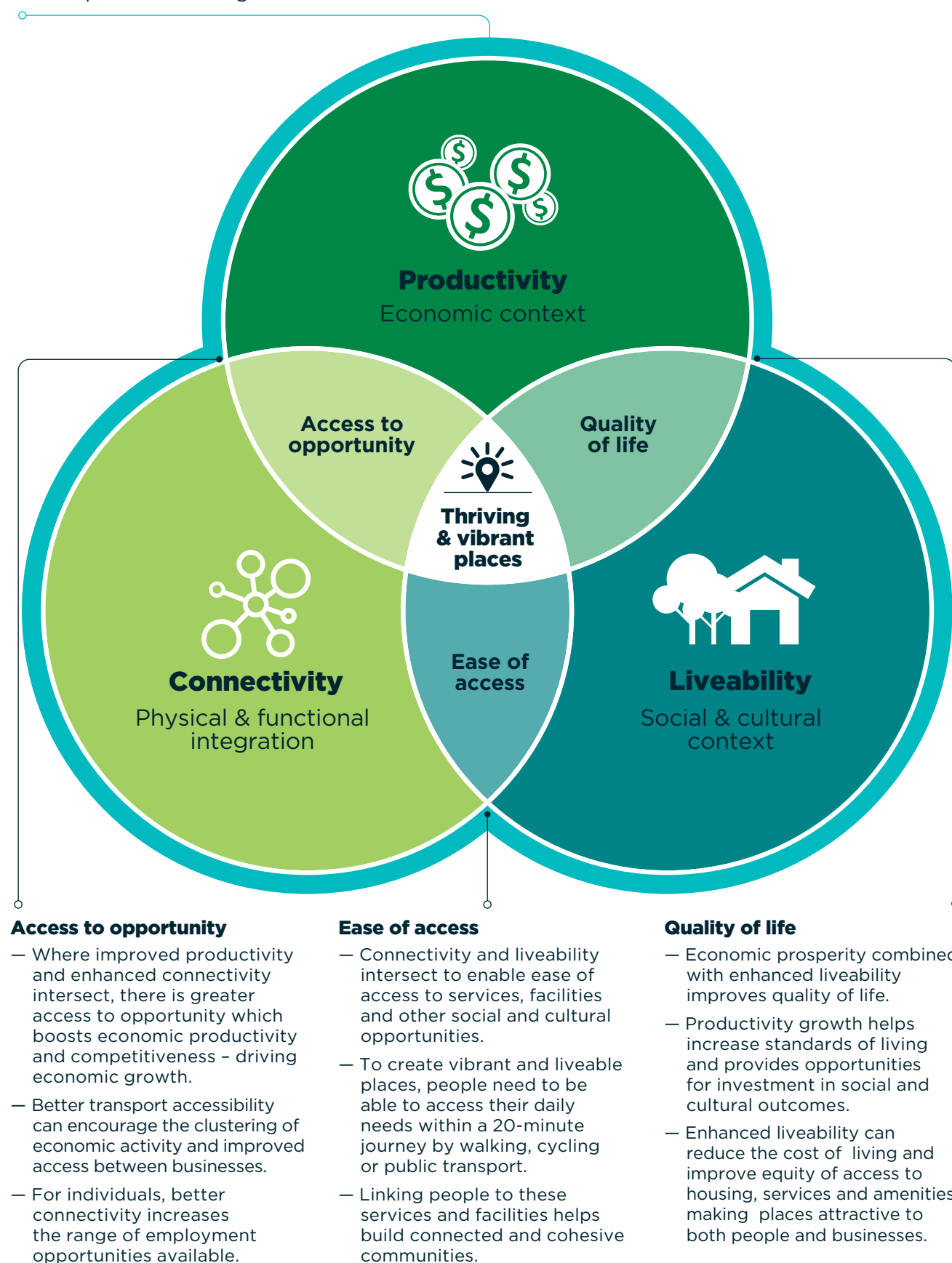
Table 1-1: Detailed descriptions of the SRL Objectives

Objective	Description
Productivity	<ul style="list-style-type: none"> – Support development of a polycentric city structure to facilitate employment growth and strengthen the focus on jobs and investment. – Support the development of 'Places of State Significance', particularly NEICs and MACs, as being major future activity and growth centres outside Melbourne CBD. – Support employment generation, employment access and economic growth across Melbourne and closer to where people live, by transforming Melbourne's transport system to support a productive city and increased capacity at gateways. – Support connections to regional Victoria to encourage economic growth, productivity, housing and sustainability.
Connectivity	<ul style="list-style-type: none"> – Improve public transport access, i.e. service larger customer base (demand), improve customer experience (journey times) and improve passenger flows. – Support the development of an integrated transport network by providing connectivity to existing metro lines, connectivity between transport modes and by creating interchanges / intermodal transport centres. – Improve connectivity across Melbourne, to 'Places of State Significance' (NEICs, MACs, economic gateways) and between cities, outer suburbs and regions. – Improve public transport options in Melbourne's outer suburbs and support the delivery of public transport, jobs and housing in closer proximity to one another (to support 20-minute neighbourhoods). – Support network future-proofing, resilience and safety.
Liveability	<ul style="list-style-type: none"> – Support development of a polycentric city structure to facilitate population growth and new / diverse housing in the right locations to meet population growth (by facilitating housing choice, diversity and increased supply of affordable / social housing). – Create development opportunities in SRL Precincts, support productive use of land and resources and harness value creation opportunities. – Support liveable precincts that promote community cohesiveness, amenity, community facilities, public spaces and green areas. – Support sustainable precincts that promote resilient design solutions, cultural character and positive environmental outcomes. – Create 20-minute neighbourhoods and promote safe communities.

While the SRL Objectives are described separately, they are interrelated. For example, although improving public transport access will be a key driver of better connectivity, it will also support better productivity by facilitating greater clustering of economic activity. This overlap means that a broader range of positive outcomes can be realised where these objectives intersect.

Figure 1-10: Description of the intersection between SRL Objectives

Realisation of the **Productivity**, **Connectivity** and **Liveability** objectives, and the interrelationships and potential synergies created between them, will support the development of thriving and vibrant communities across Melbourne.



1.7 Defining SRL

1.7.1 Assessing the options

In 2017-2018, the Victorian Government investigated options to influence the distribution of population and employment across Melbourne. These investigations culminated in the *Strategic Assessment: Suburban Rail Loop*,⁷² which recommended an orbital rail line.

Three broad potential corridors were considered: inner, middle and outer Melbourne. Following an assessment of the three options, the middle region was identified as the preferred corridor. Strengths of the middle corridor include the ability to:

- Connect four of Melbourne's NEICs (Werribee, Sunshine, La Trobe and Monash), Melbourne Airport (a critical transport gateway) and other important activity centres
- Support improved housing choice
- Integrate with the existing radial network
- Improve access for regional communities.

This 90km corridor through Melbourne's middle suburbs supports mass transit through the emerging western and northern suburbs, close to some of Melbourne's largest growth areas and into the established eastern suburbs where some of the largest employment, health and education clusters outside of the central city are located.

1.7.2 SRL East, SRL North and SRL West

SRL comprises three sections. SRL East from Cheltenham to Box Hill, and SRL North from Box Hill to Melbourne Airport are the focus of this Business and Investment Case.

A scope development methodology (Program Development Process) was established to guide scope definition of the SRL East and SRL North route alignments. The initial steps in the Program Development Process explored critical strategic considerations, including policy direction, strategic response options and key corridor options. More detailed analysis was then undertaken to determine the anchor precincts, program sequencing and precinct location options. The Program Development Process was informed by detailed technical optioneering and studies. This Process is described in more detail in Chapter 4.

Due to their scale and complexity, SRL East and SRL North will be completed over multiple decades. Following extensive development work and investigations, and pending planning approvals, construction will commence in 2022 on SRL East, delivering a rail connection and urban renewal between Cheltenham and Box Hill. The broad alignment and precinct locations for SRL East have been confirmed, which includes new underground stations at Cheltenham, Clayton, Monash, Glen Waverley, Burwood and Box Hill.

The alignment for SRL North is indicative and subject to further investigations.

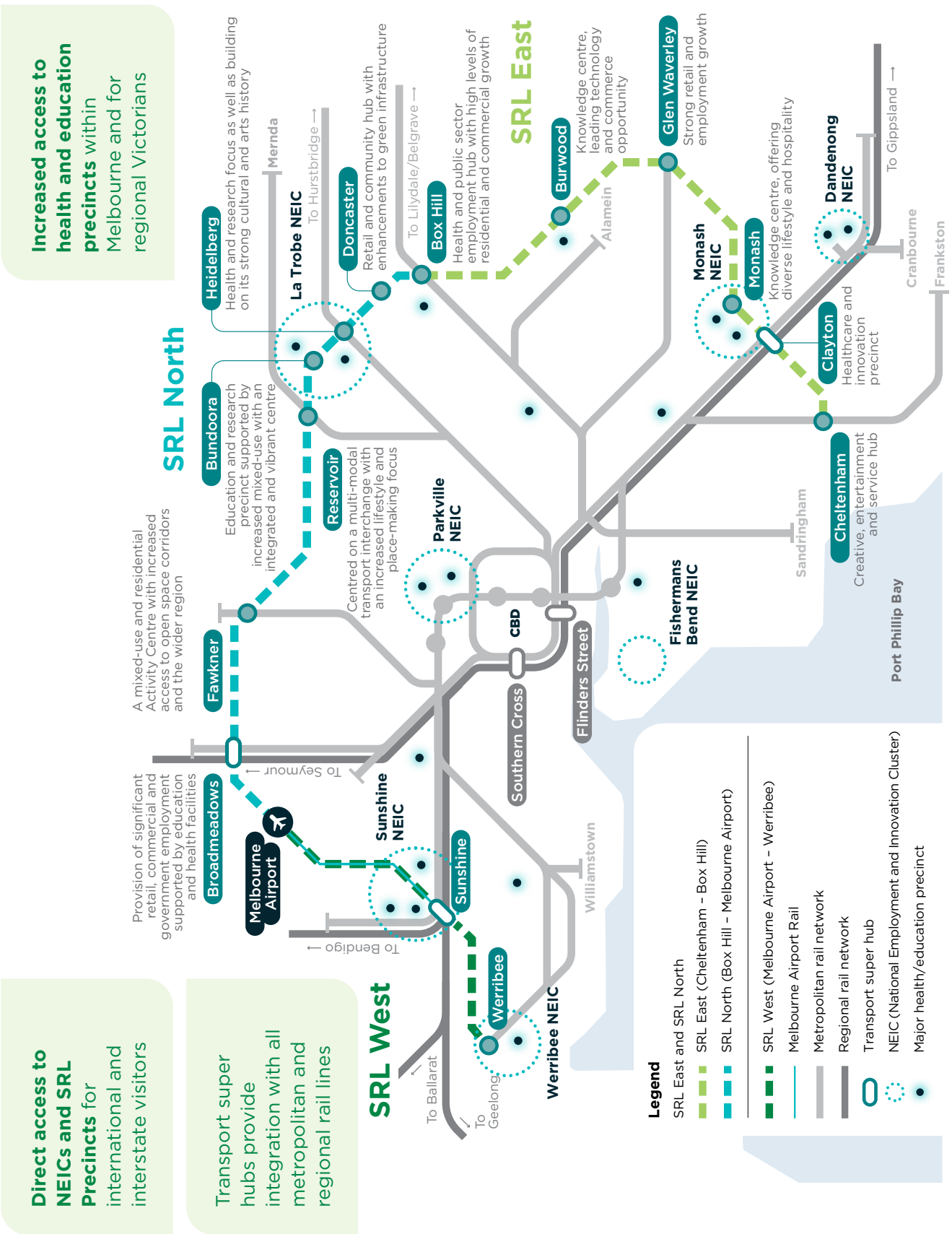
Further details in relation to the scope of the rail and precinct development components of SRL East and SRL North are provided in Chapters 4 and 5 of this Business and Investment Case. For the avoidance of doubt, this Business and Investment Case provides the case for investment for the combined SRL East and SRL North sections.

SRL West extends from Melbourne Airport to Werribee. SRL West will be subject to further investigation, planning and development. There is already billions of dollars of investment in rail projects in the West, including projects such as Metro Tunnel, Melbourne Airport Rail and the Western Rail Plan, and all of these will be coordinated to ensure provision is made to deliver SRL to Werribee as soon as possible. SRL West will tap into and further enhance the Sunshine super hub being delivered as part of Melbourne Airport Rail, where precinct planning is already underway.

The SRL network plan showing the SRL Stations and the SRL Precincts, is shown in [Figure 1-11](#).

⁷² Development Victoria, *Strategic Assessment Suburban Rail Loop* (2018), https://bigbuild.vic.gov.au/_data/assets/pdf_file/0006/325572/Suburban-Rail-Loop-Strategic-Assessment.pdf

Figure 1-11: Suburban Rail Loop network plan



1.7.3 Precinct development in the west

This Business and Investment Case discusses precinct development as part of SRL East and SRL North. In relation to SRL West, two key precincts – Werribee NEIC and Sunshine Precinct – are expected to be critical components of the SRL Program.

Werribee NEIC

The long-term and staged development of the Werribee NEIC is critical to realising the objectives of *Plan Melbourne* and delivering quality knowledge-based education, healthcare, logistics and future construction jobs close to where people live in Melbourne's fast-growing west.

The Victorian Government owns a large land parcel in Werribee, known as the East Werribee Employment Precinct. This 775 hectare holding presents unparalleled opportunities for integrated land use and transport planning that applies best-practice Value Creation and Capture approaches. To seed long-term job opportunities, the Werribee NEIC can leverage existing health and education institutions, with Victoria University providing a wide range of education pathways to support a fast-growing region and fast-growing industry sectors, including healthcare and construction.

Sunshine Precinct

Plan Melbourne identifies Sunshine as a National Employment and Innovation Cluster (NEIC) with a significant role to play as a centre of employment and services for the growing western metropolitan subregion.

The Sunshine Transport Precinct (Sunshine Precinct) is positioned between Australia's biggest international airport and port, with direct connections via road and – in the future – rail. There is a unique opportunity to capitalise on the growth of the surrounding region and the Victorian Government's investment in transport and health infrastructure, such as the new Joan Kirner Women's and Children's Hospital and the expansion of the Sunshine Hospital, to transform Sunshine into 'the capital of the west'.

Sunshine benefits from strong transport connectivity. This will be dramatically improved by completion of the Metro Tunnel, the delivery of Melbourne Airport Rail and the Sunshine transport superhub, and SRL West. Planning is underway for the Western Rail Plan to enable more frequent and higher capacity rail for Victoria's growing western suburbs and regional cities, as well as investment in the Geelong and Ballarat regional lines. These major rail investments will bring over four million people – or half of Melbourne – within a 45-minute commuting time from Sunshine, significantly extending the precinct's employee catchment. The Sunshine Precinct and transport superhub will be further enhanced with the delivery of SRL West.

1.8 Generating value for Victorians

1.8.1 Harnessing the property market

SRL will harness the trends of Melbourne's property market. The city's well connected and highly liveable inner suburbs, with good access to services and amenities, have experienced significant land price increases in recent decades. Revitalisation of Melbourne's inner suburbs has made them highly attractive, and the property market has responded in kind.

By adopting an integrated approach to transport planning and land use development, SRL will harness two key drivers of the property market: public transport connections and urban renewal. Urban renewal will present opportunities for greater housing diversity, giving people more choice in SRL Precincts and catering to different lifestyles and household types.

Experience with similar projects both locally and overseas suggests that land values will increase in SRL Precincts as these areas become more attractive, accessible and convenient, due to public transport connections and targeted precinct development designed to enhance liveability.

1.8.2 Value uplift and value creation

SRL will embed value creation and capture principles in all aspects of project development, delivery and ongoing service provision. This means that the program (and its individual sections) will generate and identify:

- **Value uplift:** the SRL Objectives – Productivity, Connectivity and Liveability – are expected to generate additional value in various forms; for example, uplift to property values, wages and business profits. There will be opportunities for government to capture a portion of this value uplift to help fund the investments that will deliver this enhanced value (see Chapter 10)
- **Value creation:** there will be opportunities to create greater public value through mechanisms outside of the immediate scope of SRL.

SRL (and each of its sections) must comply with Victoria's Value Creation and Capture (VCC) Framework. The Framework provides guidance on how projects should harness the potential of Victorian Government investment to create value for the community.

This is discussed further in relation to SRL East and SRL North in Chapter 11: Value creation.

1.8.3 A contemporary approach to funding

Contemporary infrastructure planning increasingly recognises that traditional funding sources, such as the general tax base, are an insufficient and inequitable means for covering the total cost of an infrastructure project.

Major transport projects can generate substantial direct and indirect benefits as a result of improved accessibility and amenity. Integrated land use and transport planning projects are especially powerful in creating a range of benefits and driving value uplift.⁷³ Economic benefits from enhanced business productivity and labour supply can accrue for the economy as a whole, as well as at a local level. As a result, cohorts such as community groups, business owners, landowners or developers can receive a range of benefits from city-shaping projects such as the SRL Program.

The principle of value capture recognises there is an opportunity to monetise the benefits and value uplift generated by a project, and for a portion of these monetised benefits to be used to partially fund the project, alleviating the burden on traditional sources of funding. This approach has been used to fund previous infrastructure projects in Melbourne, including the City Loop (as described in section 1.4.2) and has been adopted by recent international projects such as Crossrail in London and Hudson Yards in New York.

Given the scale of investment and the breadth of benefits that will be generated by SRL, targeted mechanisms to capture a portion of the value created by the program are being considered. Potential mechanisms include development levies and charges, businesses levies and user charges. There are multiple choices and trade-offs that need to be considered in designing appropriate value capture mechanisms.

This is discussed further in relation to SRL East and SRL North in Chapter 17: Funding and financing.

73 Infrastructure Victoria, *Value Capture – Options, Challenges and Opportunities for Victoria: Policy Paper* (October 2016), p. 21

1.9 Responding to and rebuilding after COVID-19

1.9.1 The impact of COVID-19

The outbreak of COVID-19 and its rapid global spread in early 2020 sent shockwaves around the world. Throughout 2020 and 2021, countries have continued to struggle to control the virus, manage fast-spreading variants and deliver large-scale vaccination programs.

At 1 June 2021, WHO reported more than 170 million confirmed cases and 3.5 million deaths globally due to COVID-19, with many countries continuing to experience increasing case numbers and resurging waves of infection.⁷⁴ In April 2021, WHO warned that the pandemic is 'a long way from over', despite high vaccination rates in some countries, and there remains considerable uncertainty about the future course of the pandemic and its longer-term effects.⁷⁵

The pandemic has had a profound impact on Australia. Australia has recorded more than 30,000 confirmed cases of COVID-19 and the lives and livelihoods of millions of Australians have been severely affected.

The health crisis led to an economic crisis. Australia's real Gross Domestic Product (GDP) fell an unprecedented 7 per cent for the June 2020 quarter, following a series of lockdowns and restrictions on interstate travel, closure of the national border and other measures taken to limit the spread of the virus.⁷⁶ However, the 2021-22 Australian Budget reported that the national economy has recovered well and is set to return to pre-pandemic levels earlier than expected in the previous budget.⁷⁷ While the outlook for the global economy has improved, the Budget Overview notes that it is 'fragile' and 'remains highly uncertain'.⁷⁸

The pandemic has also had a significant effect on Victoria's economy, leading to the first economic downturn for the state in 28 years.⁷⁹ Despite this, the 2021-22 State Budget reported that by early 2021, economic activity and employment had rebounded strongly and the overall outlook for the state's economy was positive – while cautioning that 'the nature of the pandemic means that 'risks to the economic outlook remain elevated'.⁸⁰ In particular, contractions in economic output and employment may continue to occur if further public health restrictions need to be imposed.

Given Australia's reliance on net overseas migration, the COVID-19 pandemic has temporarily slowed population growth. In the June 2020 quarter (the first full quarter subject to international travel restrictions, Australia's population growth slowed to its lowest level (0.1 per cent) since quarterly population estimates began in June 1981.⁸¹ The Australian Government is predicting a sharp fall in net overseas migration due to COVID-19: from a net inflow of around 154,000 persons in 2019-20 to a net outflow of around 72,000 persons in 2020-21. Net overseas migration is expected to recover only slightly in 2021-22 to a net outflow of 22,000 and potentially become positive once again in 2022-23.⁸²

High levels of net overseas migration have been an important driver of Victoria's economic growth in recent years and the state has been hit hard by the national downturn in overseas migration. The Victorian Government's economic forecasts assume that migration levels, including temporary international student migrants, will only start approaching pre-COVID-19 levels around 2025.⁸³

Even once international borders reopen, it is unclear how overseas migration will be affected in the medium term. It is possible that Australia may be seen as a 'safe haven' given its relatively good record in addressing the public health crisis, making Australia more attractive to new migrants, overseas students and/or Australians returning from overseas. Melbourne's liveability will be critical in attracting a significant percentage of these people to Victoria, as well as helping to drive Australia's population growth after the pandemic. It will also be critical to restoring growth to sectors that are vital to Victoria's economy, such as international education and tourism.

74 WHO 2021, COVID-19 Weekly Epidemiological update, Edition 42, Published 1 June 2021, <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---1-june-2021>

75 See Reuters (13 April 2021), 'Coronavirus pandemic 'a long way from over', WHO's Tedros says', <https://www.reuters.com/business/healthcare-pharmaceuticals/coronavirus-pandemic-a-long-way-over-whos-tedros-says-2021-04-12/>

76 ABS, Australian National Accounts; National Income, Expenditure and Product (June 2020)

77 Australian Budget 2021-22, Budget Overview, <https://budget.gov.au/2021-22/content/overview.htm>

78 Australian Budget 2021-22, Budget Overview, <https://budget.gov.au/2021-22/content/overview.htm>

79 Victorian State Budget 2021-22, *Budget paper No.2, Strategy and Outlook*, <https://www.budget.vic.gov.au/budget-papers>

80 Victorian State Budget 2021-22, *Budget paper No.2, Strategy and Outlook*, <https://www.budget.vic.gov.au/budget-papers>

81 ABS, Population and COVID-19 (December 2020)

82 Australian Government (December 2020), Population Statement Overview, <https://population.gov.au/publications/publications-population-statement.html>

83 Victorian State Budget 2021-22, *Budget paper No.2, Strategy and Outlook*, <https://www.budget.vic.gov.au/budget-papers>

As international borders reopen and confidence in the national and global economic outlook improves, Victoria's population growth is projected to slowly pick up; however, the rate of growth will remain below the average annual growth rate over the five years before the pandemic.⁸⁴

It is important to note that while the rate of population growth is expected to be lower, Melbourne will still need to manage a growing population in the coming decades. Melbourne remains on-track to outgrow Sydney and become Australia's largest city by 2026-27.⁸⁵ Many of the long-term challenges of population growth (including urban expansion and increased demands on the city's transport system) are expected to persist. Shaping the city for the future remains critically important to cater to the demands of subsequent generations and ensure Melbourne remains productive and liveable.

COVID-19 pandemic and population growth

Migration has been the primary driver of Australia's growth for decades. The COVID-19 (coronavirus) pandemic has forced the closure of international borders and halted migration. While population growth is expected to slow in the next two years, it is expected to recover when borders reopen.

The SRL core scenario modelled in this Business and Investment Case uses Victoria in Future 2018 (VIF 2018) population projections, as required by DoT guidelines. An SRL COVID sensitivity scenario was included to test for the uncertainties arising from the COVID-19 pandemic. This sensitivity test was based on population projections from the Victorian Department of Environment, Land, Water and Planning (DELWP) and indicates that population growth in Victoria may be delayed, but will still reach similar levels in the longer term.

Population projections for Victoria reported in the 2021-22 Australian Budget are slightly more optimistic for 2020 compared to modelling conducted for this Business and Investment Case, but slightly more pessimistic for the years 2021 to 2024. The SRL core scenario projections are 4 per cent higher in 2024 than the projections used by the Australian Government in the 2021-22 Budget papers.

While the medium term population impacts of the pandemic are uncertain, all forecasts indicate that Victoria's population will continue to grow strongly in the long term. The SRL COVID sensitivity scenario modelled for this Business and Investment Case assumes that population growth is delayed by two years in the immediate future, increasing to a delay of four years by 2056. For example, the growth originally forecast for 2020 is expected to be realised by 2022, while 2052 growth levels are expected to be realised by 2056.

COVID-19 related scenario and sensitivity testing for projects, Department of Transport, September 2020

84 Victorian State Budget 2021-22, *Budget paper No.2, Strategy and Outlook*, <https://www.budget.vic.gov.au/budget-papers>

85 Australian Government (December 2020), Population Statement Overview, <https://population.gov.au/publications/publications-population-statement.html>

1.9.2 Potential changes in community behaviour

Efforts to manage and contain the COVID-19 pandemic have required changes to community behaviour. Some of these changes may be short term, lasting only the length of the pandemic; others may become more entrenched.

To minimise potential exposure to the virus, some people have avoided public transport during the pandemic, choosing instead to use cars or active transport. Public transport mode share may be slow to recover, even once the risk of exposure is low. This will be compounded by fewer overall trips across the network – it is anticipated that some people will continue to work from home (for at least part of the week) more permanently.

More permanent working-from-home arrangements may change where businesses are located. Less office space may be needed in the future to accommodate a partially remote workforce, encouraging office down-sizing. This may open up supply for commercial space in the central city, making it an attractive proposition for businesses. Alternatively, with the rise of videoconferencing and other remote working tools, businesses may be more willing to locate outside of the central city or to have a number of smaller satellite offices. Such change would reinforce the transformation of Melbourne to a polycentric city and provide new opportunities for the SRL Precincts.

The nature of the pandemic means that regional Victoria may also become a more attractive option for people to live with its larger properties and open spaces.⁸⁶ Similarly, people who work from home may opt for low density housing on the urban fringe given their commutes may become more infrequent.⁸⁷ If this is the case, it may become more difficult to rein in Melbourne's urban expansion, continuing to defy the long-term ambition for a more consolidated city.

Notwithstanding this level of uncertainty, medium to high density housing in well-connected and liveable locations is likely to remain an attractive option for many people – potentially with new expectations as to what they deliver. For example, demand may increase for developments with more public spaces, such as communal recreational spaces, and private open spaces such as larger balconies.⁸⁸ Planning for the SRL Precincts offers the opportunity to provide medium to high density dwellings that meet people's changing needs and expectations.

Regardless of the short-term consequences of the pandemic, a high quality public transport system – including the step-up in accessibility and connectivity delivered by SRL – will continue to be the key to a liveable, accessible city in the decades ahead.

86 Provisional data from the ABS shows that Australia's capital cities lost people to regional areas during the pandemic at more than double the average rate over the last 10 years: see Australian Government (December 2020), Population Statement Overview, <https://population.gov.au/publications/publications-population-statement.html>. See also United Nations, *Policy Brief: COVID-19 in an Urban World* (July 2020)

87 James Lennox Centre of Policy Studies, Victoria University, *More working from home will change the shape and size of cities* (10 August 2020)

88 Peter Seamer, *Will COVID-19 change the way we plan our cities?* (6 April 2020), <https://howtobuildacity.com/post/will-covid-19-change-the-way-we-plan-our-cities/>

1.9.3 Local liveability has been reinforced

In some ways, the pandemic has hastened some of the changes proposed in *Plan Melbourne*. More people are living locally by working from home and shopping locally. Local population-serving infrastructure has been highly valued during the pandemic. Local green open spaces have been well utilised as people seek to escape from the indoors.⁸⁹ There has also been a renewed appreciation for walkable environments, safe cycling paths and places, facilities and activities that encourage social connection and cohesion.⁹⁰

Overall, SRL can capitalise on this reinvigorated appreciation through its approach to precinct development. SRL Precincts will be mixed-use developments with high levels of services and amenities that provide people with local access to their 'daily needs'.

1.9.4 Stimulating the economy

SRL will be a key lever for economic stimulus as part of Victoria's post COVID-19 recovery. In the medium term, the SRL Program will:

- Create direct employment in planning and delivering SRL East and SRL North within sectors such as construction (including housing, retail and office construction in SRL Precincts), engineering and project management
- Support thousands of indirect jobs across the Victorian economy, including through the supply chain for construction and rolling stock, and professional services
- Build confidence in Victoria's economy and the Victorian Government's commitment to a pipeline of major projects
- Catalyse private sector investment in SRL Precincts; for example, as part of development activity around the stations and across the SRL Precincts
- Generate increased demand for population-serving jobs in SRL Precincts.

By adopting a sequenced approach, SRL can be flexible and responsive to changing market conditions that are likely to persist in the shorter term while the pandemic continues. In addition, a place-focused approach positions SRL to generate benefits and value beyond infrastructure development alone. In particular, unlocking the economic potential of emerging economic clusters across Melbourne's middle suburbs and driving productivity and stimulating economic growth outside the central city, especially in critical sectors such as health and education.

1.9.5 Dealing with uncertainty

Additional uncertainty analysis has been undertaken within this Business and Investment Case, which seeks to understand and factor in the potential implications of the COVID-19 pandemic on the case for investment. The uncertainty analysis (based on a COVID sensitivity scenario - see page 81) conservatively assumes that economic growth, population and immigration forecasts and land use uplifts will be delayed from business-as-usual estimates by two years in early years, increasing to four years by 2056 as a result of compounding impacts.⁹¹ It also assumes higher levels of working from home. Further details regarding this scenario are detailed in Chapter 12: Overall evaluation: SRL East and SRL North and Appendix C.1: Demand Modelling Report.

89 AHURI, *What has COVID-19 revealed about the liveability of our homes and neighbourhoods? Examining the impacts of 'living locally' in different contexts*, <https://www.ahuri.edu.au/research/ahuri-briefs/what-has-covid-19-revealed-about-the-liveability-of-our-homes-and-neighbourhoods>

90 Melanie Davern, Billie Giles-Corti, Hannah Badland and Lucy Gunn, *Coronavirus reminds us how liveable neighbourhoods matter to our wellbeing* (22 April 2020), <https://www.rmit.edu.au/news/all-news/2020/april/liveable-cities-during-coronavirus>

91 COVID-19 related scenario and sensitivity testing for projects, Department of Transport, September 2020

2 Background and purpose of this Business and Investment Case

Chapter summary

- This chapter outlines the background, scope and approach of the Business and Investment Case.
- Following the Strategic Assessment of Suburban Rail Loop, the Victorian Government announced its commitment to SRL in August 2018. In 2019-20, the Government allocated \$300 million for detailed planning and investigations and the development of a Business and Investment Case, together with the establishment of the Suburban Rail Loop Authority (SRLA).⁹²
- This Business and Investment Case articulates the strategic rationale for a new rail link connecting Melbourne's middle suburbs from Cheltenham to Werribee and a series of integrated initiatives to create value and improve the precincts around the new stations. It defines the scope of and outlines the case for investment in SRL East and SRL North from Cheltenham to Melbourne Airport.
- Due to their scale and complexity, SRL East and SRL North will be sequenced over multiple decades. Early construction on SRL East will commence in 2022, delivering a rail connection and precinct initiatives between Cheltenham and Box Hill and is expected to be completed by 2035. Planning for SRL Precincts along this section is well underway.
- Subject to further detailed technical design, constructability and market capacity, SRL North is expected to be completed between 2043 and 2053. Future governments will have the option to adjust the proposed timeline for SRL North, including to bring forward works. There is also an option for work to begin on SRL North during the delivery phase of SRL East.
- SRL East and SRL North will be subject to Victoria's High Value High Risk (HVHR) Project Assurance Framework, which brings greater scrutiny and rigour to the development of complex investments.

92 State Capital Program 2019-20, Budget Paper No. 4

2.1 Background to this Business and Investment Case

Following the Strategic Assessment of Suburban Rail Loop (discussed in section 1.7.1), the Victorian Government announced its commitment to SRL in August 2018.⁹³ In 2019-20, the Victorian Government allocated \$300 million for detailed planning and investigations and the development of a Business and Investment Case, together with the establishment of SRLA.⁹⁴ SRLA was formally established as an administrative office related to the Department of Transport (DoT) by Order in Council on 3 September 2019.

2.2 Scope and approach of this Business and Investment Case

2.2.1 Scope

This Business and Investment Case articulates the strategic rationale for SRL and focuses on establishing the specific case for investment in SRL East and SRL North (from Cheltenham to Melbourne Airport). It outlines the scope of these two sections and explains the process through which they have been defined. Finally, it describes and quantifies the benefits and outcomes to be delivered by SRL East and SRL North and provides details about how they will be delivered.

SRL West will be the subject of a separate assessment and is not considered in detail in this Business and Investment Case.

A program of this scale requires a delivery approach that is sequenced over several decades. Construction of the SRL East Transport Project will commence in 2022 and is expected to be completed by 2035. Planning for SRL Precincts along the SRL East section is well underway and a number of initiatives and investments, including short-term activities to engage the community and contribute to the precincts around SRL stations will occur in parallel with the design and delivery of the SRL East Transport Project.

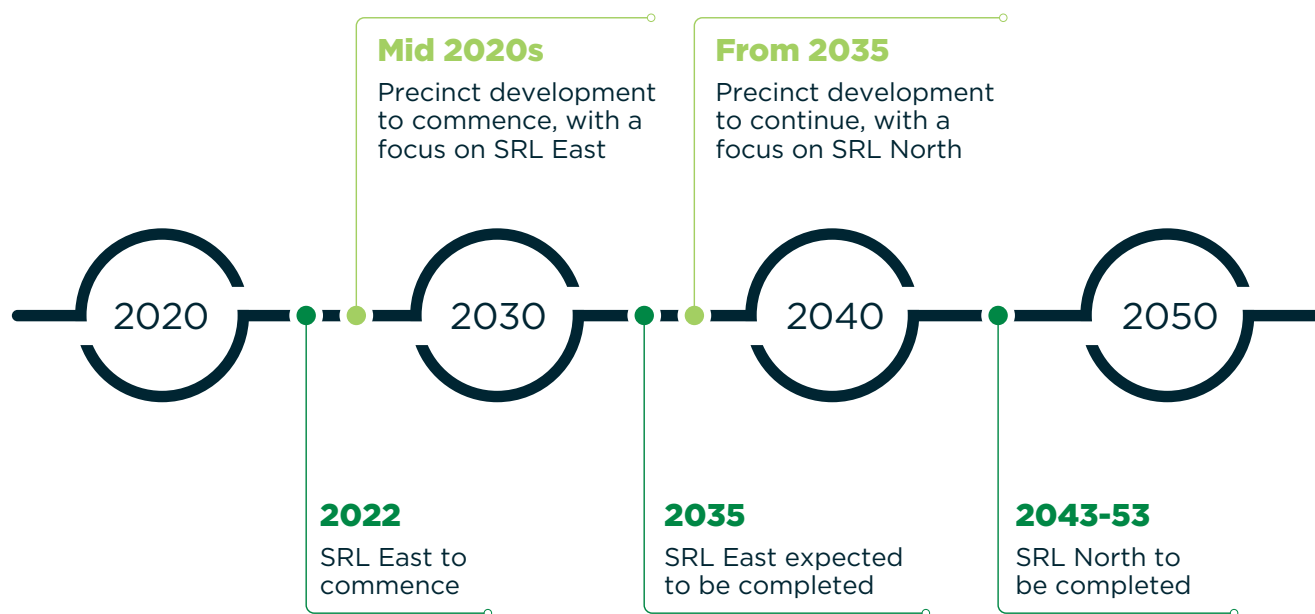
Subject to further detailed technical design, constructability and market capacity, SRL North is expected to be completed between 2043 and 2053.

SRL West from Melbourne Airport to Werribee will be subject to further investigation, planning and development. There is already billions of dollars of investment in rail projects in the West, including projects such as Metro Tunnel, Melbourne Airport Rail and the Western Rail Plan, and all of these will be coordinated to ensure provision is made to deliver SRL to Werribee as soon as possible.

⁹³ Media release from the Premier of Victoria, *Underground Suburban Rail Loop to Connect Victoria*, (28 August 2018), <https://www.premier.vic.gov.au/underground-suburban-rail-loop-connect-victoria>

⁹⁴ *State Capital Program 2019-20*, Budget Paper No. 4

Figure 2-1: SRL East's high-level program timeline



2.2.2 Structure of this Business and Investment Case

This Business and Investment Case has four parts:

- Part A: The need for SRL East and SRL North
- Part B: SRL East and SRL North options and recommended solution
- Part C: SRL East and SRL North outcomes
- Part D: Delivering SRL East and SRL North.

This structure aligns with the Department of Treasury and Finance (DTF) Investment Management Standard and demonstrates a clear rationale for pursuing investment in SRL East and SRL North.

At a high level, this Business and Investment Case includes the following information:

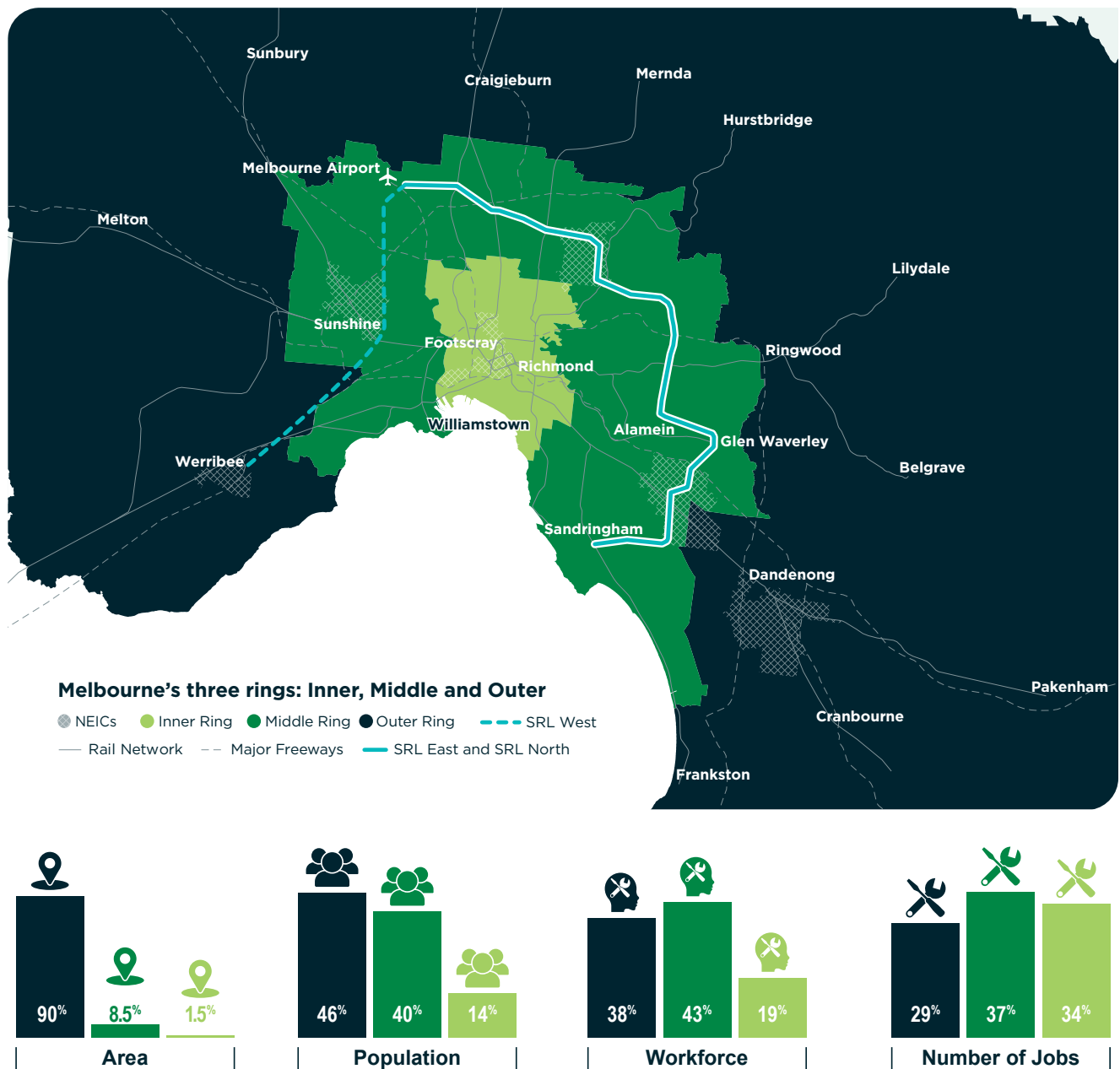
- Integrated options analyses to document the basis for SRL East and SRL North, the selection of precincts and other key decisions
- Definition of scope and overview of the SRL East and SRL North program of work and approach to sequencing
- Information relating to the integrated rail and precinct solution, ambitions for precinct development, catalyst initiatives and investment outcomes
- Assessment of the economic, land use and transport benefits of SRL East and SRL North, presented in line with the three SRL Program objectives: productivity, connectivity and liveability
- Information on topics relevant to the implementation of SRL East and SRL North, such as risk management and stakeholder engagement and communications.

2.2.3 Approach to spatial analysis in this Business and Investment Case

To support the analysis in this Business and Investment Case, Greater Melbourne has been conceptualised into three geographic ‘rings’: inner, middle and outer.⁹⁵ The three geographic rings are based on statistical and local government areas and enable a more comprehensive analysis of emerging problems and city shaping outcomes discussed in this Business and Investment Case.

Melbourne’s three geographic rings and the seven NEICs (as defined in *Plan Melbourne*) are illustrated in Figure 2-2, together with select, high-level comparative demographic analysis.⁹⁶

Figure 2-2: Melbourne’s three rings: Inner, Middle and Outer



Source: VITM Zoning System and 2019 Small Area Land Use Projections (SALUP) based on DELWP Projections 2018 (Unpublished)

⁹⁵ Note, to support data analysis these three rings are separate and distinct and are therefore different to the three overlapping corridors used in the 2018 Strategic Assessment and for the options analysis in Chapter 4.

⁹⁶ Note, the Monash NEIC straddles the middle and outer ring; however, both Clayton and Monash Precincts fall within the middle ring.

2.3 The legislative and policy context for SRL

To understand the SRL approach and outcomes, it is important to understand the broader legislative and policy context.

2.3.1 Legislative context

Given the scale and scope of SRL a significant number of Victorian Acts provide context for or will influence the development and delivery of both the broader program and its separate components (SRL East, SRL North and SRL West). The most relevant are summarised below.⁹⁷

Transport Integration Act 2010

The Transport Integration Act 2010 (TIA) provides a framework for the provision of an integrated and sustainable transport system in Victoria.⁹⁸ Under the TIA, the objectives of the transport system are to:

- Provide a means by which persons can access social and economic opportunities to support individual and community wellbeing
- Facilitate economic prosperity
- Contribute to environmental sustainability
- Effectively integrate transport and land use
- Facilitate network-wide efficient, coordinated and reliable movements of persons and goods
- Be safe and support health and wellbeing.⁹⁹

The transport system envisaged by the TIA contributes to an inclusive, prosperous and environmentally responsible state.¹⁰⁰

The TIA underpins *Plan Melbourne*. SRL aligns with the legislative requirements in the TIA and will deliver an integrated and sustainable transport system that contributes to an inclusive, prosperous and environmentally responsible Victoria.

SRL legislation (Proposed)

It is anticipated that dedicated legislation will support the delivery of SRL.

Major Transport Projects Facilitation Act 2009

The Major Transport Projects Facilitation Act 2009 (MTPF Act) aims to create a 'one stop shop' for assessment, approvals and delivery of major transport projects in Victoria. The act provides a project authority with a range of powers in respect of the delivery of a major transport project, including land acquisition, land management, road management and the ability to enter into utility agreements.

Planning and Environment Act 1987

The Planning and Environment Act 1987 (P&E Act) establishes a framework for planning the use, development and protection of land in Victoria in the present and long term interests of all Victorians.¹⁰¹ It also provides for the Victoria Planning Provisions (VPP). The VPP includes the Planning Policy Framework (PPF) – a single integrated source of policy that includes state content in the form of state and regional planning policy, and local content in the form of local planning policy.

This legislative and policy framework is a key source for the evaluation of projects and strategic plans subject to assessment under the P&E Act and the *Environment Effects Act 1978*, including an Environment Effects Statement (EES) assessment.

97 Note that all of these Acts are relevant to the planning, design, development and delivery of SRL East and SRL North as described in this Business and Investment Case.

98 *Transport Integration Act 2010* (Vic) s1

99 *Transport Integration Act 2010* (Vic) 2010 s1

100 *Transport Integration Act 2010* (Vic) Part 2

101 *Planning and Environment Act* (Vic) 1987 s1

Climate Change Act 2017

The *Climate Change Act 2017* (CCA) provides Victoria with a world-leading legislative foundation to manage climate change risks, maximise the opportunities that arise from decisive action and drive the state's transition to a climate resilient community and economy with net zero emissions by 2050.

The CCA:

- Establishes a long-term emissions reduction target of net zero by 2050
- Requires five yearly interim targets to keep Victoria on track to meet this long-term target
- Introduces a new set of policy objectives and an updated set of guiding principles to embed climate change in government decision making
- Requires the Victorian Government to develop a Climate Change Strategy every five years, which will set out how Victoria will meet its targets and adapt to the impacts of climate change (from 2020)
- Requires Adaptation Action Plans for key systems that are either vulnerable to the impacts of climate change or essential to ensure Victoria is prepared (from 2021)
- Establishes a pledging model to reduce emissions from government's own operations and from across the economy (from 2020)
- Establishes a system of periodic reporting to provide transparency, accountability and ensure the community remains informed.

2.3.2 Policy context

Population growth and infrastructure provision are key priorities for both the Victorian and Australian Governments. As well as helping to realise *Plan Melbourne's* vision (as described in section 1.3), SRL will contribute to and/or support the achievement of the objectives of a number of Victorian Government and Australian Government policies and strategies.

Victorian policies and strategies

Recognising the challenges and opportunities Victoria faces, the Victorian Government has developed a suite of planning and infrastructure policies and strategies to support and guide Victoria into the future. Infrastructure Victoria, the Victorian Government's independent infrastructure advisory body, also developed a 30-year infrastructure strategy in 2016.

Table 2-1 summarises Infrastructure Victoria's 30-year strategy and the Government's response. Table 2-2 summarises key policies and strategies that are relevant to the SRL Program.

The tables also outline how SRL (and in particular, the SRL East and SRL North components) will contribute to addressing the challenges and opportunities identified in these plans, policies and strategies.

Table 2-1: Infrastructure Victoria: strategy and response

Strategy/Response	Overview	Contribution of SRL
Victoria's 30-Year Infrastructure Strategy	Infrastructure Victoria (IV) developed Victoria's 30-Year Infrastructure Strategy (the IV Infrastructure Strategy) in 2016. The Infrastructure Strategy contains recommendations to the Victorian Government covering all infrastructure sectors, from health and education to water and energy. There are strong parallels and shared objectives between <i>Plan Melbourne</i> and the Infrastructure Strategy.	<p>SRL addresses a number of the key infrastructure challenges identified in the IV Infrastructure Strategy. In relation to Need 1 (<i>Address infrastructure demands in areas with high population growth</i>), the IV Infrastructure Strategy discusses how established areas have existing infrastructure, but that some of it is ageing and not fit-for-purpose. It focuses on enhancing access to infrastructure in Melbourne's middle suburbs, which are key established areas of Melbourne. By directing population and employment to these middle suburbs, SRL will give more people access to existing infrastructure.</p> <p>By connecting NEICs (such as Monash and La Trobe) and MACs (such as Box Hill and Broadmeadows), SRL will improve access to middle and outer metropolitan centres and contribute to Need 11 (<i>Improve access to middle and outer metropolitan major employment centres</i>) of the IV Infrastructure Strategy.</p>
Victorian Infrastructure Plan	The Victorian Infrastructure Plan is the Victorian Government's response to the IV Infrastructure Strategy. Published in 2017, the plan outlines the Government's infrastructure priorities over the next five years and beyond. It outlines a number of different infrastructure priorities and 'future directions', organised within nine sectors.	<p>The Victorian Infrastructure Plan specifically identifies how middle-ring suburbs will need to be supported to accommodate greater diversity in the future, while Melbourne's growth areas will require new public transport, as well as other infrastructure investments such as schools and hospitals.</p> <p>SRL addresses this by providing transport infrastructure through middle ring suburbs to connect Victorians to health, education and employment centres. Through SRL, Melbourne will be reshaped to ensure the city is set up to maintain liveability and economic growth into the future.</p>

In December 2020, Infrastructure Victoria released a draft of an updated 30-year Infrastructure Strategy (Draft Strategy) for community consultation. The Draft Strategy acknowledges the city-shaping role of SRL. It also recommends reconfiguring the bus network to create a mirror of the SRL route alignment to start building demand. The bus network should then be modified to complement SRL once built. More broadly, SRL will contribute to a number of priorities identified in the Draft Strategy, including integrating land use and transport planning, fostering urban renewal in precincts with good public transport connections and creating public transport connections that link workers to the CBD, NEICs and other job and education precincts.

Table 2-2: Key Victorian Government policies

Policy	Overview	Contribution of SRL
Plan Melbourne Addendum	Addendum to <i>Plan Melbourne</i> that was prepared in recognition of the changes that have occurred since the release of <i>Plan Melbourne</i> in 2017.	<p>The Addendum acknowledges that SRL supports the key principles that underpin <i>Plan Melbourne</i> – ‘in particular a globally connected and competitive city; a city of centres; social and economic participation; and infrastructure investment that supports balanced city growth’.</p> <p>The Addendum notes that SRL also aligns with the relevant outcomes and directions set out in <i>Plan Melbourne</i>, such as supporting Melbourne to be a productive city that attracts investment and ensuring Melbourne has an integrated transport system that connects people to jobs and services.</p> <p>The implications of SRL for state significant places along the rail corridor are also recognised in the Addendum.</p>
Homes for Victorians	Homes for Victorians is the Victorian Government’s primary policy approach to addressing housing market challenges now and into the future. It outlines how the Victorian Government will address the affordability and accessibility of housing.	SRL will facilitate increased housing diversity and density in Melbourne’s middle suburbs. This will provide people with greater housing choices, particularly in Melbourne’s middle corridor. SRL’s integrated approach to land use and transport planning will encourage housing to be supplied in areas that are accessible to jobs and services. This is important in supporting Melbourne to become a consolidated and sustainable city and facilitating more equitable access to jobs and services across Greater Melbourne.
A framework for place-based approaches: the start of a conversation about working differently for better outcomes	The framework describes a way of thinking about ‘place’ that will enable government to effectively communicate across departments and agencies.	<p>SRL will work with local people and communities to develop highly liveable precincts. In doing so, the program will support an uplift in broader government capability to deliver place-based approaches.</p> <p>Where relevant, the Framework has guided SRLA’s approach to place-making and engaging with the community across SRL East and SRL North.</p>
Simple, connected journeys (DoT strategic plan 2019-2030)	This strategic plan outlines challenges and areas of priority for the Department of Transport.	<p>SRL and its components will integrate with the existing public transport network to support people to undertake easy, connected journeys. The program will help Melbourne to meet the demands of unprecedented population growth – a key challenge identified in the strategic plan.</p> <p>SRL is listed as a major initiative for DoT, with the aim of ‘connecting more people to more jobs and locations’.</p>

Australian Government policies and strategies

The Australian Government has developed a number of policies and strategies that are designed to address Australia's future population growth and to ensure that future infrastructure projects are appropriately prioritised. Key relevant policies and strategies for SRL (and in particular, the SRL East component) are summarised below:

Table 2-3: Key Australian Government policies

Policy	Overview	Contribution of SRL
Planning for Australia's Future Population	In Planning for Australia's Future Population, the Australian Government identifies strategies and initiatives it is undertaking to manage population growth across the nation. It highlights that strong population growth has predominantly occurred in cities. This has resulted in vibrant communities and strong productivity and innovation in cities, but also increases pressure on infrastructure and services. The Australian Government is seeking to address increased pressure on infrastructure and services from population growth through the initiatives identified in this document.	SRL is a city-shaping program that will change the distribution of jobs and population across Melbourne. This will help alleviate pressure on infrastructure and services. It will generate more housing choices for people and will ensure that these choices are in the right location – with access to jobs and services. SRL will also improve accessibility for regional Victorians, particularly to key social infrastructure such as education and healthcare institutions. It will help ease congestion across Melbourne by providing for orbital trips on public transport and encouraging a mode shift from private vehicles to public transport.
Infrastructure Australia Plan (2016)	Infrastructure Australia is an independent statutory body that provides research for and advice to governments, industry and the community on nationally significant infrastructure needs. It is also responsible for developing 15-year rolling infrastructure plans that set out national and state level priorities. The Infrastructure Australia Plan (2016) provides a reform and investment roadmap for Australia consisting of 78 recommendations. The Plan identifies solutions to anticipated future challenges that will enable productivity growth and enhance living standards.	SRL will unlock the economic potential of emerging economic clusters in Melbourne's middle suburbs, increasing Victoria's productivity and competitiveness. SRL represents a significant investment in Melbourne's public transport network, which is critical to long-term productivity and liveability. It will also help deliver emission reductions by encouraging a mode shift from private vehicles to public transport. It will support the development of climate resilient and sustainable neighbourhoods. Importantly, SRL East and SRL North are taking an integrated approach to land use and transport planning to ensure high quality, long-term outcomes.
Infrastructure Investment Program	The Infrastructure Investment Program includes allocations of funds for major road and rail investments as well as sub-programs that target specific outcomes. The program seeks to invest in projects that improve the productivity of national land transport networks and contribute to the national economy, as well as to communities. The Australian Government is investing approximately \$100 billion in transport infrastructure for the decade starting 2019-20.	SRL will connect NEICs and MACs across Melbourne's middle corridor, SRL East and SRL North will connect the Monash and La Trobe NEICs and the Box Hill and Broadmeadows MACs. These new connections will support agglomeration outside of the CBD and reduce journey times. Both of these benefits will increase productivity, contributing to the national economy.

Policy	Overview	Contribution of SRL
Future Cities: Planning for our growing population	Infrastructure Australia used scenario planning to evaluate the trade-offs inherent within potential long-term growth pathways for Melbourne and Sydney to 2046. Key findings from this analysis include: congestion will significantly increase on road networks – adding new roads is only part of the solution; public transport is crucial to improving accessibility; existing infrastructure needs to be used more efficiently; infrastructure must service employment centres; and integrated land use and infrastructure planning can help address inequality.	<p>SRL will increase the capacity of Melbourne's public transport network and help ease road congestion. It will also connect and grow economic clusters across Melbourne's middle corridor, improving overall job accessibility.</p> <p>SRL will enable the leveraging of existing infrastructure across Melbourne's middle corridor to help mitigate inequity of access to services and amenities, particularly for those living in the outer suburbs.</p>

2.4 How this Investment Case complies with Victoria's High Value High Risk Guidelines

SRL will be subject to Victoria's High Value High Risk (HVHR) Project Assurance Framework. The framework comprises a series of project assurance checks and processes that aim to bring greater scrutiny and rigour to the development of complex investments.

Rigorous assessment of risks will be undertaken by the Treasurer of Victoria and the Department of Treasury and Finance (DTF) at each stage of the program lifecycle to improve program deliverability and the likelihood that SRL East and SRL North will achieve their stated benefits.



**SUBURBAN
RAIL LOOP**

Part A: The need for SRL East and SRL North

3 Problems and anticipated benefits

Chapter summary

- This chapter presents the Investment Logic Map (ILM) and Benefits Management Plan (BMP) for SRL, as per the investment management standard required for complex major projects in Victoria. The ILM summarises the key problems, benefits and solutions (changes and assets), while the BMP identifies the anticipated benefits and approach to monitoring and reporting against them over time.
- The need for SRL East and SRL North is demonstrated by examining three critical challenges facing Victoria:

1. Melbourne's monocentric urban form is constraining economic growth

Melbourne's central city will continue to serve Victoria well into the future, but it was not designed to be the only centre for a city of nine million people. The very factors that make the central city so attractive for businesses will come under more pressure, including crowding on public transport and demand for floorspace. Without viable alternative centres, this risks making Melbourne less competitive, both nationally and internationally.

Although the central business district (CBD) has the highest concentration of jobs, over 66 per cent (or two thirds) of jobs are dispersed across Melbourne's middle and outer rings. Some of these dispersed businesses in the suburbs are missing out on accessibility and agglomeration benefits that would exist if they were located in clusters. This limits Victoria's future productivity and erodes prosperity.

2. The concentration of population growth in the inner and outer suburbs of Melbourne is contributing to inefficient infrastructure and service provision

By 2056, the population share within the middle ring will decline to around 36 per cent of Melbourne's population, compared to 45 per cent in 2018. The population share in the outer ring will increase from 45 per cent in 2018 to 50 per cent by 2056. This increasing growth in outer areas is commonly referred to as 'urban expansion'. Rather than leveraging existing services and infrastructure in established middle suburbs, additional costs are being incurred to ensure adequate provision of services and infrastructure in the booming outer suburbs.

Ongoing population growth in the outer ring will mean that more people are living in areas with poor access to public transport. This means more people rely on private vehicles, adding to congestion. This reduces the overall reliability of Melbourne's transport network, affecting the movement of goods and people.

3. Inequitable access affordable housing, jobs and services is entrenching disadvantage

Melbourne's inner and middle rings are now unaffordable for many households. Although people have more affordable housing choices in the outer suburbs, they face a trade-off between cheaper housing and higher transport costs. In some instances, people are forced to buy and maintain vehicles that they cannot afford to meet their travel needs. People living in the outer suburbs are experiencing poorer living affordability, which aggravates the growing economic disparity across the city.

More people are living further away from key centres and their places of work. Key workers, such as teachers, nurses, paramedics and fire and emergency workers, are especially affected as they are increasingly unable to afford to live in a house near their jobs. Access to employment opportunities is a key factor for a person securing a job, especially for low skilled or unskilled workers. As people live further away from jobs, more are likely to choose work that may not reflect their qualifications and skills. This entrenches economic disparity. Inequitable access to services also diminishes social inclusion and overall community health and wellbeing.

- This chapter also identifies the anticipated benefits that are generated for Victoria through SRL East and SRL North: increasing productivity and economic growth, enhancing connectivity and improving liveability.

3.1 Approach to identifying problems and benefits

To improve decision making in relation to complex major projects, the Department of Treasury and Finance (DTF) administers the investment management standard. This includes the use of an investment logic mapping approach that summarises the rationale behind an investment (see section [3.1.1](#)), as well as a process to clearly define the expected benefits of a potential solution, captured in a BMP (see section [3.6](#)).

To develop and produce an ILM and BMP, the Suburban Rail Loop Authority (SRLA) worked with DTF, the Department of Transport (DoT), the Department of Environment, Land, Water and Planning (DELWP), the Department of Premier and Cabinet (DPC), the Victorian Planning Authority (VPA) and technical experts through a series of workshops.

The ILM and BMP have guided the development of this Business and Investment Case.

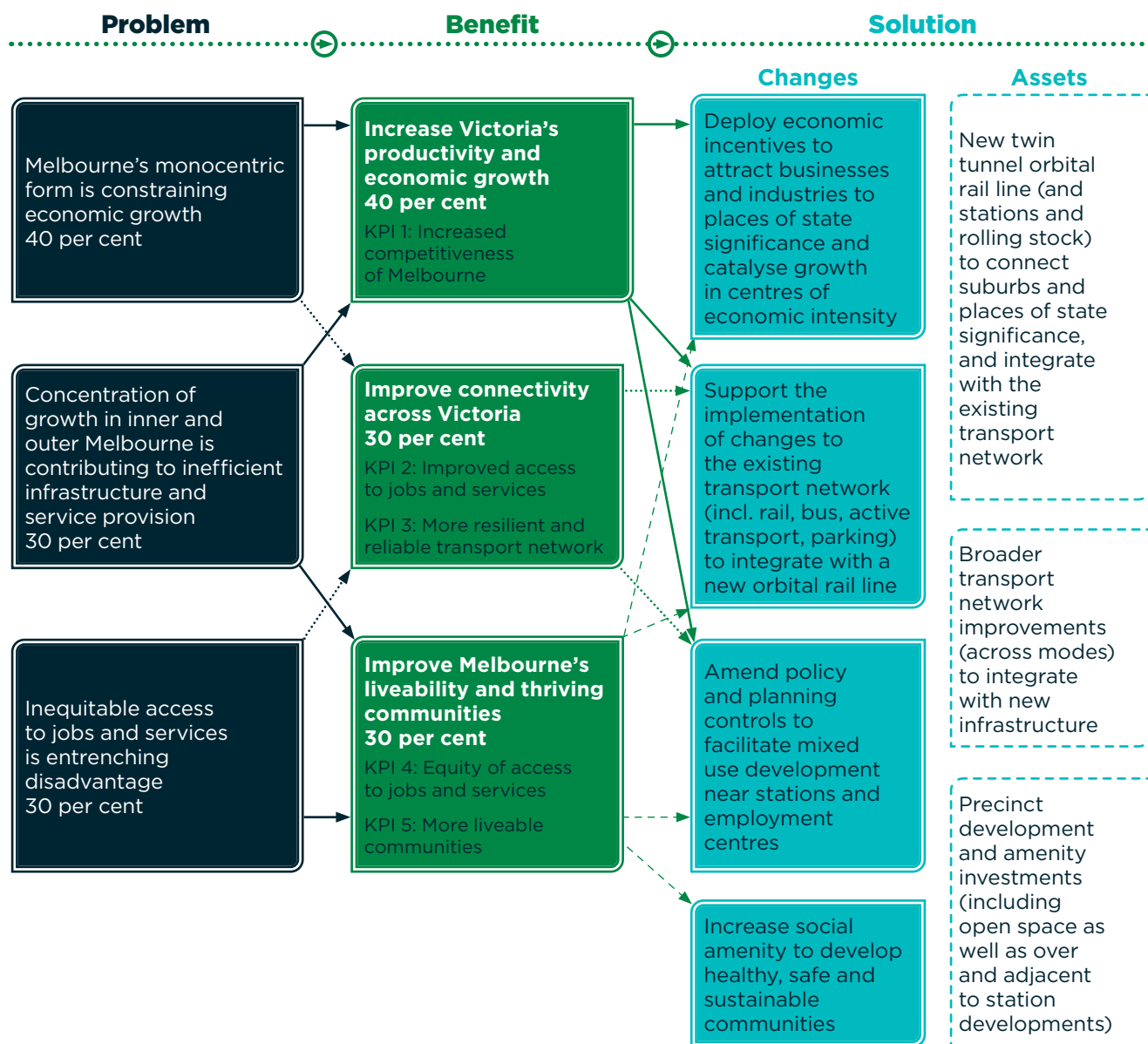
3.1.1 Identifying problems

Consistent with the approach of the investment management standard, an ILM (see [Figure 3-1](#)) was prepared for SRL, with a focus on SRL East and SRL North. This reflects the transformative scale of the SRL Program and the need to consider the problems and benefits as a whole.

The ILM in [Figure 3-1](#) identifies and weighs three high-level problems related to Melbourne's urban form and transport connectivity that SRL, and specifically SRL East and SRL North, seeks to address, along with the key benefits that would be realised from successfully tackling these problems. It also identifies potential changes and assets that would address these problems.

Sections [3.2](#) to [3.4](#) examine the critical challenges facing Victoria that demonstrate the need for SRL East and SRL North.

Figure 3-1: Investment Logic Map



3.2 Problem 1: Melbourne's monocentric urban form is constraining economic growth

3.2.1 Problem 1a: Melbourne's monocentric urban form concentrates economic activity in the CBD, constraining the economic potential of Melbourne's suburbs

Melbourne's economic focus is shifting towards knowledge-based jobs

Victoria's economic growth over the last decade has been driven primarily by population growth and structural change towards a more diverse, knowledge and services-based economy. Between 2006 and 2018, total jobs in Melbourne grew by 631,000 of which 58 per cent of these new jobs were in knowledge-based services.¹⁰² This structural shift in the state's economy has influenced where different types of jobs are located across Melbourne:

- Knowledge-based sectors have concentrated in the central city and inner suburbs due to the superior accessibility and connectivity offered by these areas¹⁰³
- Industrial businesses have been moving out of the inner ring to the major industrial precincts in the outer west, north and south¹⁰⁴
- Education, training, health and population-serving businesses are dispersed across Melbourne, with some specialised activities starting to cluster in centres such as Monash National Employment and Innovation Cluster (NEIC) (location of the Monash Medical Centre, Monash Children's Hospital, the future Monash Heart Hospital and Monash University) and La Trobe NEIC (location of the Royal Melbourne Institute of Technology (RMIT) and La Trobe University).

The central city is an attractive place for businesses

Good accessibility and amenities make the central city an attractive location for business, leading to a concentration of economic activity. The concentration of businesses in close proximity generates a range of agglomeration benefits, including:

- Access to larger workforce and customer pools
- Lower cost of transport to connect with other businesses
- Timely exchange of goods, services and ideas between businesses.¹⁰⁵

Agglomeration benefits accrue because businesses are able to take advantage of a number of efficiencies from being closely located to one another and the benefits outweigh potential competition from similar businesses. For example, a business located within a cluster of businesses will attract more suppliers and customers than a single firm could achieve on its own.

The density of economic activity across Melbourne is shown in [Figure 3-2](#), highlighting the concentration of economic activity in the central city.

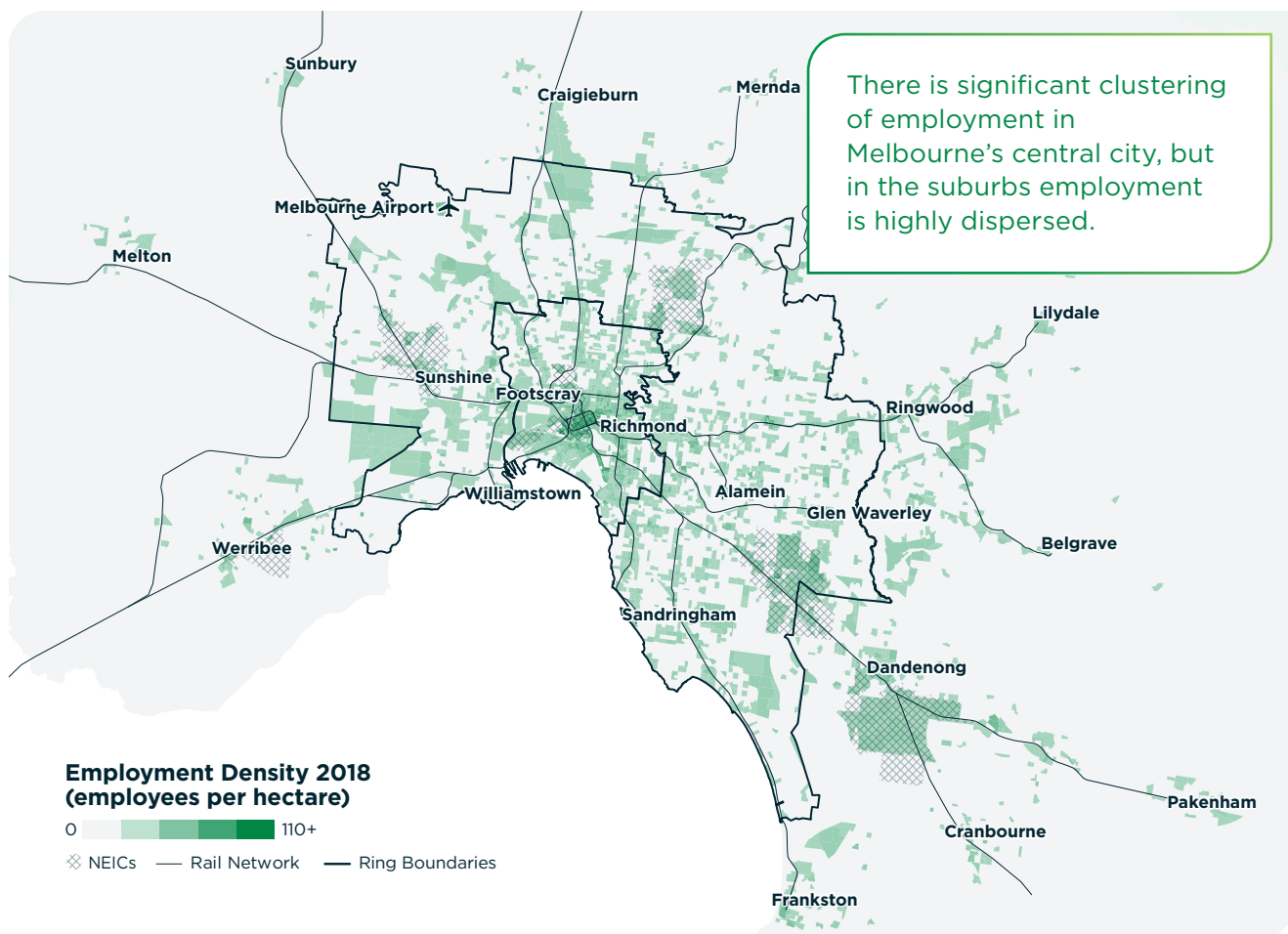
102 SALUP based on DELWP Projections 2018 (Unpublished)

103 SGS Economics & Planning, prepared for Infrastructure Victoria, *Melbourne Functional Economic Region Report* (2019), p. 10, <https://www.infrastructurevictoria.com.au/wp-content/uploads/2019/04/SGS-Melbourne-Functional-Economic-Region-Report-March-2019.pdf>

104 Infrastructure Victoria, *Melbourne Functional Economic Region Report* (2019), p. 10, <https://www.infrastructurevictoria.com.au/wp-content/uploads/2019/04/SGS-Melbourne-Functional-Economic-Region-Report-March-2019.pdf>

105 Albouy, D., *The Optimal Distribution of Population Across Cities* (2016), <https://www.nber.org/papers/w22823.pdf>

Figure 3-2: Melbourne's employment density, 2018



Source: *Small Area Land Use Projections (SALUP) based on DELWP Projections 2018 (Unpublished)*

Knowledge-based businesses are especially attracted to the central city. It provides access to a large and highly-skilled workforce pool and opportunities for business-to-business interactions.¹⁰⁶ Locating close to each other facilitates chance encounters, increased networking and partnering – contributing to increased knowledge sharing and spillover. Knowledge-based businesses particularly benefit from such agglomeration benefits.

Compared to knowledge-based businesses, industrial firms can gain other benefits from locating close to similar manufacturers in a cluster, such as better facilitation of inputs through the supply chain. Some services in sectors that primarily exist to serve local populations – such as retail, construction and some health and education services – need to be close to residential areas, where their primary customer base is located. These services may not benefit as much from locating close together when compared to knowledge-based businesses and industrial firms, although some benefits may still exist – such as a café locating close to a school or community centre.

While Melbourne's central city has the greatest economic density (measured by employment density and economic output), approximately 66 per cent (or two thirds) of jobs are spread across Melbourne's middle and outer rings.¹⁰⁷ The lower levels of job density across the suburbs are demonstrated in Figure 3-2. The exception to this trend is the emerging economic clusters in the NEICs, as well as Metropolitan Activity Centres (MACs) such as Box Hill and Broadmeadows and Health and/or Education Precincts (HEPs) at Clayton and Heidelberg – as a case in point, the Monash NEIC is Victoria's largest job centre outside of the central city.¹⁰⁸

106 SGS Economics & Planning, prepared for Infrastructure Victoria, *Melbourne Functional Economic Regional Report* (2019), p. 8

107 ABS – Census 2016, Place of Work

108 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 27

The lower levels of job density across Melbourne's suburbs means that many businesses or services that would otherwise benefit from being located in a cluster are currently missing out on agglomeration benefits. For example, in 2016 around 46 per cent of knowledge-based jobs in Victoria were located in the middle and outer rings – including 75,000 jobs in professional, scientific and technical services and 180,000 jobs in healthcare and social assistance.¹⁰⁹

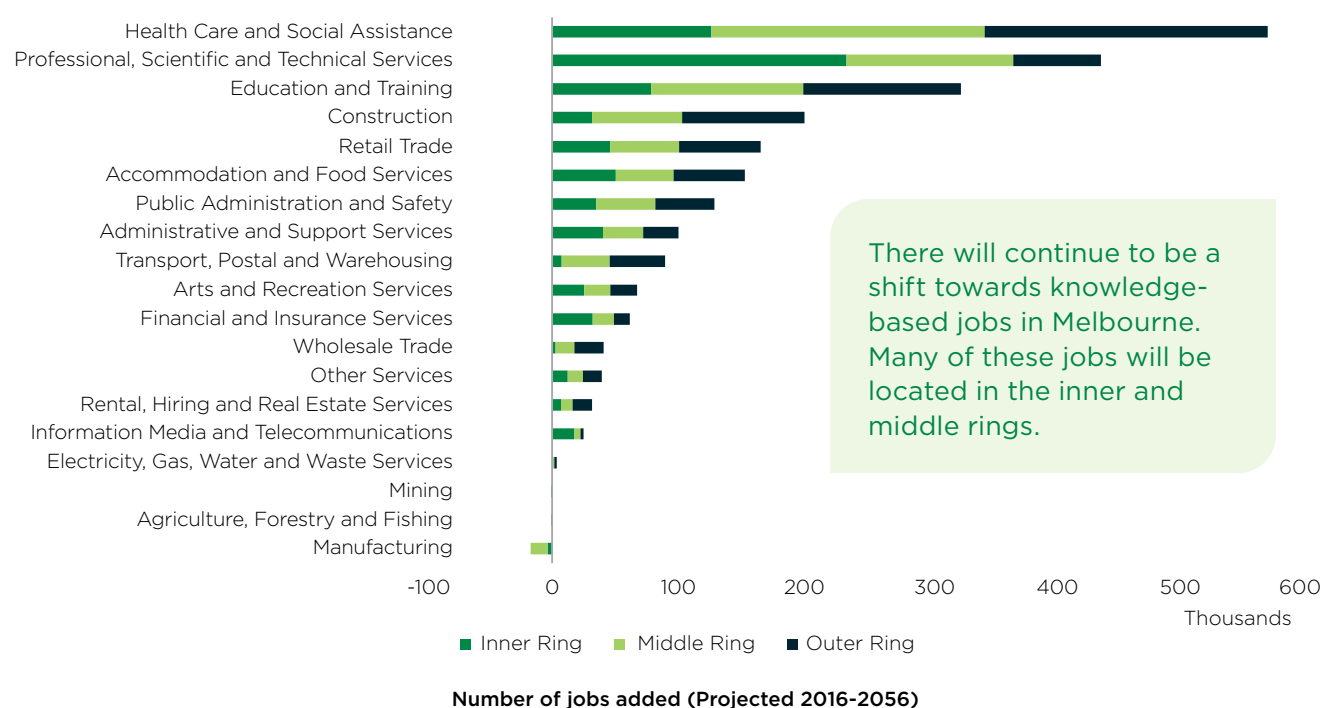
Agglomeration benefits could include attracting employees, opportunities for knowledge-sharing and attracting more customers. Overall, lower levels of job density across Melbourne's suburbs are constraining productivity and economic growth.

Patterns of job density will remain the same in the coming decades

By 2056, Melbourne is projected to be home to approximately 4.8 million jobs. Figure 3-3 illustrates that between 2016 and 2056, the number of jobs in Greater Melbourne is expected to grow by around 2.4 million. It also shows the industries that are expected to grow and where these new jobs might be located.

Knowledge-based industries, such as healthcare, professional services and education and training, are expected to be the main forms of employment for Melburnians, with around 1.7 million knowledge-based jobs expected to be created across Melbourne – further strengthening the knowledge- and services-based economy.

Figure 3-3: Melbourne's job growth by industry, 2016-2056



Source: SALUP based on DELWP Projections 2018 (Unpublished)

Notably, there will be a significant increase of jobs in professional, scientific and technical services in the inner ring of Melbourne. However, there will also be significant growth in knowledge-based jobs in the middle and outer rings of Melbourne – around 66 per cent of jobs created in the middle and outer rings (approximately 1.1 million jobs) will be in knowledge-based industries.¹¹⁰

It is projected that these knowledge-based jobs could include an additional:

- 440,000 new jobs in healthcare and social assistance across the middle and outer rings
- 245,000 new jobs in education and training across the middle and outer rings
- 200,000 new jobs in professional, scientific and technical services across the middle and outer rings.¹¹¹

109 ABS – Census 2016

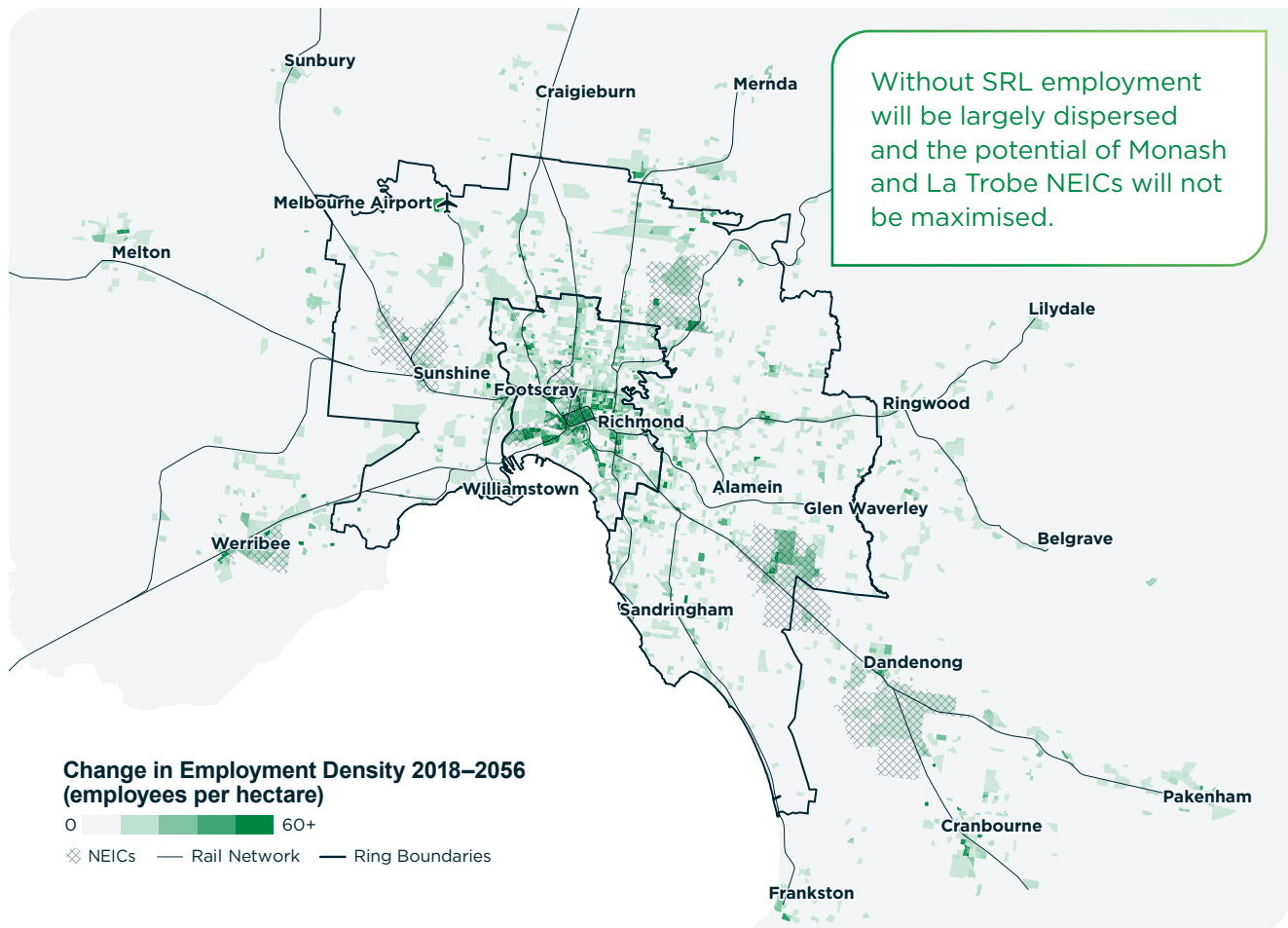
110 SALUP based on DELWP Projections 2018 (Unpublished)

111 SALUP based on DELWP Projections 2018 (Unpublished)

Key economic centres are also projected to experience some growth in knowledge-based jobs. NEICs in Melbourne's middle ring such as Monash and La Trobe with their critical mass of education, health and research institutions are well placed to generate such growth.

However, beyond this, businesses in the middle and outer rings will continue to be highly dispersed, as demonstrated in Figure 3-4. The continued concentration of Victoria's economic activity in the central city means that some businesses outside of this area will continue to miss out on potential agglomeration benefits they could gain from clustering in suburban centres.

Figure 3-4: Melbourne's projected change in employment density, 2018-2056



Source: SALUP based on DELWP Projections 2018 (Unpublished)

The pressures of growth on Melbourne's central city

While the COVID-19 public health restrictions have had a significant dampening effect on commercial activity in the central city during 2020 and 2021, especially in the retail and hospitality sectors, the post-pandemic outlook is positive once workers and visitors return to the CBD.

Between 2018 and 2056, 27 per cent of jobs created in Victoria are expected to be located in Melbourne's inner ring. Of the 700,000 new jobs that are expected to be located in the inner ring, 77 per cent will be in knowledge-based industries.¹¹²

While the central city will continue to serve Victorians and Melburnians well into the future, Melbourne's CBD was not designed to be the only major centre of support for a city of nine million people. As the city continues to grow, the very factors that make the central city so attractive for businesses will come under more pressure.

112 SALUP based on DELWP Projections 2018 (Unpublished)

In the last two decades, Melbourne's inner city areas have undergone rapid development, reflecting the increasing economic pull of the central city. Public transport has been critical to attracting businesses to the central city. The provision of mass transport capacity via the rail network, including the City Loop, has supported the efficient distribution of people to all corners of the CBD. Committed projects, such as the Metro Tunnel, will increase transport capacity to the central city but this increased capacity will be taken up quickly by population growth.

The successful growth of Melbourne's central city is also dependent on the availability of land to cater to commercial floorspace needs. It is estimated that there will be demand for around an additional nine million square metres of floorspace in the Hoddle Grid and central city between 2018 and 2036.¹¹³ The redevelopment potential of the Hoddle Grid is limited by a range of factors including heritage, lot size and the sub-division of lots.

The limitations of the Hoddle Grid have driven, in part, the demand for development in Southbank and Docklands. However, the major development opportunities in these areas are declining and spreading well beyond the walking catchments of existing CBD stations, limiting their accessibility and agglomeration potential. This is expected to continue to worsen beyond 2036.¹¹⁴

High productivity knowledge-based jobs prefer highly accessible locations to capitalise on established agglomeration benefits.¹¹⁵ Developments at the Arden and Fishermans Bend precincts will provide additional capacity to accommodate further growth in inner Melbourne and will be critical drivers in maintaining the ongoing role of the central city as Melbourne's key economic centre. However, as redevelopment opportunities reduce over time, competition between businesses to rent floorspace in prime locations may increase, leading to higher rent costs. Indeed, for more than a decade, rent increases in the central city have been outstripping inflation rates – real costs have increased between 30 and 50 per cent in a 10-year period in the CBD, Southbank and Docklands.¹¹⁶

While central city rents have increased, suburban office rent increases have remained steadier. Office rents in suburban locations within Melbourne are around 40 per cent less than within the CBD.¹¹⁷ Over time, as has been the experience of cities such as London,¹¹⁸ Melbourne's central city will become cost prohibitive or less attractive for some businesses – this could make Melbourne less competitive on a national and international scale. Alternatives to the central city need to be developed to ensure Melbourne remains competitive, attractive and accessible.

Poor accessibility is constraining the potential of Melbourne's workforce

Access to employment opportunities is essential for

- Helping people to secure jobs
- Ensuring people find a job that best matches their skills and qualifications.

Good accessibility is also critical for business productivity. When people can easily access a workplace, the business will be able to draw on a larger potential workforce pool. This increases the likelihood that the business will find the right person with the right skills for the job.

Accessibility is affected by both proximity and connectivity. For example, Melburnians living in the inner ring are close to the central city and have excellent public transport connections – this means they have access to a wide variety of employment opportunities, including the large number of high value, knowledge-based jobs. Outside of the inner ring, people living along Melbourne's radial rail network or close to a tram stop have good levels of access to the central city. However, access to non-central city locations by mass rapid public transport is limited – people are forced to use cars to commute to work.

113 Urbis, *Unlocking Melbourne's CBD* (2018), p.33

114 Urbis, *Unlocking Melbourne's CBD* (2018)

115 Urbis, *Unlocking Melbourne's CBD* (2018), p.75

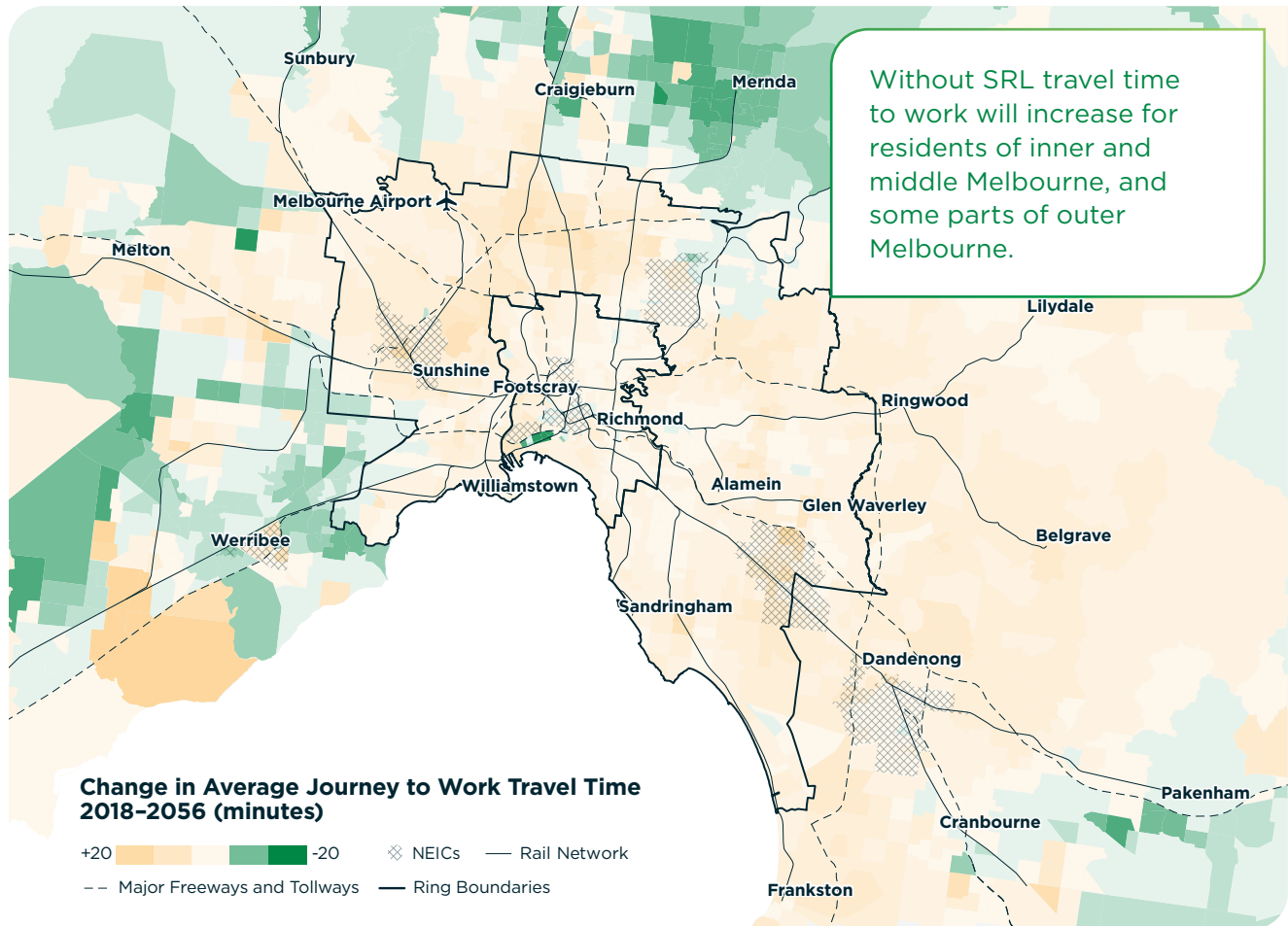
116 KPMG analysis of rental data sourced from Knight Frank (2009-2019)

117 KPMG analysis of rental data sourced from Knight Frank (2019)

118 Strutt & Parker, *London's rapid economic growth has seen it emerge as a genuinely polycentric city* (2017), <https://www.struttandparker.com/knowledge-and-research/londons-rapid-economic-growth-has-seen-it-emerge-as-a-genuinely-polycentric-city>

Accessibility is projected to worsen in the coming decades as journeys to work take longer. For the majority of Melburnians, the journey to work in 2056 will take longer than it did in 2018 (see [Figure 3-5](#)). Although some areas in the outer ring and small pockets of the inner ring will enjoy improved journey times as result of committed projects such as Metro Tunnel and North East Link, most of the middle ring and areas of the outer ring – especially to the east, south east and north west – will experience longer journeys to work.

Figure 3-5: Average journey time to work projected change, 2018-2056



Source: Victorian Integrated Transport Model (VITM) Base Case¹¹⁹ – SALUP based on DELWP Projections 2018 (Unpublished)

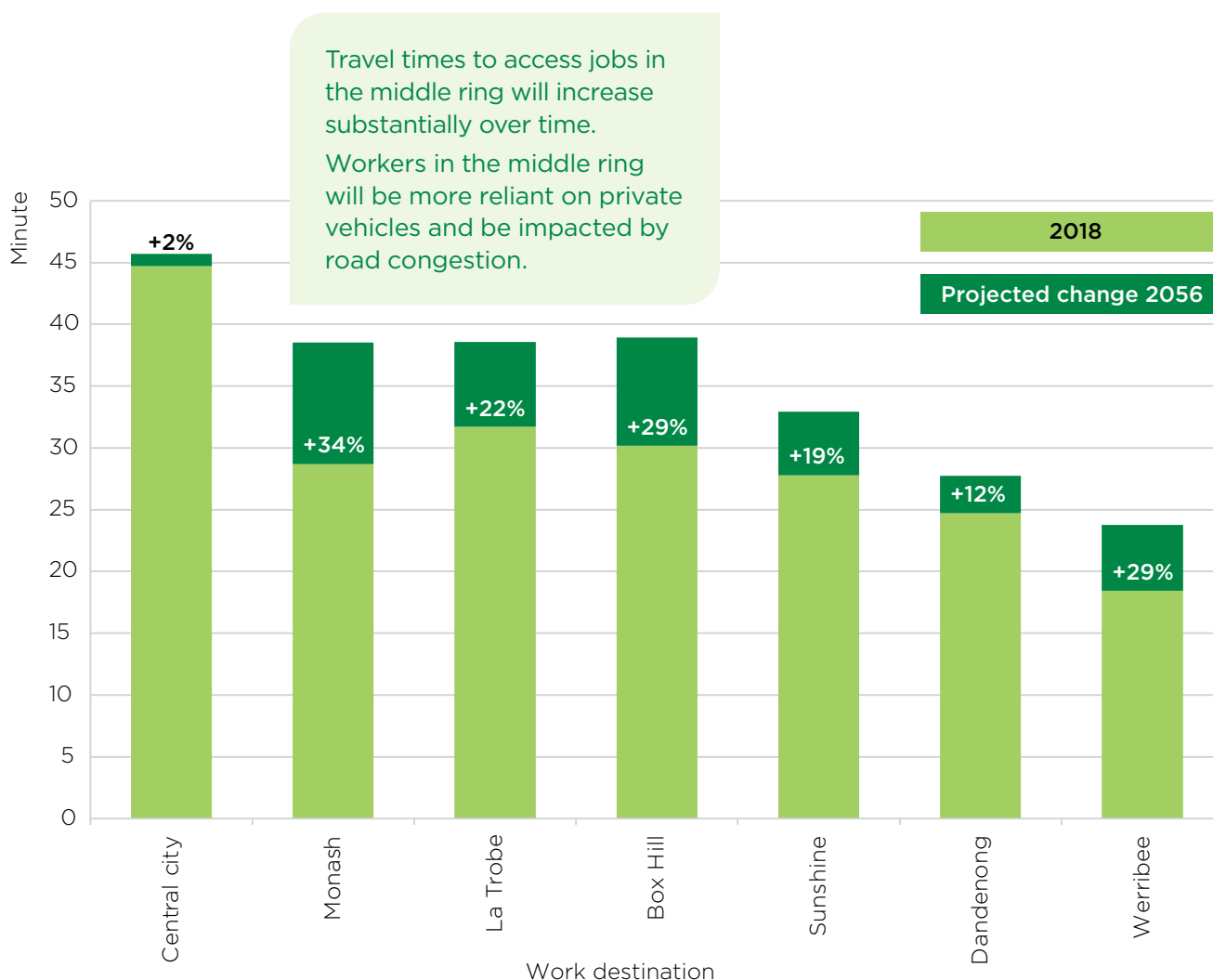
Increased journey times will negatively affect key economic activity centres, including emerging NEICs and MACs in Melbourne’s middle corridor, which are key to maintaining Melbourne’s economic growth and competitiveness.

[Figure 3-6](#) shows the difference in the impact of journey time to work for people working in key locations across the middle ring, compared to people heading into the central city to work. [Section 3.2.2](#) discusses how road congestion is projected to increase from 2018 to 2056 – workers in the middle ring will be more reliant on getting to work using a private vehicle, whereas workers in the central city have more public transport options to get to work. People working in the middle ring will have a more significant decline in accessibility. In the case of Monash and La Trobe, the available public transport options will also be affected by road congestion due to their on-road nature and a lack of rail access.

119 Details on VITM Base Case modelling assumptions are provided in Appendix C.1: Demand Modelling Report.

Increased journey times to get to work diminishes accessibility, reducing the potential workforce pool for businesses located in these areas. This reduces the likelihood of businesses finding the right worker with the right skills, reducing overall productivity.

Figure 3-6: Projected change in average journey time to work destination, 2018-2056



Source: VITM Base Case¹²⁰ – SALUP based on DELWP Projections 2018 (Unpublished). This projection is an indicative trend informed by VITM. It is not intended for comparison with travel or traffic surveys.

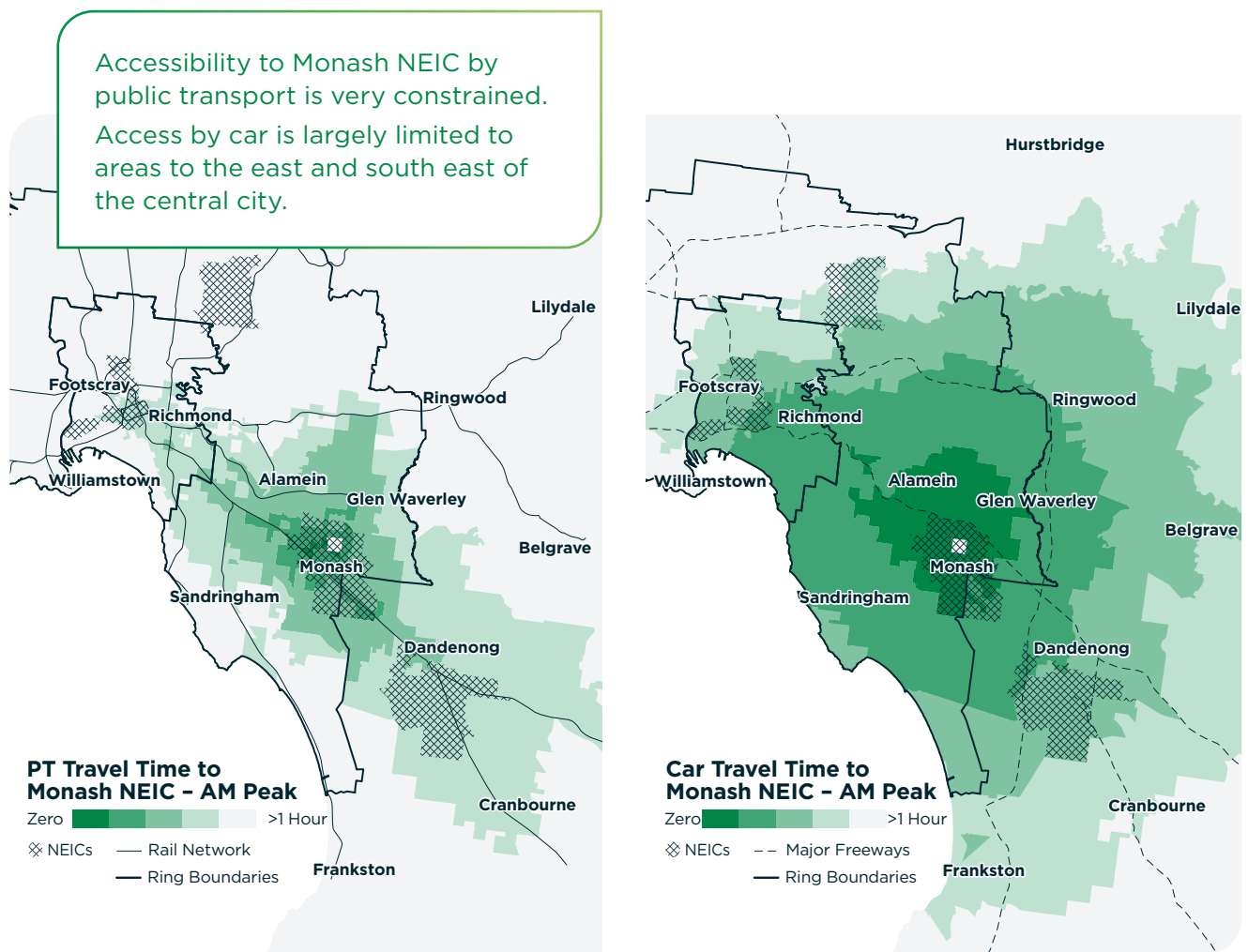
Lost economic potential in Melbourne's middle corridor

Melbourne's NEICs and MACs provide an opportunity to generate agglomeration benefits and increase productivity outside of the CBD. To realise this potential, these areas need to be accessible to a critical mass of potential customers and employees. Emerging economic clusters, such as the Monash and La Trobe NEICs, are currently not well connected by mass rapid public transport, limiting their potential workforce and customer pools.

The Monash NEIC has limited transport accessibility. The key point of public transport access is by radial line via Huntingdale Station and changing to a bus. Alternatively, it takes around 25 minutes to walk from Clayton Station to Monash University, a key employer in the NEIC. The limited access via the radial line is supplemented by some other bus services (see Figure 3-7). Access to the Monash NEIC is heavily reliant on private vehicles, and this access will be affected by Melbourne's worsening congestion. In 2018, only 28 per cent of Melbourne's total workforce could travel to the Monash NEIC within 60 minutes by public transport in the morning peak period, whereas 62 per cent of the workforce could travel there within 60 minutes by car. By 2056, this is expected to decline to 22 per cent by public transport and 45 per cent by car.

120 Details on VITM Base Case modelling assumptions are provided in Appendix C.1.

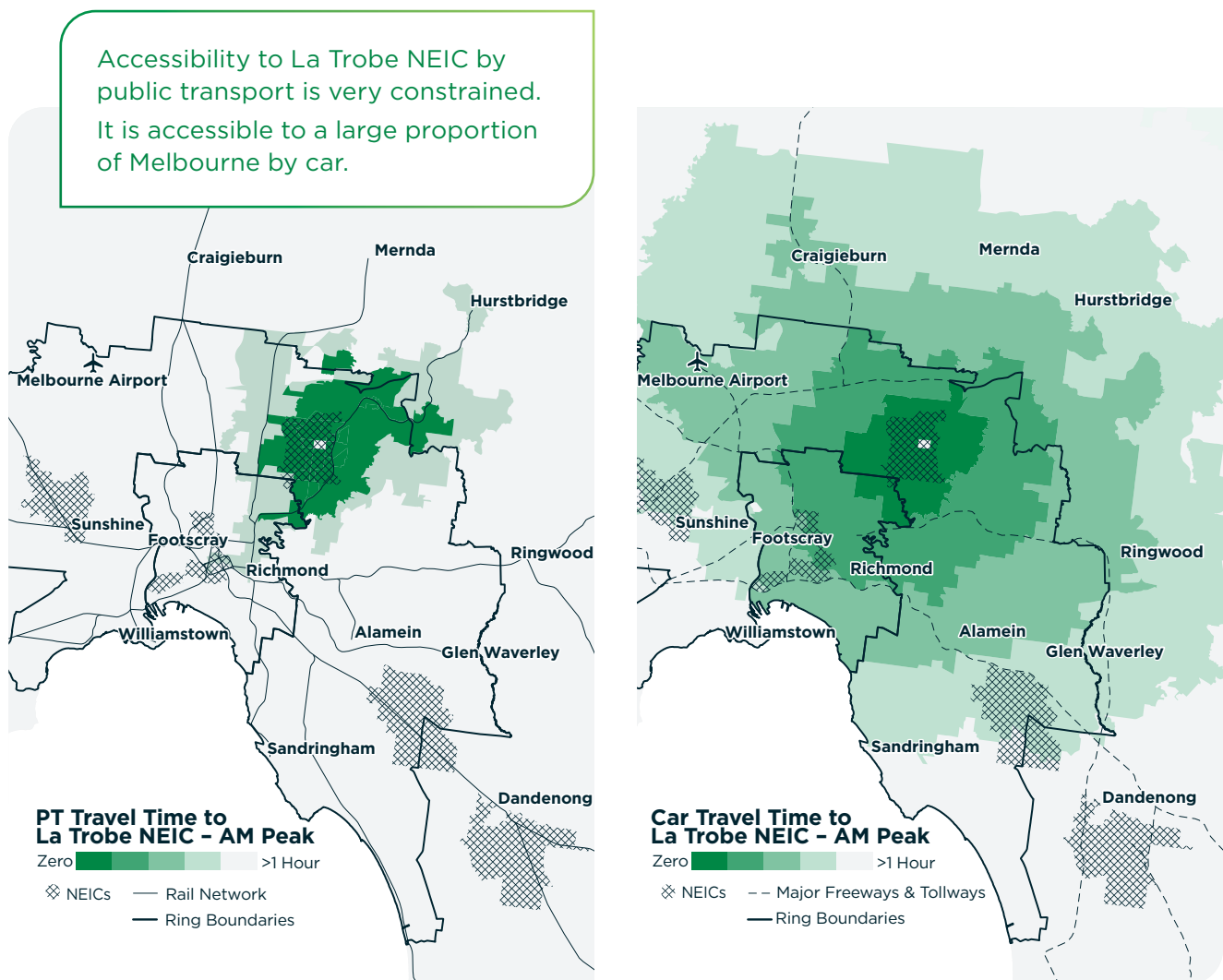
Figure 3-7: Accessible workforce catchment for Monash NEIC by public transport and car, 2018



Source: VITM Base Case

Similar patterns exist in relation to the La Trobe NEIC (see [Figure 3-8](#)) but with even more constrained accessibility. While there is reasonable access by private vehicle, public transport accessibility is extremely limited and is declining over time. In 2018, only 11 per cent of Melbourne's total workforce could travel to the La Trobe NEIC within 60 minutes by public transport in the morning peak period, whereas 62 per cent of the workforce could travel there within 60 minutes by car. By 2056, this is expected to decline to 9 per cent by public transport and 38 per cent by car.

Figure 3-8: Accessible workforce catchment for La Trobe NEIC by public transport and car, 2018



Source: VITM Base Case

Compared to the CBD, Melbourne's NEICs currently have access to a much smaller workforce pool due to poor public transport accessibility. This smaller workforce catchment will constrain the NEICs' economic potential – businesses in the Monash and La Trobe NEICs will be less likely to find the right person with the right skills for the job. If the Monash and La Trobe NEICs' economic development is constrained, they are less likely to realise their full potential as envisaged in *Plan Melbourne*, with consequent impacts for Victoria's economic growth.

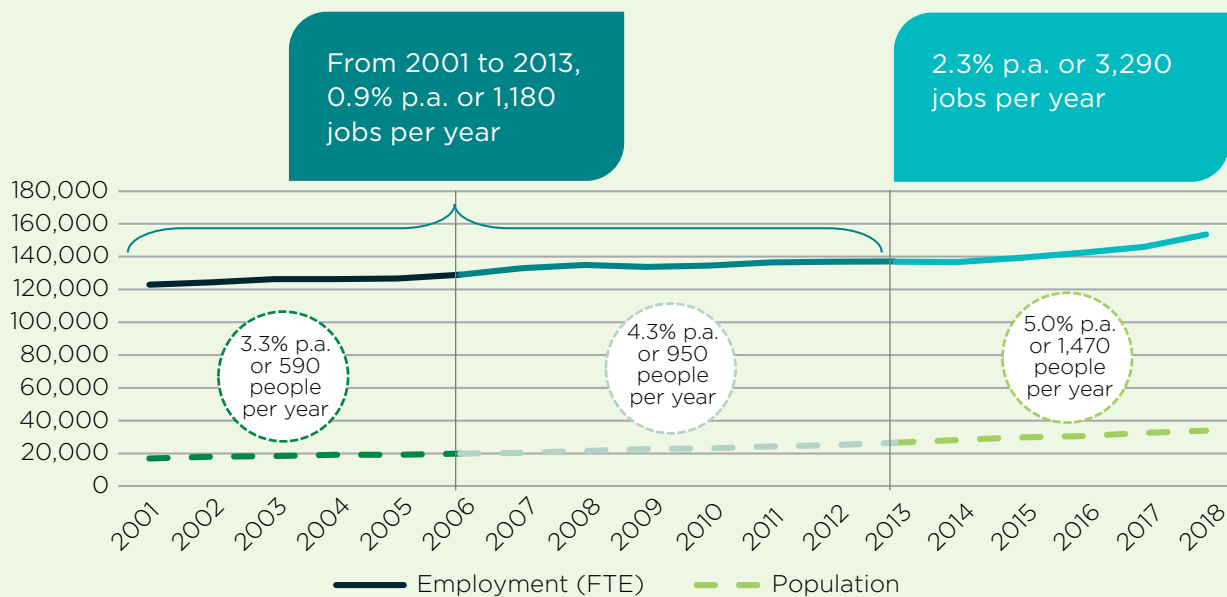
CASE STUDY

Greater Parramatta, Sydney

With Greater Sydney's population expected to grow to eight million within the next 40 years, a vision for creating a metropolis of three cities was outlined in *A Metropolis of Three Cities - The Greater Sydney Region Plan*.ⁱ

One of the three designated cities in the Plan is the 'Central River City'. At the core of Central River City is Greater Parramatta.ⁱⁱ The Plan recognises Greater Parramatta as a 'central hub which brings together stakeholders in business, health, education, arts and heritage',ⁱⁱⁱ providing a strong foundation for a polycentric city. Parramatta CBD (which includes Rosehill and Harris Park) has already seen strong employment and population growth, as illustrated in [Figure 3-9](#) below.

Figure 3-9: Population and employment growth in Parramatta



Source: Australian Bureau of Statistics (ABS), *Estimated Resident Population (2020)*
National Economics, Modelled series, Estimated Full Time Equivalent (FTE) Employment data (2020)

The New South Wales Government is directing significant investment to support Greater Parramatta's role at the heart of the Central River City. This includes initiatives to:

- Attract anchor tenants
- Improve transport and infrastructure
- Enable residents to live near their work.

The Government has also invested in initiatives to support population growth, such as creating 'vertical' government primary and secondary schools.^{iv}

i Greater Sydney Commission, *Greater Sydney Region Plan: A Metropolis of Three Cities - connecting people* (March 2018), <https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/greater-sydney-region-plan-0618.pdf?pbPYxwen5IHg4GSB6td4yKiKVogFi4c>

ii Greater Sydney Commission, *Greater Sydney Region Plan: A Metropolis of Three Cities - connecting people* (March 2018), p. 18, <https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/greater-sydney-region-plan-0618.pdf?pbPYxwen5IHg4GSB6td4yKiKVogFi4c>

iii Greater Sydney Commission, *Greater Sydney Region Plan: A Metropolis of Three Cities - connecting people* (March 2018), p. 18, <https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/greater-sydney-region-plan-0618.pdf?pbPYxwen5IHg4GSB6td4yKiKVogFi4c>

iv NSW Government, *Parramatta Public School redevelopment*, <https://www.schoolinfrastructure.nsw.gov.au/projects/p/parramatta-public-school.html>

If Melbourne's monocentric form persists:

- Activity will continue to be concentrated in the central city and opportunities to generate agglomeration benefits and boost productivity will be missed
- The very factors that make the central city so attractive for businesses will come under more pressure, including crowding on public transport and demand for floorspace
- Commute times to work will increase for the majority of Melburnians – poor job accessibility will start to affect workforce participation and business productivity
- Emerging economic clusters, including the Monash and La Trobe NEICs, will not reach their economic potential due to smaller potential workforce pools as a result of constrained accessibility.

3.2.2 Problem 1b: Melbourne's monocentric form is exacerbating congestion and crowding on existing transport networks and limiting accessibility to suburban jobs and amenities

Melbourne's public transport system is focused on radial travel

Melbourne's central city is Victoria's economic and cultural heart. Putting aside the changes in work patterns and behaviour associated with the global pandemic (discussed in section 1.9), hundreds of thousands of people typically travel in and out of the CBD every day to go to work or to access services. However, of the 681,000 jobs located in the inner ring, only 34 per cent are accessed by workers who also reside in the inner ring.¹²¹ The balance of inner ring workers commute to the central city from the middle and outer rings, along with a small number of workers from regional Victoria.

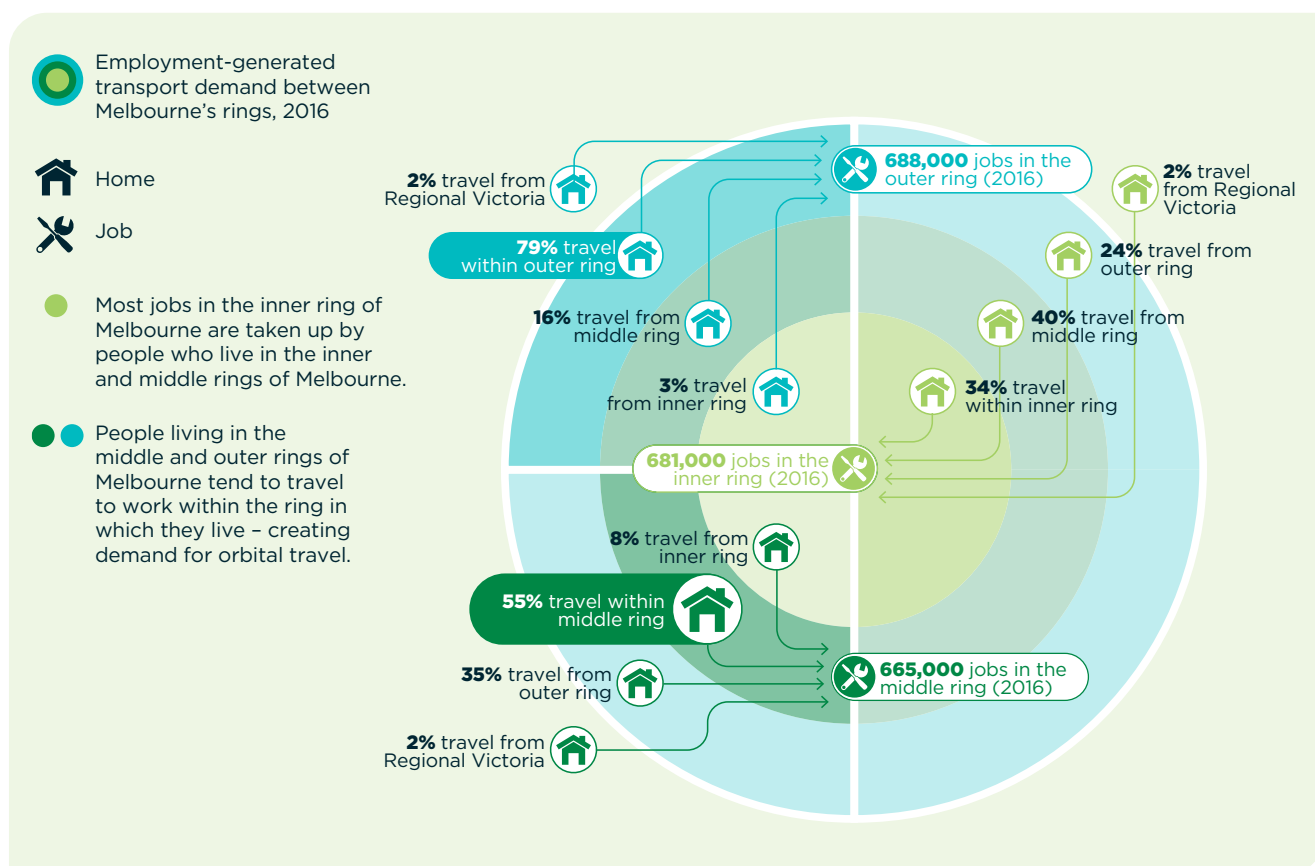
Melbourne's radial rail network provides good public transport access to and from the central city for those who live close to the stations on the radial lines. The city's tram network also helps to facilitate radial trips – particularly from Melbourne's inner ring and some parts of the middle ring. As distance from the central city increases, gaps in public transport accessibility widen.

However, not all Melburnians travel to the central city for work – many work in jobs dispersed throughout the suburbs or in the emerging economic clusters such as the Monash NEIC. A substantial proportion of people live and work within the same ring – 79 per cent of people living in the outer ring also work in the outer ring and 55 per cent of people living in the middle ring also work in the middle ring (see [Figure 3-10](#)). These people need to travel orbitally around Melbourne, rather than radially from the suburbs into the central city.¹²²

¹²¹ ABS – Census 2016.

¹²² In recognition of this, the Outer Metropolitan Ring/E6 Reservation is identified in the *Plan Melbourne Addendum* as a potential orbital transport infrastructure improvement in Melbourne's outer suburbs.

Figure 3-10: Employment-generated transport demand between Melbourne's rings, 2016

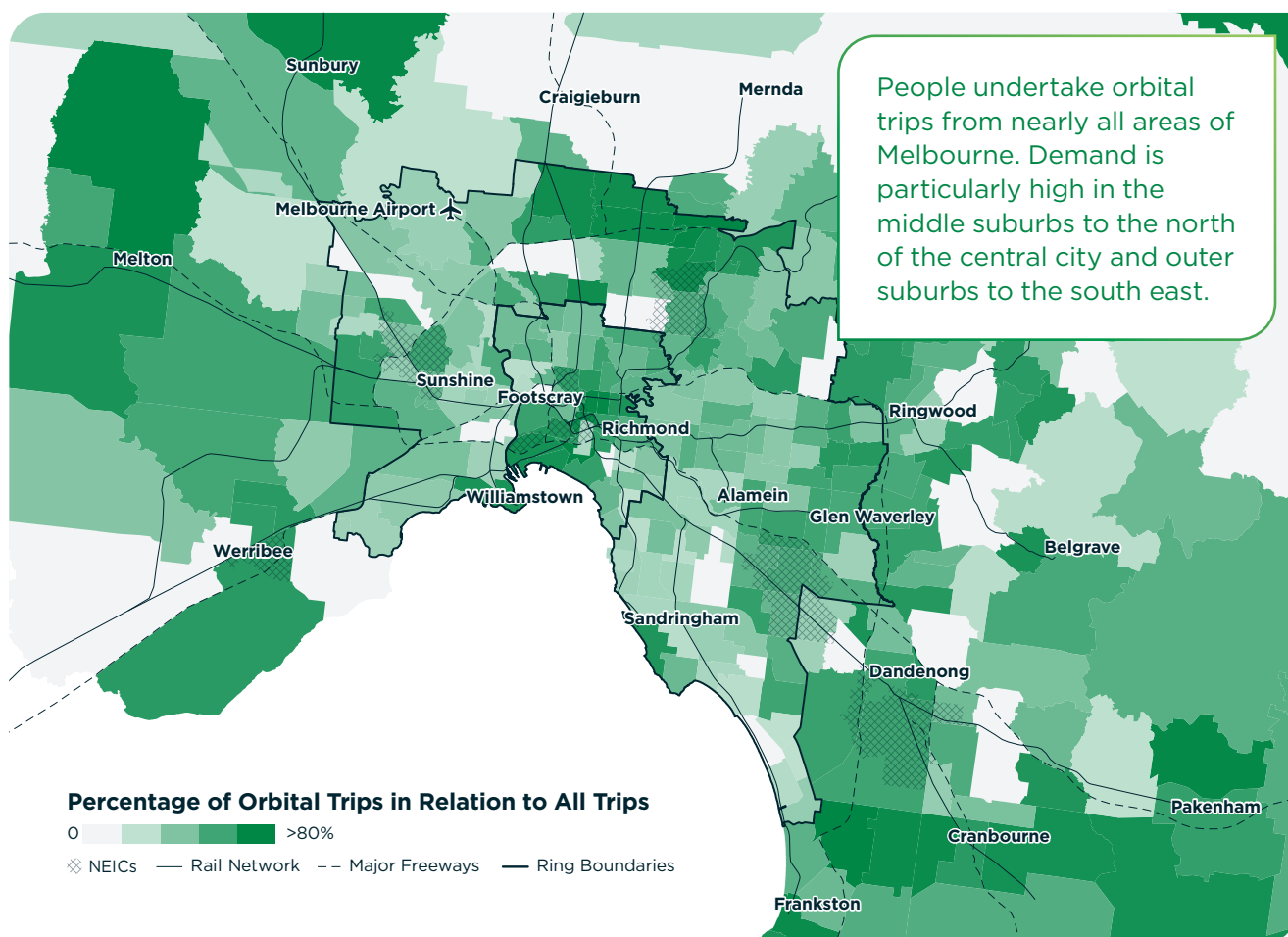


Source: ABS – Census 2016

As shown in [Figure 3-11](#), there is significant demand for orbital trips in Melbourne (both employment and non employment related trips).¹²³ In 2018, approximately 56 per cent of all total peak hour trips were orbital trips.

¹²³ Radial trips are defined as trips between non-neighbouring Statistical Areas Level 2 (SA2s) that directionally align with the axis towards (or from) Melbourne Town Hall in the CBD. Those deviating more than 20 degrees to this axis are defined as orbital trips. As defined by the ABS, SA2s are medium-sized general purpose areas built up from whole Statistical Areas Level 1.

Figure 3-11: Melbourne's radial and orbital travel demand, 2018



Source: Victorian Integrated Survey of Travel and Activity (VISTA)

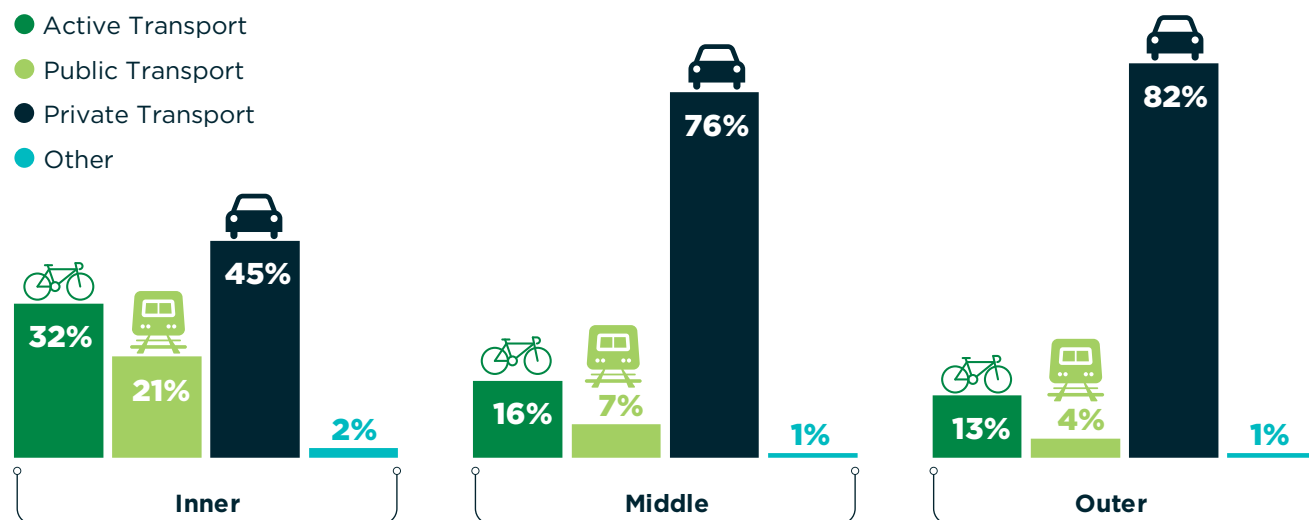
This demand for cross-suburb travel is largely unserved by the existing high capacity public transport network. To travel orbitally by rail, a person is forced to take long, inefficient, multi-leg trips and pass through the central city to change between lines on the radial network. These trips exacerbate demand for the radial rail network, especially at the central city stations which are already experiencing high levels of congestion and crowding. Buses provide some options but road congestion impacts reliability and hampers efforts to improve the frequency and coverage of services. Continued population growth will increase demand for orbital trips, further encouraging the use of cars.

The absence of effective orbital public transport also affects how regional Victorians can access jobs, services and amenities across Greater Melbourne. The regional rail network provides a radial connection into the central city and interchanges with a small number of metropolitan stations, limiting accessibility for regional Victorians. Trips to locations other than the central city from regional Victoria generally need to be undertaken by private vehicle or require inefficient, multi-leg rail journeys.

A lack of quality cross-suburb public transport and infrastructure for active transport is promoting car use

The current constraints of Melbourne's public transport network are evident in the mode share profiles for the inner, middle and outer rings of Melbourne, which show that private transport makes up the majority of mode share in the middle and outer regions (see [Figure 3-12](#) below).

Figure 3-12: Mode share by ring, 2018



Source: VISTA 2018

Two significant limitations of Melbourne's current public transport system contribute to the significant mode share of private transport, particularly in the middle and outer regions:

- Access to public transport decreases as distance from the central city increases
- The existing public transport system does not readily support orbital travel.

Rates of active transport use also decline as distance from the central city increases due to longer average travel distances that are less conducive to walking and cycling, as well as reduced access to quality cycling infrastructure.

Melbourne's roads are becoming more congested

Melbourne's road network carried around 10.2 million private vehicle trips each weekday in 2018, representing 72 per cent of all trips across the transport network.¹²⁴ This demand has led to high levels of congestion and increased travel times for road users. Traffic congestion not only affects the efficiency of private vehicle trips, but also the efficiency of trams and buses.

Changes in travel behaviour as a result of the COVID-19 pandemic have the potential to exacerbate road network congestion beyond these forecasts in the medium term. Infrastructure Victoria has warned that if commuters continue to see private car use as a 'safer' option compared to public transport post-pandemic, it could lead to a spike in road congestion.¹²⁵

Congestion significantly impacts a city's productivity and economic output. It reduces the timeliness and reliability of travel, as well as the efficiency of business-to-business and business-to-customer interactions. When freight routes are impacted by congestion, it is more expensive for businesses to move goods to customers, suppliers and export gateways.¹²⁶ Congestion also causes productive time to be lost as employees spend more time in traffic.

The cost of lost time, increased operating costs and increased pollution as a result of congestion is projected to escalate to \$10.2 billion in 2030 – up from \$4.6 billion in 2015.¹²⁷ At an individual level, congestion is predicted to cost Melburnians an extra \$1,700 per year.¹²⁸

Even with committed transport projects, such as the West Gate Tunnel and North East Link, road congestion will continue to increase across Melbourne. Vehicle hours travelled are expected to increase year on year, from 2.6 million vehicle hours travelled per day in 2018 to around 3.3 million in 2031.¹²⁹

¹²⁴ VISTA18

¹²⁵ Infrastructure Victoria (2021), *Transporting Melbourne's Recovery: Immediate policy actions to get Melbourne moving*

¹²⁶ Infrastructure Victoria, *Good move - fixing transport congestions* (March 2020), p. 6

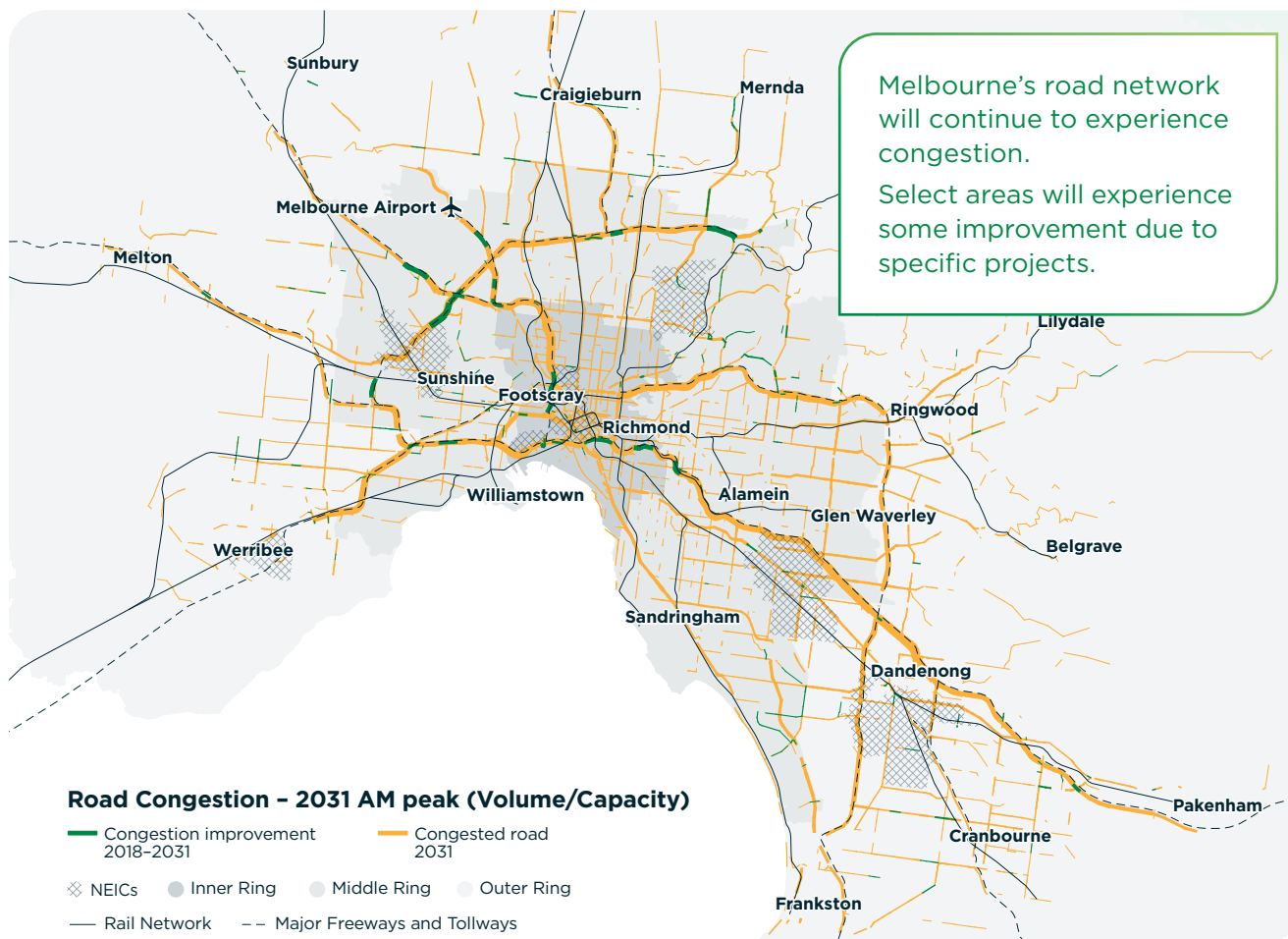
¹²⁷ Infrastructure Victoria, *Good move - fixing transport congestions* (March 2020), p. 6

¹²⁸ Infrastructure Victoria, *The road ahead: how an efficient, fair and sustainable pricing regime can help tackle congestion* (November 2016), p. 25

¹²⁹ VITM Base Case

Figure 3-13 shows the increase in levels of congestion expected on the road network in 2031, illustrated by a ratio of vehicle volume to road capacity. By 2056, Melbourne's road network will carry around 19 million private vehicle trips per weekday.¹³⁰

Figure 3-13: Road network congestion in AM Peak, 2031



Source: VITM Base Case

Our trains are becoming more crowded

Despite the effects of COVID-19, Melbourne's radial rail network remains under strain in the longer term. Rail patronage grew from approximately 159 million boardings a year in 2006¹³¹ to 243 million boardings in 2019,¹³² representing a growth rate of 3.3 per cent each year.

There has been a significant fall in public transport patronage across Melbourne during the COVID-19 pandemic, due primarily to higher numbers of people working from home but also because of a perception that travelling in crowded trains, trams and buses carries a higher health risk. While it may take some time for train patronage to return to pre-pandemic levels, this is not expected to significantly affect longer-term forecasts and modelling for SRL East and SRL North.

Crowding has become an increasing challenge. 57 per cent of rail passengers travel during peak periods, and of those, 78 per cent travel in the relevant peak direction.¹³³ Overcrowding on the radial network affects all rail users, including regional rail users or Melbourne residents unable to board persistently full train carriages. In normal times, demand on the Dandenong, Sunbury, Craigieburn and Melton lines exceeds capacity in the morning peak.¹³⁴

¹³⁰ VITM Base Case

¹³¹ Public Transport Victoria, *Melbourne Public Transport Patronage Long Run Series: 1945-46 to 2010-11* (2012), p. 8, <https://web.archive.org/web/20130410193124/http://corp.ptv.vic.gov.au/assets/PTV/PTV%20docs/Research-and-statistics/Market-Analysis-Patronage-Long-Run-Series-2012.pdf>

¹³² Public Transport Victoria, *Annual Report 2018-19* (2019), p. 20, https://www.ptv.vic.gov.au/assets/default-site/footer/data-and-reporting/annual-report/6b8c2cff5a/PTVH4043-Annual_Report_2019-A4-v1_ONLINE.pdf

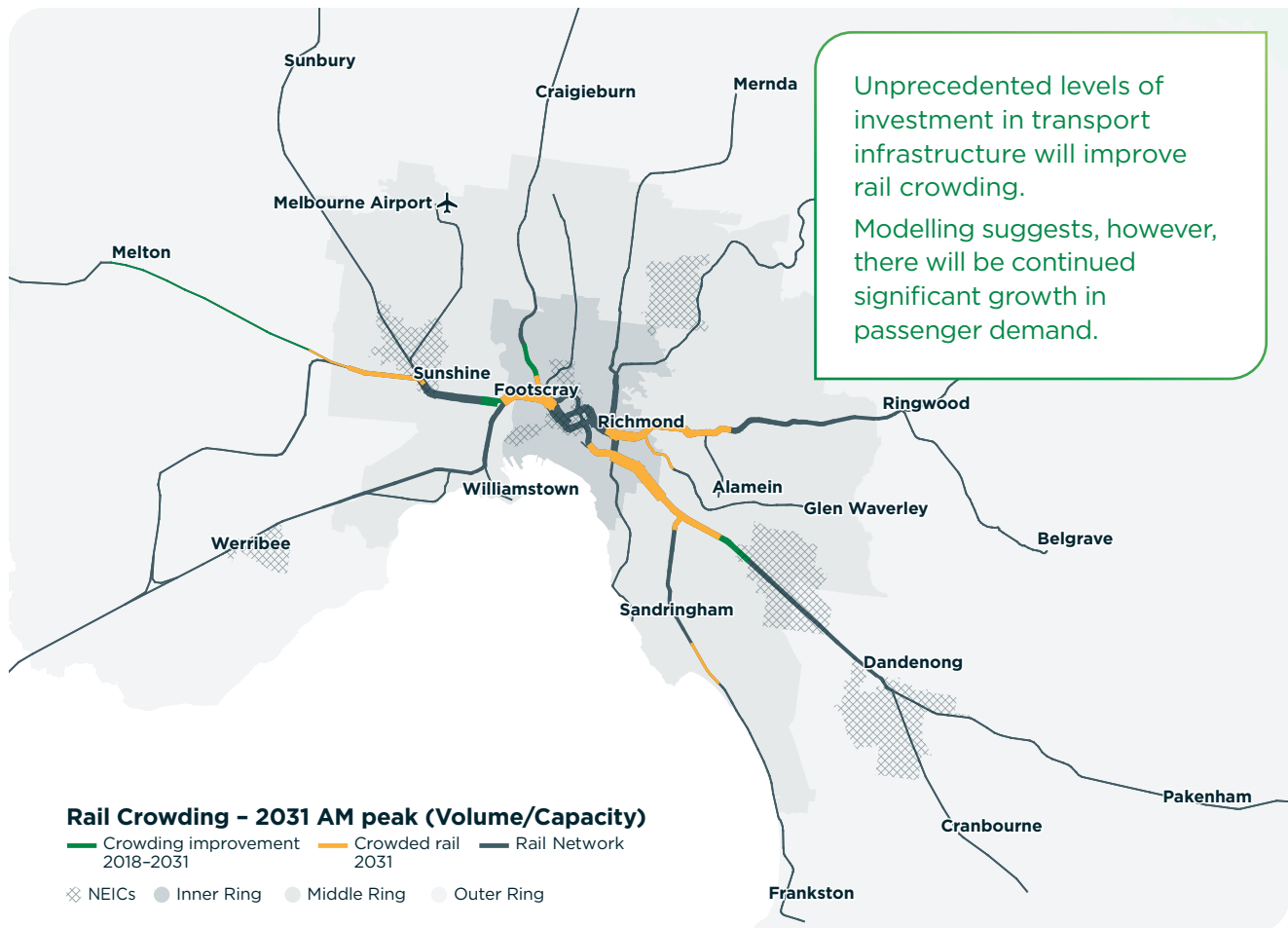
¹³³ Department of Transport, *2017 Observed Metro Train Service Patronage* (2018)

¹³⁴ VITM Base Case

As well as increased road congestion, the level of crowding on the rail network is expected to increase despite committed government projects to improve transport infrastructure. [Figure 3-14](#) shows the level of crowding expected on the rail network in 2031, illustrated by a ratio of passenger volume to train capacity.

Although [Figure 3-14](#) shows improvements to crowding as a result of the Victorian Government's Big Build program between 2018 and 2031, crowding in the south east and north east of Greater Melbourne is expected to continue with trains on many lines becoming highly crowded as they head into Melbourne during the morning peak, or as they leave Melbourne in the afternoon peak.

Figure 3-14: Crowding on train network in AM peak, 2031



Source: VITM Base Case

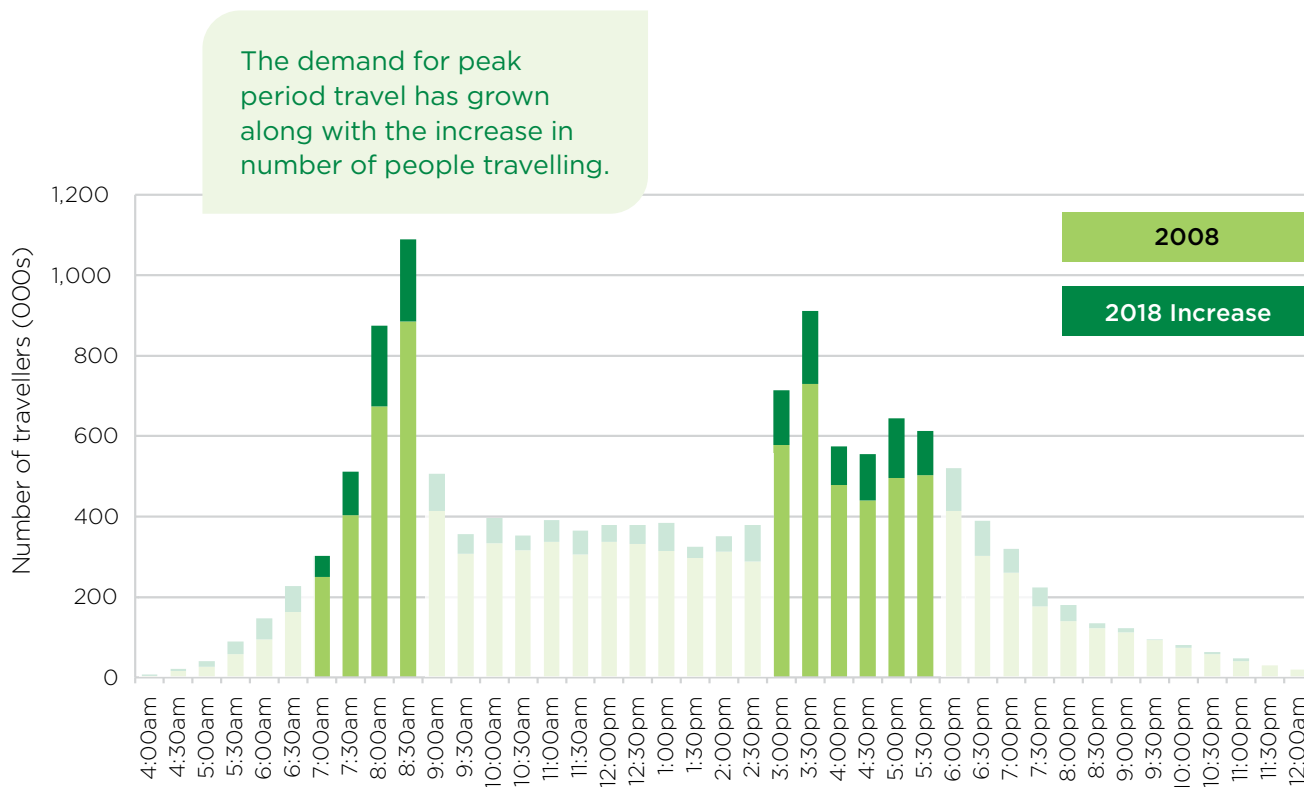
A crowded and unreliable rail network causes significant productivity losses through lost time for people using public transport. It also encourages people to switch to private vehicles, contributing to road congestion.

Melbourne's prized liveability has been crucial in attracting human capital and business investment from around the world. A congested road network and crowded rail system diminishes the overall liveability of Melbourne, making it a less attractive place for people to live and businesses to locate.

Melburnians are increasingly travelling during peak periods

Melbourne's transport demands are uneven throughout a given day. Demand grows significantly during peak travel periods, especially during the morning peak. Outside of peak periods, travel demand is less than half of that seen in the peak periods. This disparity is worsening over time, as illustrated below in [Figure 3-15](#).

Figure 3-15: Number of people travelling on average weekday by time of day, 2008 vs. 2018



Source: VISTA

Concentrated travel demand is placing pressure on the city's public transport system, as well as the road network. This also means that our transport infrastructure is not being optimally used.

As discussed in section 3.2.1, Melbourne's strained transport network is having an impact on access to jobs and employment opportunities. It is also affecting people's ability to access services and amenities. Melbourne's monocentric form will continue to place pressure on the transport network:

- Melbourne's radial rail network will become increasingly more crowded, causing unreliable journeys and an unsatisfactory user experience
- Demand for orbital travel will go unmet by public transport, encouraging people to rely on private vehicles – contributing to road congestion, reduced air quality and a greater risk of traffic accidents
- Public transport accessibility will be poor in the outer ring, also encouraging people to rely on private vehicles
- Reliance on private vehicles will increase road congestion – by 2056, Melbourne's road network will carry around 19 million private vehicle trips per weekday,¹³⁵ an increase of 80 per cent from 2018
- Melbourne will become less attractive and businesses may prefer to locate in Australia's other major cities, diminishing the productive potential of Victoria's economy.

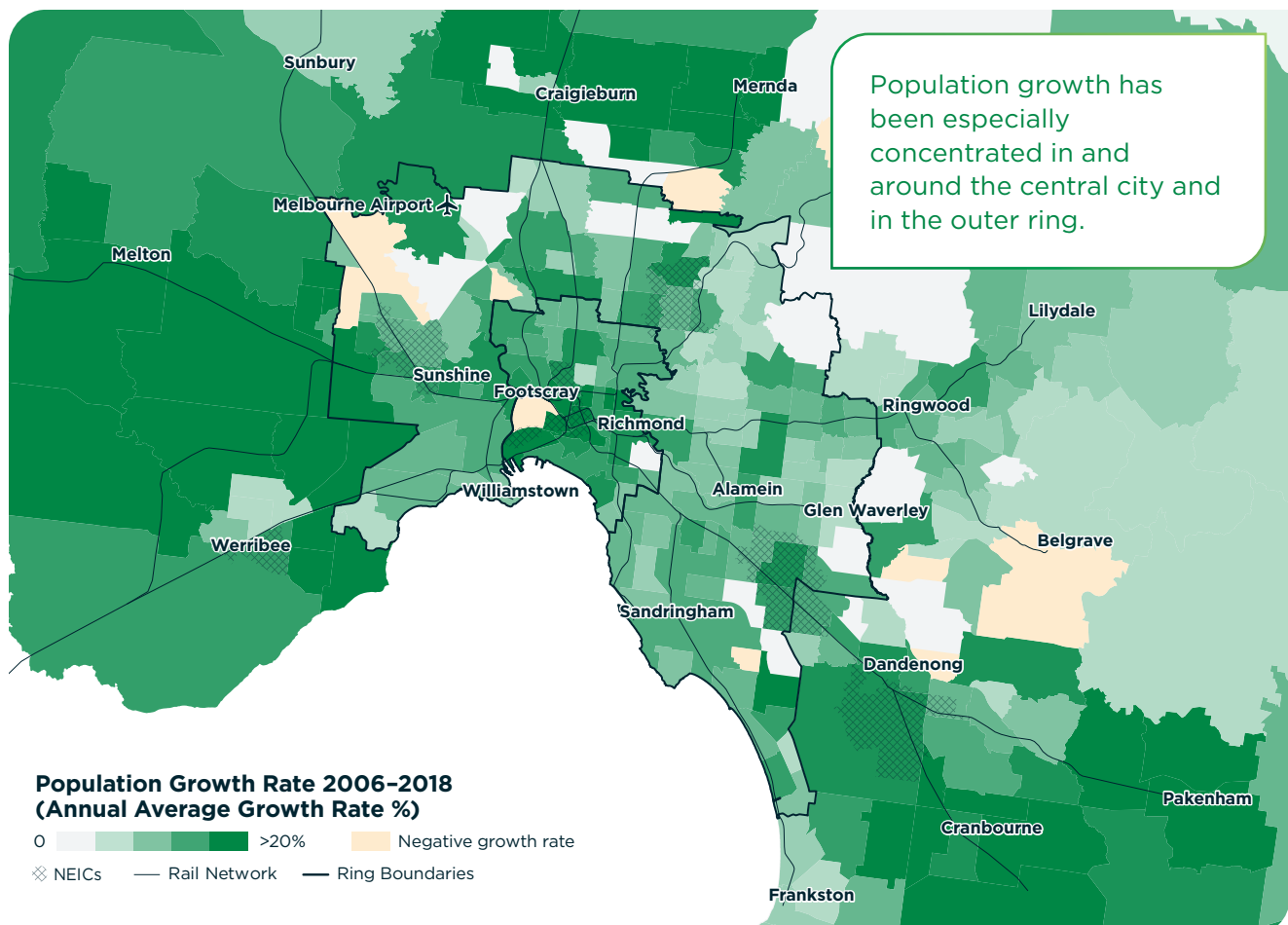
3.3 Problem 2: Concentration of growth in inner and outer Melbourne is contributing to inefficient infrastructure and service provision

3.3.1 Problem 2a: Existing services and infrastructure in Melbourne's middle suburbs are not being effectively and efficiently leveraged, increasing the demand for new services and infrastructure in the outer suburbs

Population has grown in the inner and outer rings, while the middle ring has remained idle

Since the 1990s, Victoria has experienced rapid population growth – much of this growth has been accommodated in Melbourne (refer to section 1.2). While all parts of Melbourne have experienced population growth over the past two decades, much of the growth has been accommodated in select pockets of the city's inner ring and large areas of the outer ring (see Figure 3-16). Since 2006, the proportion of people living in the outer suburbs has increased from 42 to 45 per cent.¹³⁶

Figure 3-16: Melbourne population growth rate, 2006-2018



Source: ABS

136 ABS – Estimated Resident Population

Melbourne's inner ring is increasingly crowded. Its popularity – driven by its good access to jobs, amenities and services – is making housing increasingly unaffordable. In the outer ring, housing is relatively affordable but the provision of infrastructure, services and local jobs is running behind population growth.

In comparison (and besides selected areas such as Box Hill), the middle ring overall has experienced less population growth. In some pockets, population has even declined. This is because relatively low levels of housing development growth are occurring in the middle suburbs, with higher development rates occurring in the outer ring.

Melbourne's middle ring is made up of established suburbs with relatively good levels of population-serving infrastructure, such as schools, kindergartens, sports and recreation facilities and libraries. In some instances, this existing infrastructure is ageing and is of fixed or single use. For example, many single-room kindergartens do not have capacity to expand their services to meet demand from population growth, and buildings such as scout halls have often only been designed for one purpose.

Opportunities exist to upgrade or rebuild some of these facilities to meet demand from population growth, including by encouraging more intensive use or by making facilities multi-purpose, such as by co-locating services in community hubs. Other opportunities include better use of publicly owned or funded facilities such as schools, and universities.¹³⁷

Melbourne's growth and settlement patterns mean that, rather than using these existing services and infrastructure, new investments are required to support Melbourne's expanding outer ring.¹³⁸ This has created a range of challenges that, if unaddressed, will ultimately cost the Victorian economy and community. Action is needed to better leverage existing infrastructure to support growing urban populations.¹³⁹

The challenges of an expanding urban footprint

Although Melbourne's outer ring includes NEICs and MACs such as Dandenong and Werribee that have experienced growth, much of the recent population growth in Melbourne's outer ring has occurred in or close to newly developed 'greenfield' areas, as seen in [Figure 3-16](#). These areas are attractive to many households as they offer affordable housing in the form of detached dwellings on relatively larger lots.

Greenfield development has allowed Melbourne to remain a low density city. Greater Melbourne's average population density is around 513 persons per square kilometre. By comparison, Greater Sydney's average density is around 1,171 persons per square kilometre of built urban area (which excludes national parks).¹⁴⁰ Less than 4 per cent of Melburnians currently live in areas with population densities of over 8,000 persons per square kilometre (classified as very high density by the ABS).¹⁴¹ These areas include the CBD, Fitzroy, Collingwood and Carlton.¹⁴²

Although greenfield development supports Melbourne to remain a low density city, it carries much higher infrastructure costs. New infrastructure must be developed to support the new population. At a minimum, infrastructure requirements include new suburban roads and new trunk water and sewer lines, as well as gas, electricity and communication systems. Further investment is also often required for the provision of health, education and emergency services, public transport and local community and recreational facilities.¹⁴³

137 There is also infrastructure in the middle ring that will require improvement or enhancements.

138 Infrastructure Victoria, *Victoria's 30-year Infrastructure Strategy* (December 2016) p. 54

139 Infrastructure Victoria, *Victoria's 30-year Infrastructure Strategy* (December 2016) p. 151

140 City of Sydney, *Greater Sydney* (2020), <https://www.cityofsydney.nsw.gov.au/learn/research-and-statistics/the-city-at-a-glance/greater-sydney#:~:text=Greater%20Sydney%20population&text=The%20built%20urban%20area%20is,1%2C171%20persons%20per%20square%20kilometre>

141 ABS – Estimated Resident Population (Area analysis is based on SA2s)

142 ABS – Estimated Resident Population (Area analysis is based on SA2s)

143 Infrastructure Victoria, *Infrastructure Provision in Different Development Settings, Volume 1 Technical Paper* (2019)

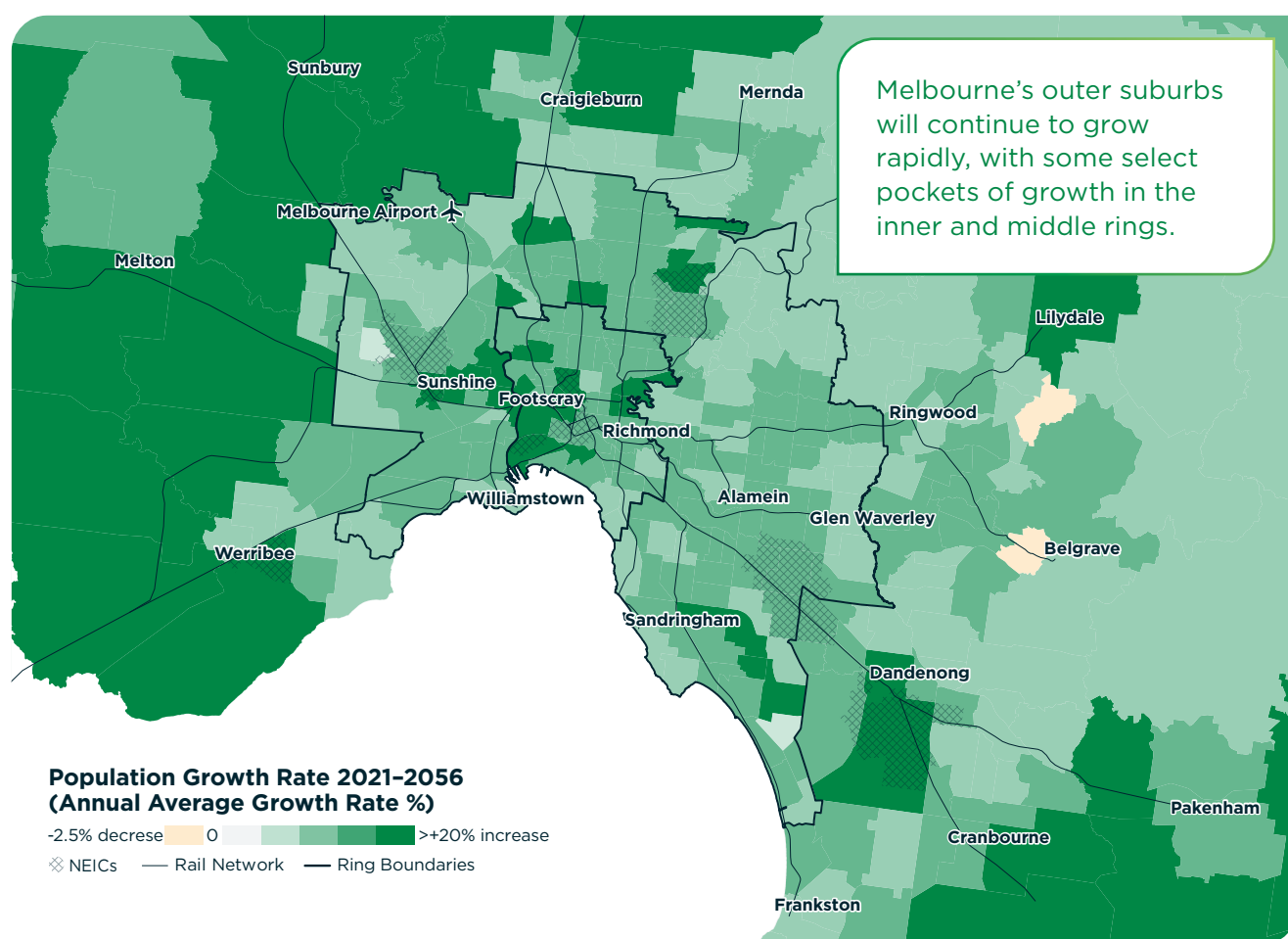
According to Infrastructure Victoria, infrastructure capital costs (excluding transport) in greenfield/undeveloped areas can be two to four times higher than in established areas, where existing infrastructure has the capacity to support growth.¹⁴⁴ When greenfield development is done poorly it can affect residents' quality of life – it can result in higher living costs and limit access to employment opportunities and education opportunities and health services.¹⁴⁵

Uneven population settlement is expected to continue

Plan Melbourne states that delivery of land and the supply of supporting infrastructure could be improved across Melbourne.¹⁴⁶ Recognising the cost and challenges of continued urban expansion, *Plan Melbourne* has set an aspirational target of 70 per cent of all new housing to be built in established areas.¹⁴⁷ Increased urban consolidation through Melbourne's middle suburbs would result in greater economic efficiency, environmental sustainability and social equity.¹⁴⁸

However, *Plan Melbourne's* target for infill development and its associated benefits are unlikely to be realised without strategic intervention – current trend projections suggest that the uneven population growth across Melbourne's three rings will continue. Figure 3-17 shows that population growth rates are expected to be highest in Melbourne's inner ring and outer ring suburbs in the west, north and south east, with comparatively moderate growth in the middle ring.

Figure 3-17: Melbourne population growth rate, 2021-2056



Source: SALUP based on DELWP Projections 2018 (Unpublished)

144 Infrastructure Victoria, *Infrastructure Provision in Different Development Settings*, Volume 1 Technical Paper (2019)

145 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 51

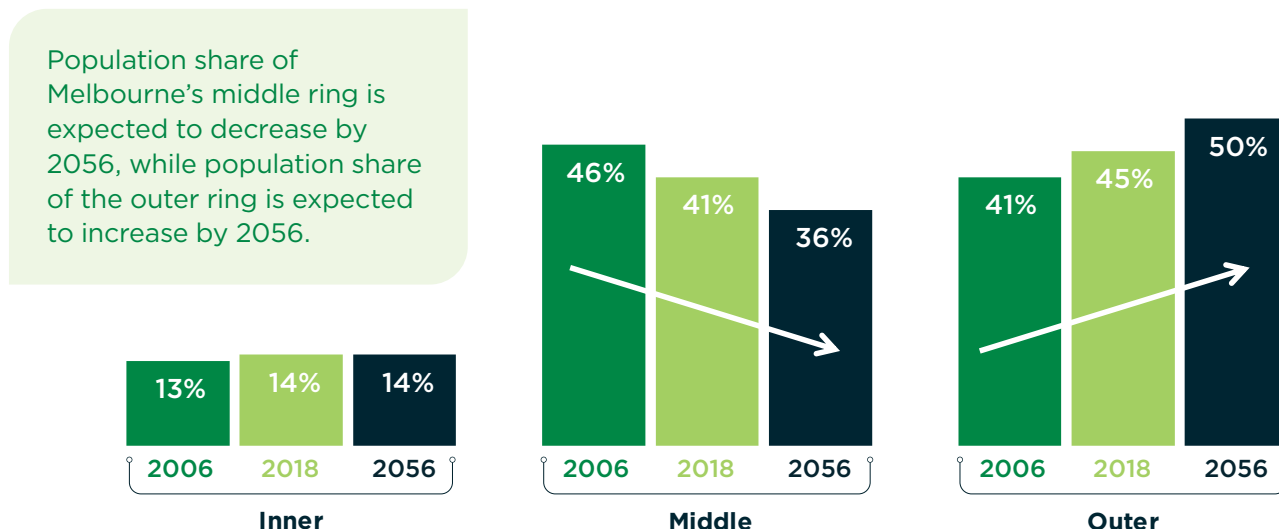
146 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 51

147 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 47

148 Parliament of Australia, *Urban Consolidation: Changing Urban Form?* (1992)

As shown in Figure 3-18, current projections show that 50 per cent of Melbourne's population is projected to live in the outer ring by 2056,¹⁴⁹ up from 45 per cent in 2018, before any transport or land use changes resulting from the SRL. In contrast, the middle ring will house 36 per cent of Melbourne's population in 2056, down from 45 per cent in 2018.¹⁵⁰

Figure 3-18: Current projections on the share of Greater Melbourne's population in inner, middle and outer rings, 2006, 2018 and 2056, prior to any changes introduced by SRL



Source: ABS and SALUP based on DELWP Projections 2018 (Unpublished)

Without intervention to reshape Melbourne's urban form, these patterns of population settlement will continue. This means that:

- The outer ring will continue to grow its population share, with half of the city's population living in the outer ring by 2056
- The population share within the middle ring will decline, with just over one third of Melbourne's population living in the middle ring in 2056
- Existing infrastructure in Melbourne's established middle corridor will continue to be poorly leveraged and will likely continue to decline in quality as there will be little justification for its upgrade
- Much of the population growth in the expanding outer ring will be accommodated in greenfield developments, increasing infrastructure costs.

3.3.2 Problem 2b: Slower and less consolidated development in middle ring suburbs is impacting Melbourne's connectivity and resilience

Population is growing in areas with poor high capacity public transport connectivity

Investment in high capacity public transport cannot keep pace with population growth in the outer suburbs.¹⁵¹ Melbourne's radial rail network has had to continue to expand outwards to accommodate Melbourne's urban expansion. For example, the Epping line was extended to Mernda in response to substantial greenfield development in Melbourne's north. However, crowding on the Mernda line is expected to increase and become problematic due to the increased patronage from the outer suburbs (as illustrated in Figure 3-14). As crowding increases, it may limit the ability for passengers in inner and middle suburbs to board services.

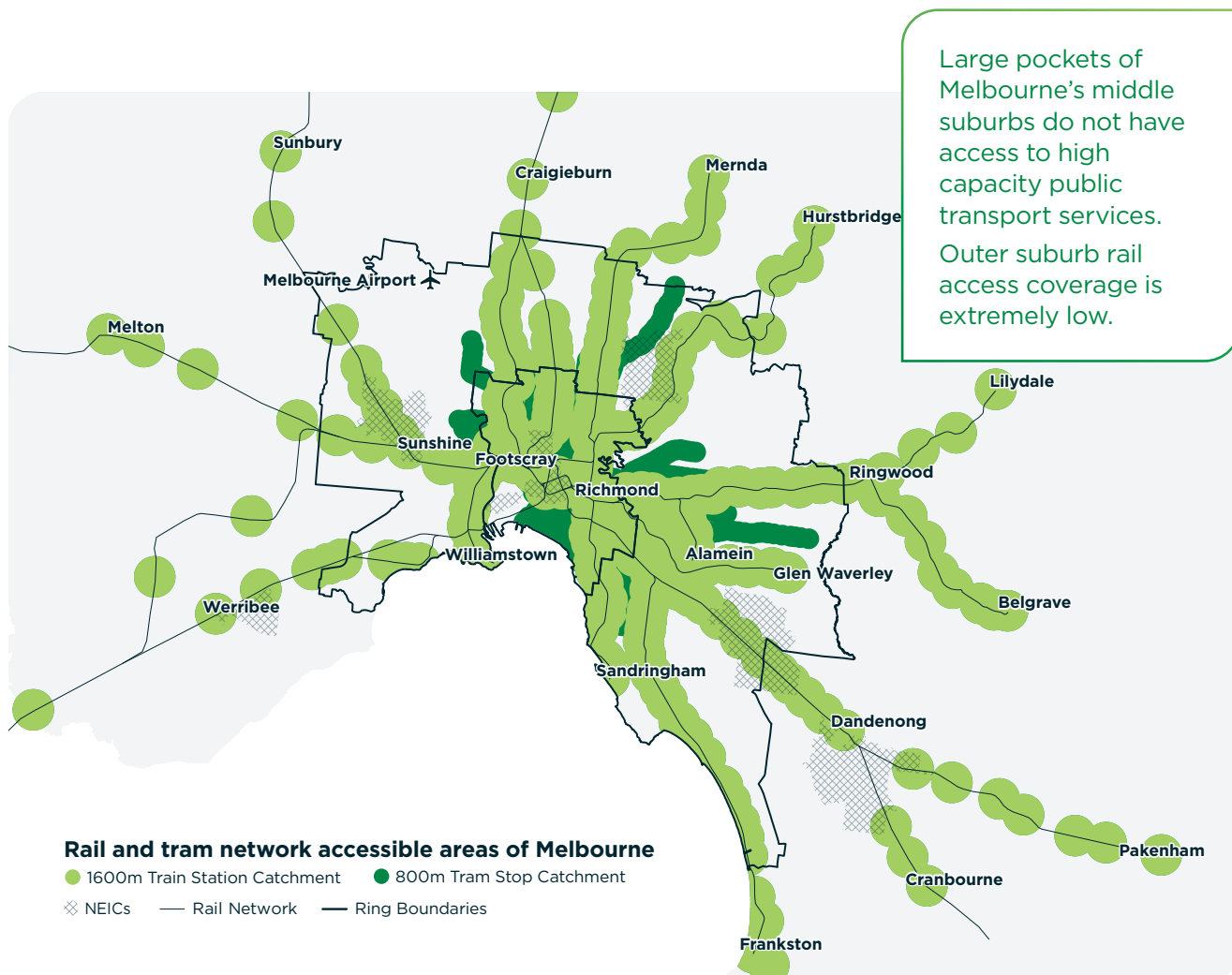
¹⁴⁹ SALUP based on DELWP Projections 2018 (Unpublished)

¹⁵⁰ SALUP based on DELWP Projections 2018 (Unpublished)

¹⁵¹ High capacity public transport services are defined as trams and trains.

The radial rail network can only do so much and, even with expansion, cannot efficiently service the dispersed population in the outer suburbs. [Figure 3-19](#) highlights the areas of Melbourne within a 1600 metre radius of rail stations or an 800 metre radius of tram stops.

Figure 3-19: Rail and tram network accessible areas of Melbourne, 2018



Source: Public Transport Victoria (PTV) Train and Tram station location information

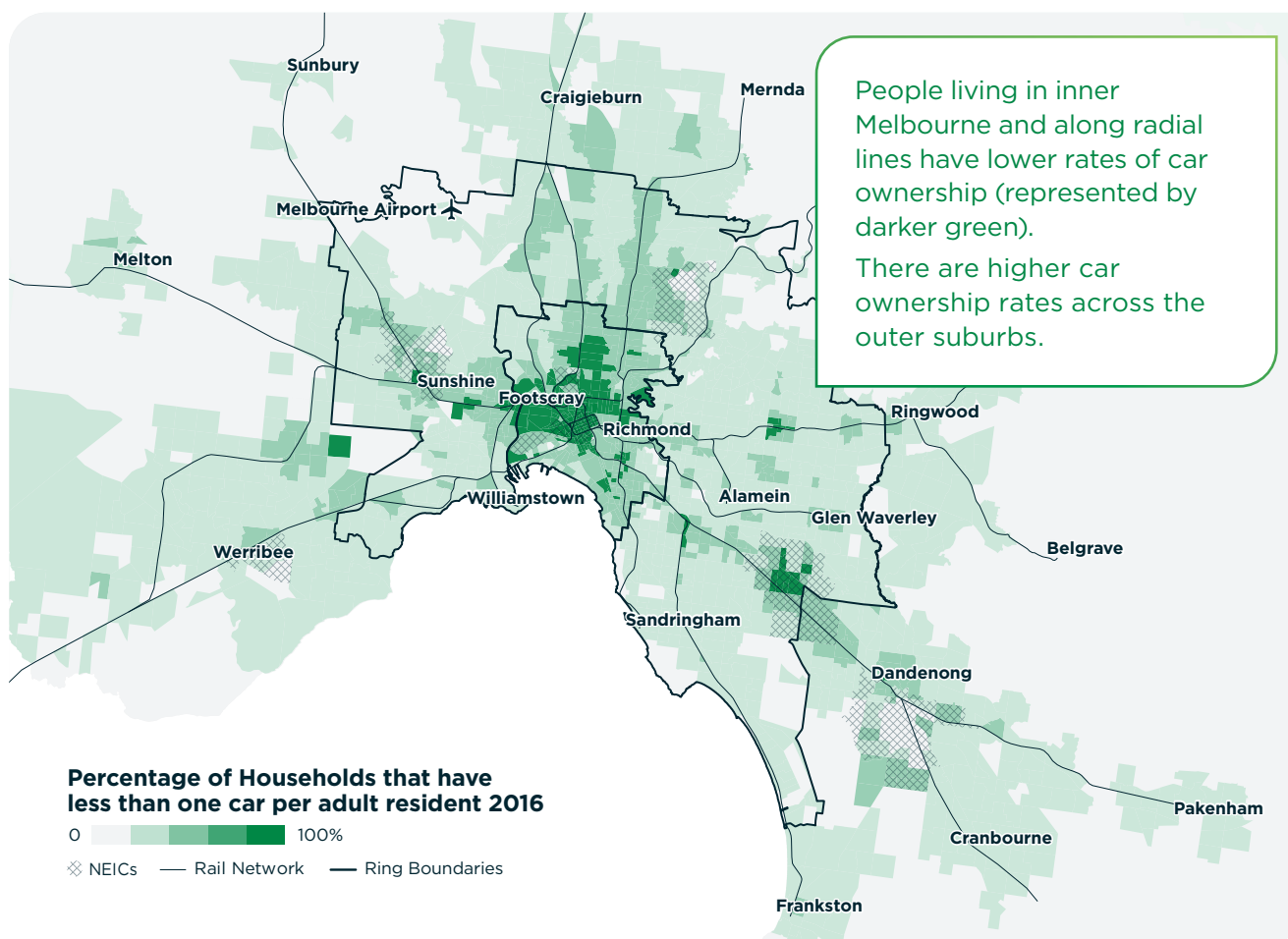
There are varying levels of access to high capacity rail and tram services across Melbourne's three geographic rings:

- 92 per cent of inner ring residents live within a rail station or tram stop catchment
- 65 per cent of middle ring residents live within a rail station or tram stop catchment
- 29 per cent of outer ring residents live within a rail station or tram stop catchment.¹⁵²

Substantial population growth in Melbourne's outer ring means that more people are living in areas with poor access to public transport. [Figure 3-20](#) shows how people living in the inner ring and parts of the middle rings, particularly along rail lines, benefit from being less likely to need to own a car. There is a strong correlation between poor access to public transport and increased car ownership in pockets of the middle ring and the outer ring.

152 SALUP based on DELWP Projections 2018 (Unpublished)

Figure 3-20: Percentage of households that have less than one car per adult resident, 2016



Source: ABS

Limited connections to major health and education precincts

With more people living in the outer ring, more people are living further away from key employment centres including the central city and NEICs in the inner and middle rings. This trend is repeated in terms of access to services, such as healthcare and education – many of Melbourne’s major health and tertiary education institutions are located in Melbourne’s central city (e.g. the University of Melbourne, RMIT and the Royal Melbourne Hospital) or the middle ring (e.g. Monash University, La Trobe University and Austin Hospital).

As the regional rail network predominately supports trips to the central city, accessing health and education precincts in the middle ring from regional Victoria by public transport often requires multi-leg journeys. This encourages people travelling to these services from regional areas to rely on cars.

A less reliable and less resilient transport network

As discussed in section 3.2.2, Melbourne’s roads are congested. As congestion increases, Melbourne’s road network will become less reliable. A less reliable road network affects how people move across the city. It affects not only people in private vehicles, but also those using trams and buses for their daily commute. Buses and trams are less reliable when they are stuck in traffic – this can make these forms of public transport less attractive options. Priority on-road measures are one way to improve the performance of buses and trams. However, congestion also affects the conduct of business and the movement of goods across the city.

A congested and unreliable road network makes it harder for businesses to interact. It also impacts freight services that are ferrying goods across Melbourne, affecting the reliability of supply chains. Increasing levels of congestion on Melbourne's roads means goods will spend more time delayed in traffic.

Around Melbourne, certain goods with narrow turnarounds between supply chain stages, or time-critical freight such as dairy or e-commerce products, cannot avoid travelling in peak times and are likely to be severely affected by congestion in the future. The rise of e-commerce, a trend that has continued exponentially during the COVID-19 pandemic, and growing consumer expectations around rapid and on-time delivery, means that the performance of Melbourne's road network is increasingly vital in ensuring Victorian businesses are able to fully capitalise on their market potential.

The broader impacts of congestion on businesses can include:

- Missed connections between integrated global supply chains, causing cascading delays and operational impacts across subsequent supply chain stages and linkages
- Increased supply chain costs – delays to freight arriving at distribution centres can attract penalties or additional warehousing costs when trucks miss designated loading dock timeslots or scheduled flights, as more resources are needed to manage unexpected volumes
- Overall increases in the cost of doing business, as labour costs for truck drivers sitting in traffic rises or goods are lost from spoilage
- Diminished value of goods delivered and a reduction in competitive advantages between Victorian producers with interstate or overseas vendors.

Crowding on Melbourne's rail network also makes it less reliable. Crowded trains take longer for people to board and alight, making station stops longer and delays more likely. Late and crowded trains can deter people from using public transport and encourage people to revert to private vehicles for their daily commutes.

Melbourne's rail network also lacks redundancy. Redundancy within a transport system provides users with alternative routes and spare network capacity, which can help improve overall network resilience.¹⁵³ The absence of rail connections between Melbourne's radial rail lines outside of the central city means that people cannot easily switch between radial lines in the event of disruptions. This lack of redundancy is exacerbated by an unreliable rail network – it generally takes crowded services longer to recover from unplanned disruptions.

Under-used rail assets are aggravating transport network challenges

The challenges facing Melbourne's public transport network are exacerbated by the inefficient use of rail assets. As described in section 3.2.2, Melbourne's radial rail network principally services the central city and demand is high during peak hours and only in one direction. As a result of Melbourne's monocentric urban form, the city's radial network carries unbalanced passenger flows, which affects the efficiency of the rail system. There is heavy inbound demand in the central city direction in the morning and outbound from the central city in the afternoon, with less use of the counter-directional services. This is illustrated by a frequent scene across Melbourne during the morning peak: an over-crowded inbound train passing an 'empty' outbound train.

Rail infrastructure (e.g. rail track and rolling stock) is also underused in off-peak periods. Reduced service frequency in these periods reduces overall accessibility to the network.

¹⁵³ Xu, X., Chen, A., Jansuwan, S., Heaslip, K. & Yang, C., *Modelling Transportation Network Redundancy*, Transportation Research Procedia, vol. 9 (2015), pp. 283-302

Increased private vehicle travel and congestion are impacting achievement of a net-zero emission target by 2050

The movement of people and goods across Melbourne is contributing to climate change and reducing the prospects of achieving Victoria's goal of net-zero emissions by 2050.¹⁵⁴

Road transportation is responsible for 89.3 per cent of Victoria's transport emissions, which comprises 20.6 per cent of the state's total greenhouse gases.¹⁵⁵ As well as greenhouse gas emissions, road congestion generates air, noise and water pollutants, affecting Melbourne's long-term environmental sustainability.

Growth in emissions and pollutants is affected by the number of vehicles travelling on the network. Even with a more environmentally-friendly vehicle fleet on the road, emissions and pollutants are projected to increase as the number of vehicle kilometres travelled increases – between 2018 and 2056, it is expected that vehicle kilometres travelled on an average weekday will increase from around 120 million to around 190 million.¹⁵⁶

More vehicle kilometres travelled may also have adverse health impacts. Longer driving time is associated with higher risks of a lack of physical activity and poor physical and mental health.¹⁵⁷

Melbourne's growth is eroding its environmental resilience

Melbourne's growth is testing the resilience of the natural environment, which is already under strain from the effects of climate change. As the city grows, habitat loss and fragmentation and waterway degradation pose significant threats to native flora and fauna.¹⁵⁸

Urban development in an area can lead to an increase in average temperature (in the air and directly emitted from the surface of materials), also known as the urban heat island (UHI) effect. This happens when greenery is replaced with large non-reflective and water-resistant surfaces that absorb a high amount of incoming solar radiation.

For example, certain suburbs in Melbourne's middle ring have significantly low tree canopy cover (such as Clayton at 8 per cent) compared to an average urban tree cover of 25.9 per cent in Melbourne's eastern region.¹⁵⁹ Large areas of Clayton and Monash business parks and industrial land have poor provision of open space, low tree canopy coverage and high UHI effect. Quality open space and tree canopy cover is clustered around Monash University, providing limited refuge to the broader community and local businesses. Similarly, Broadmeadows in Melbourne's north has very poor tree canopy coverage (10 per cent)¹⁶⁰ but relatively good levels of access to open space (77 per cent of people can access open space within a 400 metre walk).¹⁶¹

Without mitigation, the UHI effect will worsen over time, impacting the wellbeing of current and future residents. *Plan Melbourne* includes a direction to 'make Melbourne cooler and greener', noting that Melbourne needs to maintain and enhance trees and vegetation on properties, along transport corridors, on public lands, and on roofs, facades and walls.¹⁶² The city's middle ring, in particular, would benefit from enhanced public realm and urban greening to service a growing population.

154 *Climate Change Act 2017* (Vic) s6

155 Victorian Government, *Victorian Greenhouse Gas Emissions Report 2019* (2019)

156 VITM Base Case

157 Ding, D., Gebel, K., Phongsavan, P., Bauman, A. & Merom, D., *Driving: A Road to unhealthy Lifestyles and Poor Health Outcomes*, PLOS ONE, vol. 9, no. 6, (2014)

158 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 106

159 *Technical Advice Note: SRL Precinct Urban Heat Island Effect Study* (2020); Hurley, J., Saunders, A., Amati, M., Boruff, B., Both, A., Sun, C., Caccetta, P. and Duncan, J., *Melbourne Vegetation Cover 2018, Eastern Region* (2019), Department of Environment, Land, Water and Planning, https://www.planning.vic.gov.au/_data/assets/pdf_file/0019/440173/CompiledReportEastern2018_v2.1.pdf

160 Resilient Melbourne, *Living Melbourne* (2018), <https://resilientmelbourne.com.au/living-melbourne/>

161 Victorian Planning Authority, *Open Space* (2015)

162 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 116

Overall, slower and less consolidated growth in Melbourne's middle ring will mean that there will continue to be:

- Ongoing urban expansion
- Poor public transport access for more Melburnians and an increasing reliance on private vehicles
- Longer journeys across the city as more people live in the outer ring
- Increasing road congestion, making travel less reliable for people and business
- Unreliable freight services and disrupted supply chains
- A less resilient and less reliable radial rail network
- Under-use of existing assets in the middle ring and ever-increasing investment required in new infrastructure in the outer ring
- More emissions and pollutants from private vehicles, potentially affecting the ability of Victoria to reach net-zero emissions by 2050
- A transport network that lacks the required resilience to effectively service a modern, global city.

The COVID-19 pandemic has reinforced the importance of cool and green public open space across the city, with access to local open space during lockdowns and to allow for social distancing being highly valued by Melburnians. Surveys conducted during and after lockdowns (in Victoria and NSW) show that people spent more time in public spaces than they did before the COVID-19 public health restrictions, appreciate their local parks more and see local parks as being important places for families to be active during the pandemic.¹⁶³

In August 2020, the Victorian Parliament commenced an inquiry into the environmental infrastructure needed to support a growing population. The inquiry is expected to make recommendations designed to secure local parks and public open space in Melbourne's growth areas, some of which are likely to be relevant to SRL Precincts.¹⁶⁴

163 Infrastructure Victoria (September 2020), Submission to the Inquiry into Environmental Infrastructure for Growing Populations, Parliament of Victoria, Legislative Assembly Environment and Planning Committee

164 Parliament of Victoria (2020), Legislative Assembly Environment and Planning Committee, Inquiry into Environmental Infrastructure for Growing Populations, <https://www.parliament.vic.gov.au/epc-la/inquiry/968>

3.4 Problem 3: Inequitable access to jobs and services is entrenching disadvantage

3.4.1 Problem 3a: A lack of affordable and diverse housing creates economic disparity across Melbourne's communities

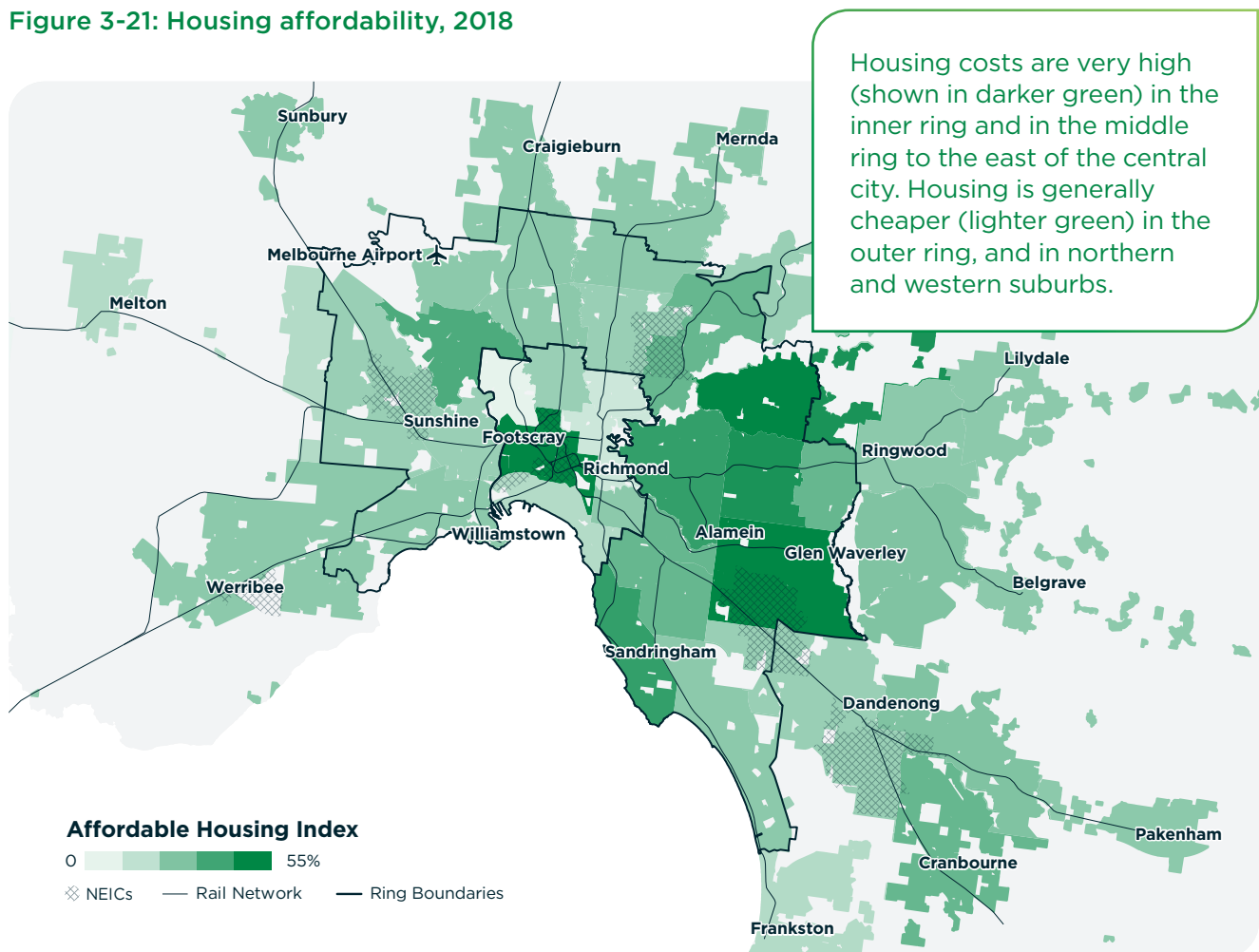
Melbourne's inner and middle rings are unaffordable for many Melburnians

Many of Melbourne's established suburbs in the inner and middle rings are unaffordable for moderate and low income households looking to buy or rent.¹⁶⁵ There is a distinct lack of affordable housing in these areas.¹⁶⁶

The COVID-19 pandemic has not led to a fall in property prices in Australia's capital cities – in fact, the opposite has occurred and all major cities have been experiencing a post-pandemic boom in house values. Melbourne dwelling values in the city grew by 2.3 percent from April 2020 to April 2021, despite experiencing extended COVID-19 lockdown periods.¹⁶⁷

Figure 3-21 maps housing affordability across Melbourne by determining the proportion of income that the bottom 40 per cent of households by income spend on housing costs. This confirms that housing is less affordable in the inner ring and parts of the middle ring, particularly to the east of the central city. Conversely, housing is much more affordable in the outer ring, as well as in some middle ring suburbs to the north and west of the central city.

Figure 3-21: Housing affordability, 2018



Source: ABS, MABM, KPMG

¹⁶⁵ Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 8

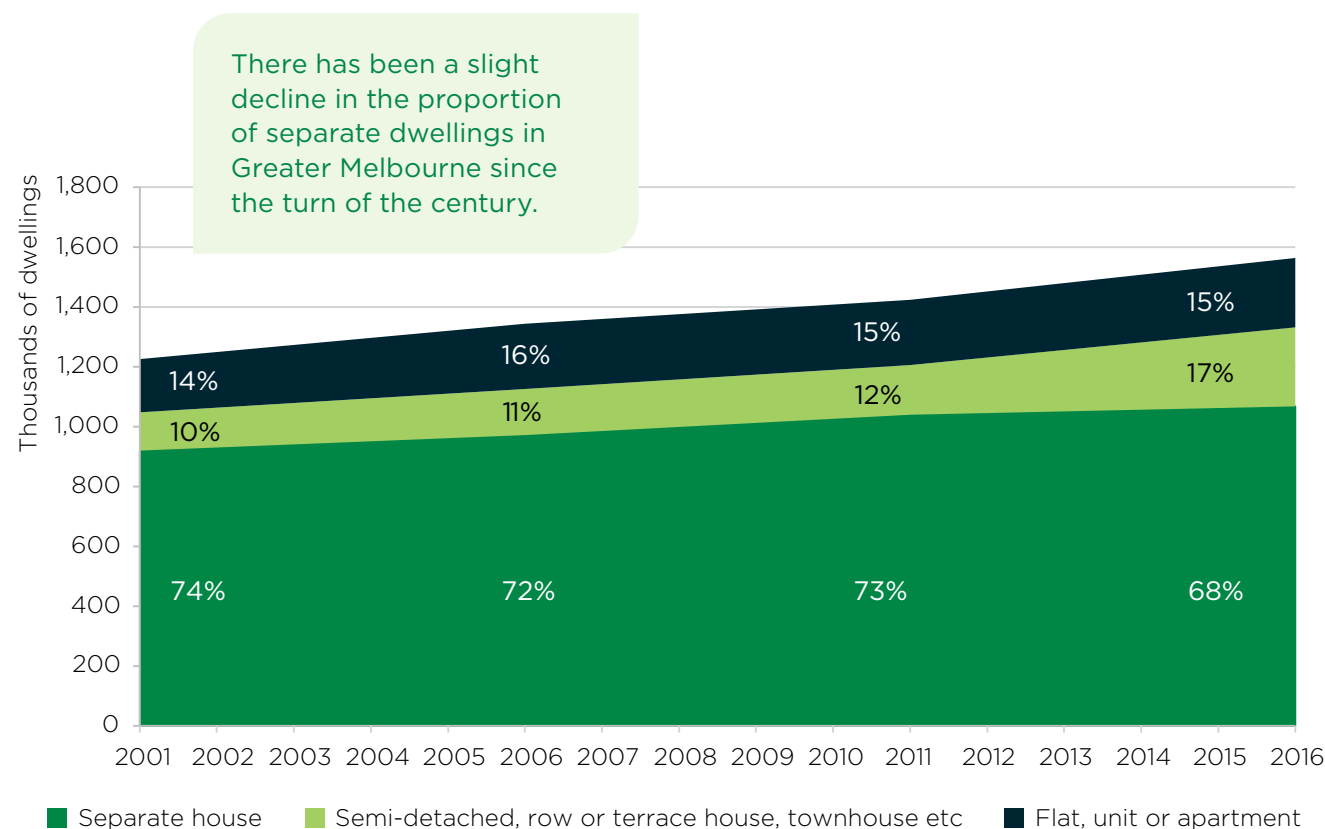
¹⁶⁶ *Homes for Victorians* defines affordable housing as 'housing that is appropriate for the needs of a range of very low to moderate income households, and priced (whether mortgage repayments or rent) so these households are able to meet their other essential basic living costs. Victorian Government, *Homes for Victorians: Affordability, access and choice* (2017), p. 7

¹⁶⁷ CoreLogic (May 2021), Monthly Housing Update, www.corelogic.com.au

Melbourne lacks diverse housing options that cater to different lifestyles and household types in the right locations

Melbourne's housing supply mainly comprises detached dwellings (see Figure 3-22 below). This reflects a historical preference in Australia for detached houses on large lots with space for a backyard.

Figure 3-22: Dwellings in Greater Melbourne by type, 2001-2016



Source: ABS. Note that ABS data contains approvals marked 'other dwellings'; these have not been graphically represented.

Research indicates that increasingly more people prefer to live in a townhouse, semi-detached dwelling or apartment in a middle ring suburb, rather than a detached dwelling on the urban fringe.¹⁶⁸

Despite changing market preferences, housing stock in Melbourne has only moved slightly closer to what people say they want over the last 30 years. Approvals for detached houses continue to substantially outpace approvals for other residential dwellings (i.e. medium or high density dwellings) (see Figure 3-23).¹⁶⁹

Population growth has continued to be higher in the inner ring of suburbs (where high-rise developments dominate the market for new housing supply) and in the outer ring (due to greenfield developments). The 'missing middle' of higher density development remains a feature of the city.¹⁷⁰

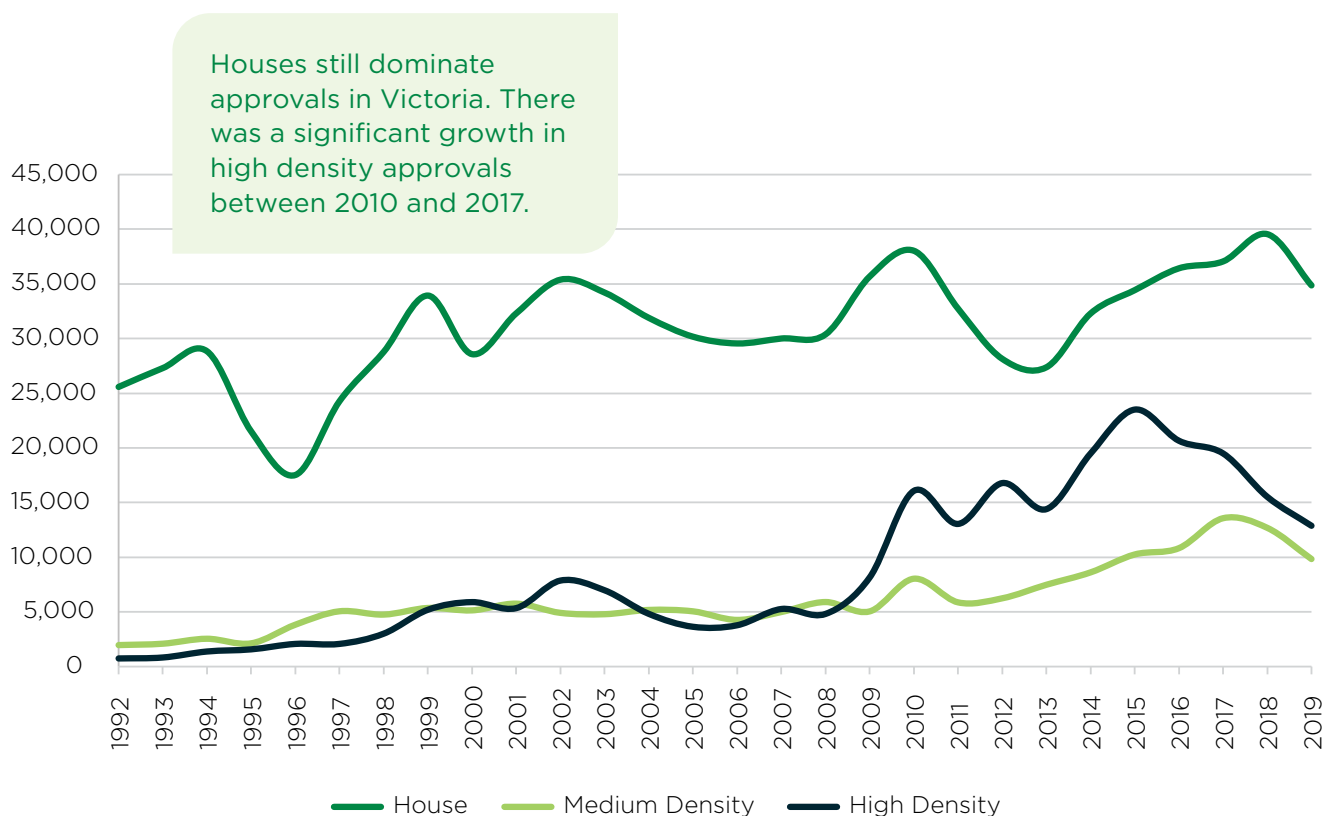
At this stage, the impact of the COVID-19 pandemic on housing preferences is unclear, but the lack of diversity in housing options has been exacerbated by the impacts of COVID-19 and working from home. Ensuring that there is more diversity in affordable housing stock will continue to be a significant issue in the post-COVID world.

168 Grattan Institute, *Housing Affordability – Reimagining the Australian Dream* (2018), p. 53, <https://grattan.edu.au/wp-content/uploads/2018/03/901-Housing-affordability.pdf>

169 ABS, *Building Approval Highlights* (2019), <https://absstats.maps.arcgis.com/apps/MapJournal/index.html?appid=21eeb8e61634423887a7db30f8e56a73#>

170 Grattan Institute, *Housing Affordability – Reimagining the Australian Dream* (2018), p. 53, <https://grattan.edu.au/wp-content/uploads/2018/03/901-Housing-affordability.pdf>

Figure 3-23: Historical housing approvals in Victoria, 1992-2019



Source: ABS – Residential dwellings in Victoria

The lack of housing diversity is exacerbating Melbourne's high housing costs, giving people even less choice about where and how they live. For example, older people may wish to downsize within their current suburb so they can 'age in place'.¹⁷¹ However, this may not be possible if there is a lack of housing diversity in their suburb.

New housing and mixed-use development in Melbourne's established suburbs will create more diversity in the housing market and provide more opportunities for affordable housing.¹⁷² Presently, many medium-to-high density dwellings and mixed-use developments are geared towards couples and young professionals. New housing – including medium-to-high density dwellings – must cater to different lifestyle and household types. More housing choice in locations with good access to jobs and services (including transport) is needed to ensure Melbourne remains liveable and sustainable.¹⁷³

“Too many Victorians don't have a real choice about where they live, or the type of home they live in.”

Homes for Victorians: Affordability, access and choice, (2017).

171 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 58

172 Victorian Government, *Plan Melbourne 2017-2050* (2017), p. 50

173 Victorian Government, *Homes for Victorians: Affordability, access and choice*, (2017), p. 20

There is a trade-off between cheaper housing and higher transport costs

Housing costs are generally the major component of total household expenditure. Transport is the third largest component, after housing and food. The Affordable Living Index (ALI) is a composite index that combines housing affordability and transport affordability into a single score for a given area.¹⁷⁴ This score then determines where living is more or less affordable.

Affordable Living Index (ALI)

The Affordable Living Index (ALI) is a tool to measure how living affordability differs for households from lower socio-economic background in different areas of a city. It considers both housing costs and transport costs to provide a holistic view of the cost of living across a city. The ALI combines the typical annual housing and transport costs for a low income household in a given area, to generate a score. For the purpose of the ALI, low income households are defined as households in the bottom 40 per cent of equivalised household income for Melbourne. The ALI has two sub-indices: the Affordable Housing Index and the Affordable Transport Index.

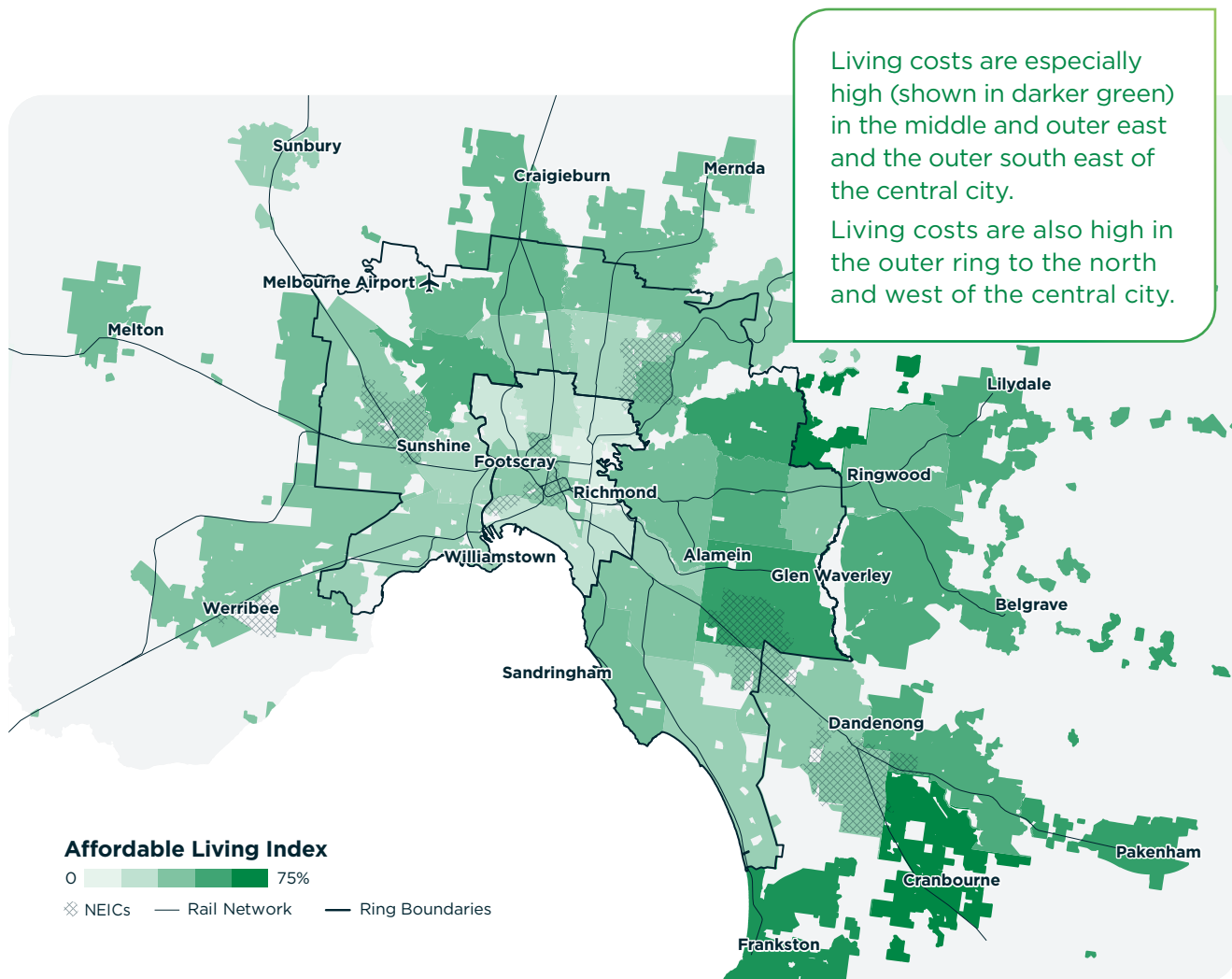
As illustrated in [Figure 3-24](#), it is less affordable to live in Melbourne's middle and outer rings, particularly to the east and south east of the CBD. Even though housing is more affordable in the outer rings, transport costs are very high, primarily due to higher 'forced' car dependency.

The analysis shows that Melbourne's middle and outer rings will become less affordable in the coming decades after housing and transport costs are taken into account.¹⁷⁵

¹⁷⁴ For the purpose of this analysis, area means SA3.

¹⁷⁵ KPMG's Affordable Living Index. The Affordable Living Index uses outputs from MABM, which are combined with housing cost data derived from ABS' 2016 Census.

Figure 3-24: Affordable Living Index, 2018



Source: KPMG analysis based on ABS and MABM

Forced car ownership is contributing to financial stress

Forced car ownership describes instances where low income households have high car ownership, resulting in a high proportion of their income being directed towards their private vehicles.¹⁷⁶ Forced car ownership contributes to financial hardship – people are forced to buy and maintain vehicles they cannot afford. Recent research indicates that this is a growing trend – the number of households on Melbourne’s urban fringe experiencing forced car ownership grew by 36 per cent between 2011 and 2016.¹⁷⁷ Other research confirms that these same households are often spending a high proportion of their income on mortgage repayments.¹⁷⁸

There is a correlation between poor living affordability, forced car ownership and relative socio-economic disadvantage. Relatively disadvantaged households are concentrated in Melbourne’s middle and outer rings, and especially in growth areas on urban fringes to the north, west and south east of the CBD (see [Figure 3-25](#), which maps Melbourne’s socio-economic profile¹⁷⁹). This correlation is serving to entrench disadvantage.

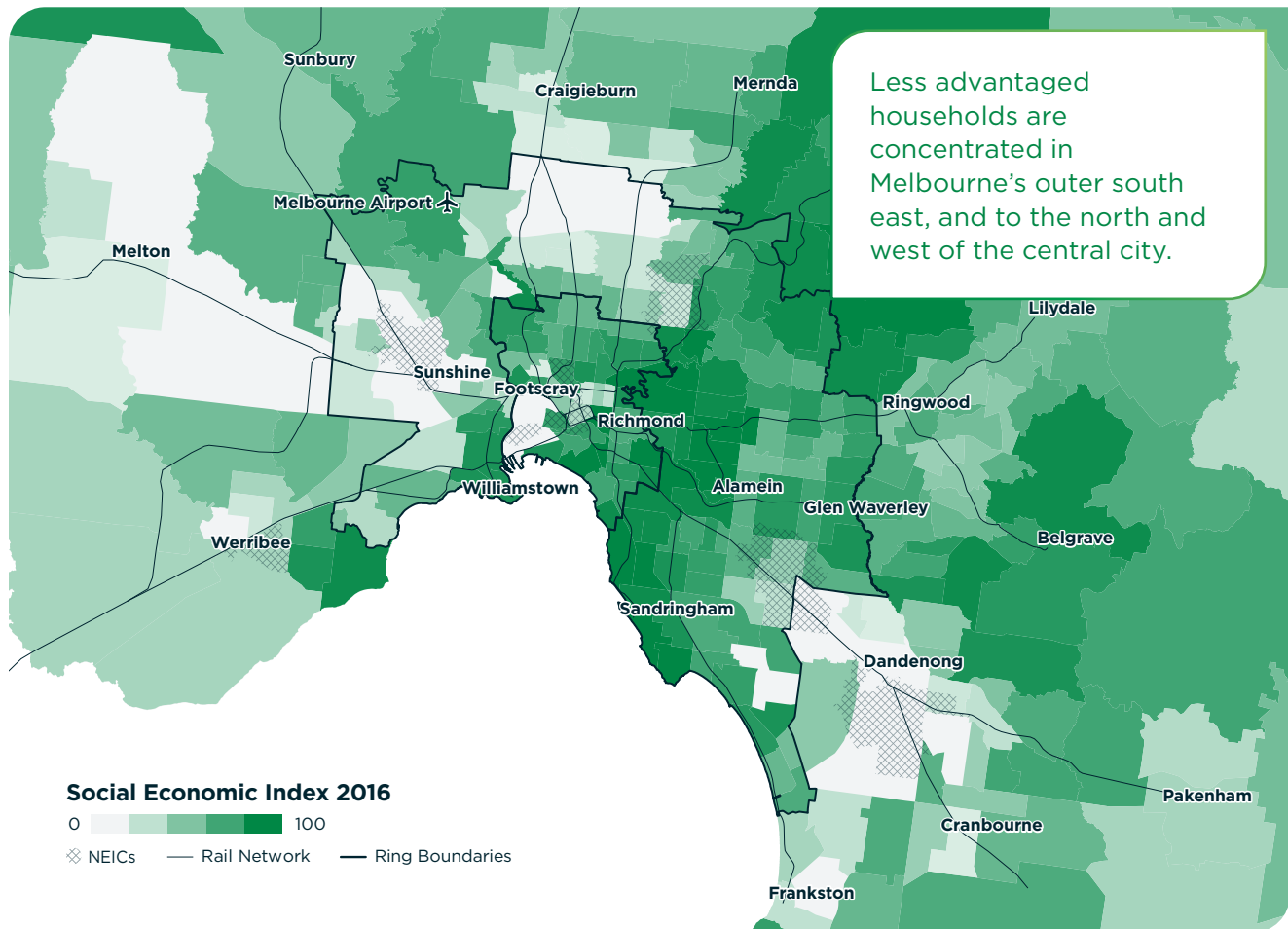
¹⁷⁶ Currie, G., Delbosc, A. & Pavkova, K., *Alarming Trends in the Growth of Forced Car Ownership in Melbourne* (2018), Australasian Transport Research Forum, p. 1

¹⁷⁷ Currie, G., Delbosc, A. & Pavkova, K., *Alarming Trends in the Growth of Forced Car Ownership in Melbourne* (2018), Australasian Transport Research Forum

¹⁷⁸ Department of Parliamentary Services, *Housing affordability in Victoria* (2017)

¹⁷⁹ For the purpose of this analysis, area means SA2.

Figure 3-25: Socio-economic Indexes for Areas – Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) by SA2, 2016



Source: ABS 2016 – Socio-Economic Indexes for Areas (SEIFA)

Without substantial change:

- People will have less choice about where they live and the type of home they live in
- Financial hardship will increase as Melbourne will become less affordable, but especially for people living in the outer ring and parts of the middle ring and for the most vulnerable, low income households
- Economic disparity across different parts of Melbourne will become more pronounced.

3.4.2 Problem 3b: Population growth in Melbourne's suburbs with poorer access to jobs and services impacts social inclusion and community wellbeing

People are living further away from employment opportunities

People are living further away from employment opportunities. Melbourne's outer ring has experienced significant population growth but has not experienced a commensurate increase in employment opportunities (see [Figure 3-26](#)). People living in Melbourne's outer ring are also generally further away from key employment centres, including the central city and NEICs in the middle and outer rings.

Figure 3-26: Change in employment less change in population, by distance from CBD, 2011-2016



Source: ABS

Key workers, such as teachers, nurses, ambulance officers, paramedics, fire and emergency workers are especially affected – on average, key workers are more likely to live further from their place of work than the general population.¹⁸⁰ Key workers are increasingly unable to afford to buy a house near their place of employment – this is particularly important if the worker needs to be ‘on call’ and have quick access to work.¹⁸¹

For instance, within the Clayton SRL precinct, key workers including nurses, paramedics and other hospital staff, including kitchen and cleaning staff at the Monash Medical Centre will benefit through having a greater availability of housing closer to work, and more diversity of affordable housing options in the area.

Access to employment opportunities contributes to a person’s employment status.¹⁸² Research indicates that when unskilled or low-skilled workers live close to employment centres, unemployment rates may decrease and productivity will increase.¹⁸³ As discussed, households in Melbourne’s outer ring are generally relatively disadvantaged – poor access to employment opportunities is entrenching this disadvantage, exacerbating economic disparity across the city.

Many people are settling for closer but less productive jobs

Melbourne’s urban form and patterns of population growth are also affecting the types of employment opportunities people can access. A number of Melburnians are engaged in ‘less productive work’, meaning their job is not commensurate to their level of qualification.¹⁸⁴ There is a concentration of people in less productive work in Melbourne’s outer ring (see [Figure 3-27](#)).

¹⁸⁰ Genworth and Teachers Mutual Bank Limited, *The Deposit Gap Dilemma: the impact on key workers* (2019), p. 17

¹⁸¹ Genworth and Teachers Mutual Bank Limited, *The Deposit Gap Dilemma: the impact on key workers* (2019), p. 16

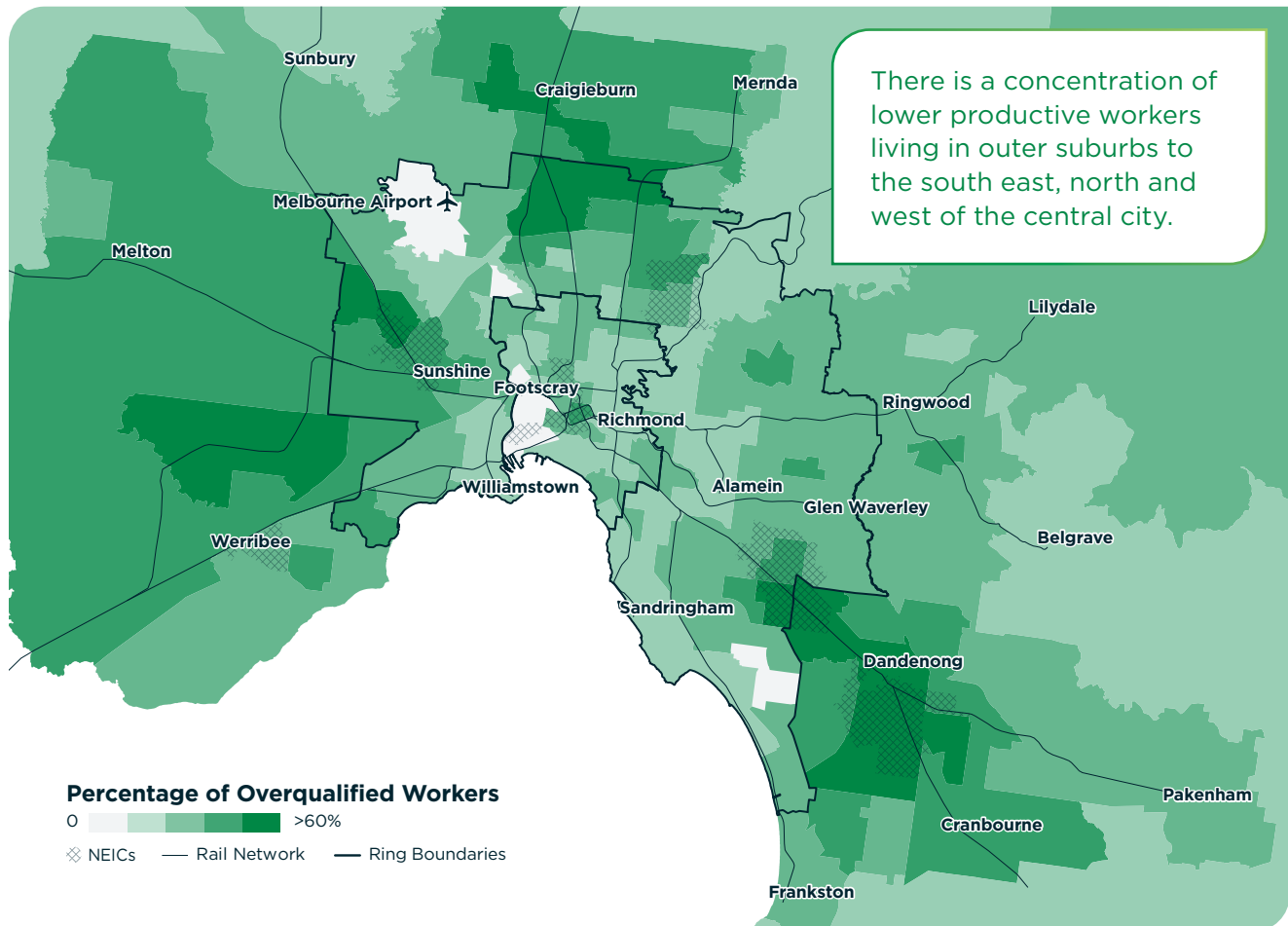
¹⁸² SGS Economics & Planning, prepared for Infrastructure Victoria, *Melbourne Functional Economic Regional Report* (2019), p. 29

¹⁸³ RMIT University, *Identifying and valuing the economic benefits of 20-minute neighbourhoods: Higher density mixed use and walkability dimensions* (2019), p. 11, https://www.planning.vic.gov.au/_data/assets/pdf_file/0018/450135/Economic-benefits-of-20-minute-neighbourhoods.pdf

¹⁸⁴ For the purposes of this analysis, an employee is considered to be in a less productive job if that person has a bachelor degree or higher qualification, but is working in an occupation that has a Skill Level below 1 (as defined by the Australian and New Zealand Standard Classification of Occupations (ANZSCO)). A Skill Level below 1 means the occupation does not have a skill commensurate with a bachelor degree or higher qualification, as per Australian Bureau of Statistics, 1220.0 - ANZSCO - Australian and New Zealand Standard Classification of Occupations, First Edition, Revision 1. Methodology as per SGS Economics & Planning analysis prepared on behalf of Infrastructure Victoria, *Melbourne Functional Economic Region Report* (2019), p. 55

The move to less productive work is often related to job accessibility – most workers have a ‘travel budget’ of up to 60 minutes and will search for jobs within this budget.¹⁸⁵ When an employee has limited job accessibility, they are more likely to settle for the ‘second best job’ – that is, a job that may not be the best match to their skills or qualifications.¹⁸⁶ This can be particularly problematic where people have multiple jobs and cannot afford long commutes. Many high value, knowledge-based jobs are in the central city or NEICs in the inner and middle ring – places that are not always easily accessed from Melbourne’s outer ring.

Figure 3-27: Proportion of employees in less productive work by place of usual residence, 2016



Source: ABS – Census 2016

Some of the outcomes of less productive work include:

- Unfulfilled potential for the individual
- Income disparity and disadvantage
- Suppressed productivity for Victoria.¹⁸⁷

The occurrence of less productive work is more common for women than men living in Melbourne’s outer ring.¹⁸⁸ This could be influenced by more women needing to work closer to home to manage their households or caring commitments, leading them to settle for jobs that are not commensurate to their qualification or skill level.¹⁸⁹

¹⁸⁵ Infrastructure Australia, *Future Cities: Planning for our growing population*, p. 43

¹⁸⁶ KPMG, *Measuring WEBS in Australian Cities* (2017), p. 10

¹⁸⁷ Pawson, H., Hulse, K. & Cheshire, L., *Addressing concentrations of disadvantage in urban Australia* (2015), p. 45

¹⁸⁸ ABS – Census 2016

¹⁸⁹ Pawson, H., Hulse, K., & Cheshire, L., *Addressing concentrations of disadvantage in urban Australia* (2015), p. 45

More broadly, this phenomenon may be aggravating the gender pay gap – in 2020, Australia was ranked 49th in the world for women’s economic participation and opportunity.¹⁹⁰

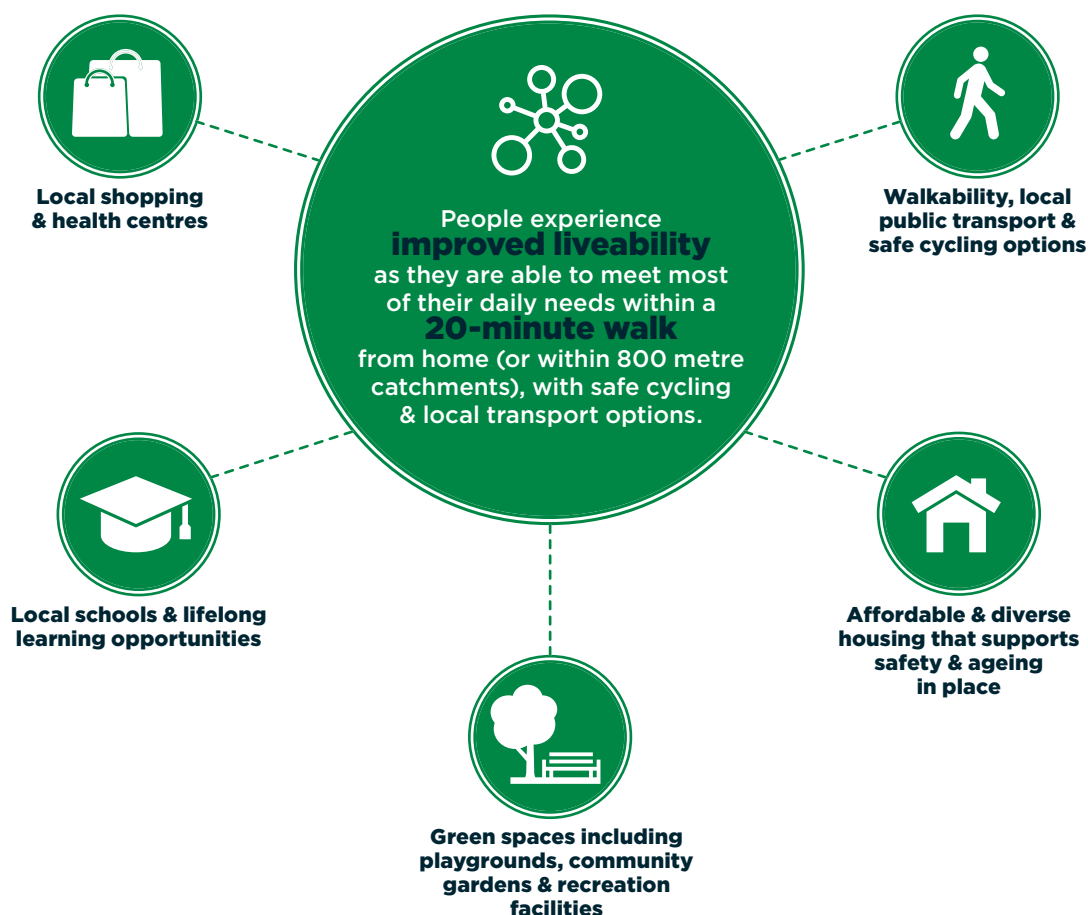
Access to employment is also a challenge for young people, with those who live in regional and outer suburb areas more likely to experience less access to work and education opportunities compared to those living in major cities.¹⁹¹

Access to services depends on where a person lives in Melbourne

There is inequitable access to services and amenities across Melbourne. Melbourne’s established suburbs in the inner and middle rings have good levels of existing population-serving infrastructure and services but, as discussed earlier, there are limited affordable housing options.¹⁹² In contrast, Melbourne’s outer ring has more affordable housing, but often lacks existing population-serving infrastructure.¹⁹³ Limited access to population-serving infrastructure and services requires increased travel, contributing to lower living affordability, as discussed above. Access to services and amenities is also a critical factor underpinning social equity and overall liveability.¹⁹⁴

In recognition of this, *Plan Melbourne* envisages Melbourne as a city of 20-minute neighbourhoods that support people to ‘live locally’. A 20-minute neighbourhood allows people to access most of their daily needs (excluding work and higher order services) within a 20-minute walk, cycle or public transport journey (see Figure 3-28).

Figure 3-28: Features of a 20-minute neighbourhood



¹⁹⁰ World Economic Forum, *Global Gender Gap Report 2020* (2019), http://www3.weforum.org/docs/WEF_GGGR_2020.pdf

¹⁹¹ Brotherhood of St Laurence, *Smashing the Avocado Debate: Australia’s Youth Unemployment Hotspots* (2019).

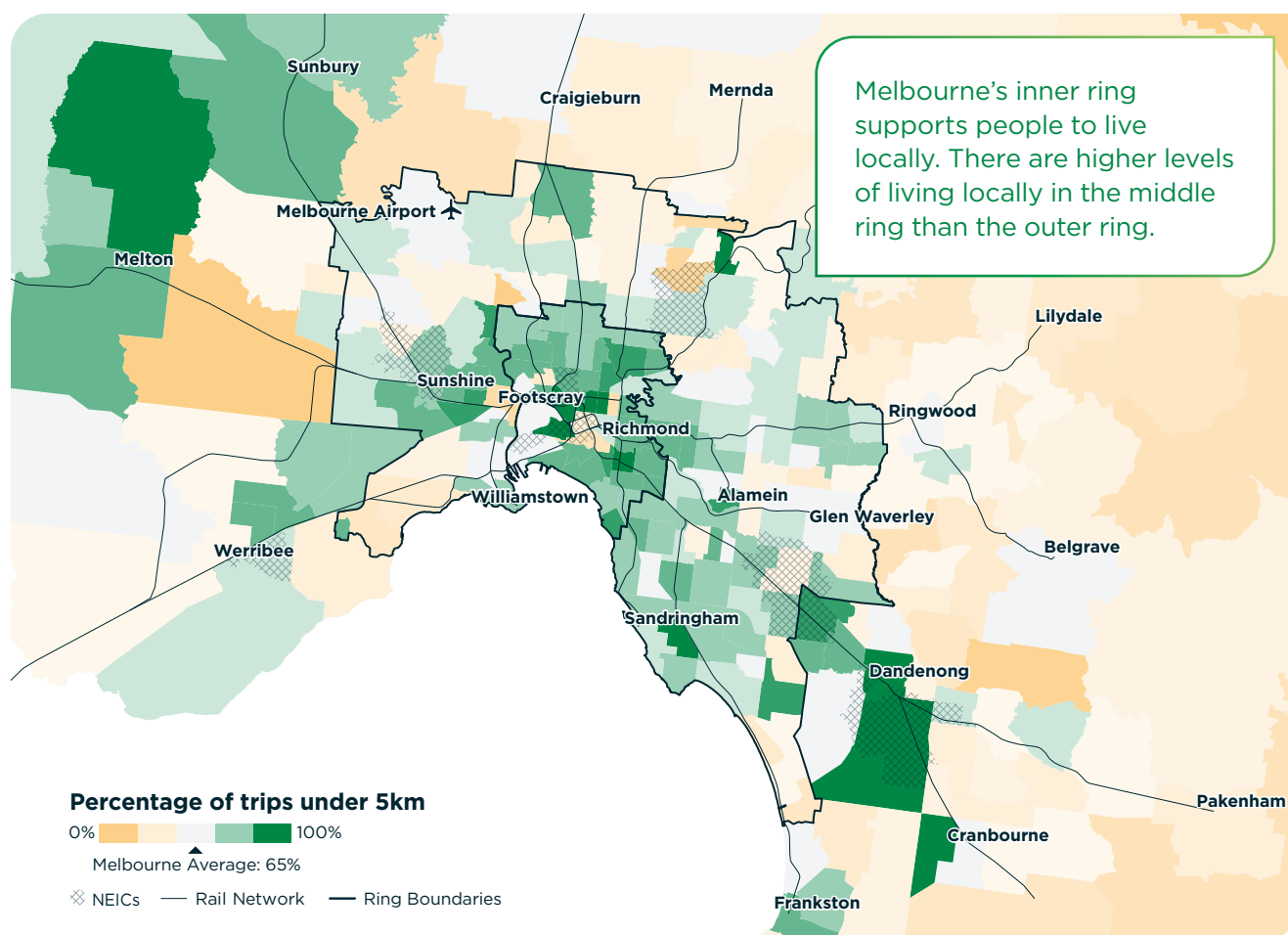
¹⁹² Victorian Government, *20-minute Neighbourhood, Creating a More Liveable Melbourne* (2019), p. 15

¹⁹³ Victorian Government, *20-minute Neighbourhood, Creating a More Liveable Melbourne* (2019), p. 15

¹⁹⁴ Victorian Government, *20-minute Neighbourhood, Creating a More Liveable Melbourne* (2019), p. 15

Figure 3-29 documents the proportion of trips undertaken (regardless of mode) that are less than five kilometres. This analysis confirms that there are greater levels of ‘living locally’ in Melbourne’s established inner and some middle ring suburbs.

Figure 3-29: Proportion of trips undertaken that are under 5km, by SA2, 2018



Source: VISTA 2018¹⁹⁵

People living in the outer ring of Melbourne are required to travel longer distances to access their daily needs and consequently forgo a range of benefits associated with a 20-minute neighbourhood. Some of the benefits of a 20-minute neighbourhood include:

- Improved health and wellbeing
- A sense of community connection and cohesion
- Reduced transport costs
- Less polluted environments.¹⁹⁶

Ongoing inequitable access to jobs, services and amenities affects overall community inclusion, connection and wellbeing, serving to entrench disadvantage.

¹⁹⁵ For the purposes of this analysis, the following trips were excluded: trips originating from home to destinations not including workplaces, tertiary education and airports.

¹⁹⁶ Victorian Government, *20-minute Neighbourhood, Creating a More Liveable Melbourne* (2019), p. 11

The cost of inequitable social inclusion and community wellbeing

Access to services can affect outcomes for communities. Inequitable access to services across Melbourne risks creating a ‘two speed’ city, where areas with good access have better outcomes than areas with poorer access.¹⁹⁷ For example, services such as community gardens, cafes, sports clubs and libraries have been slow to establish in the outer ring. These services and amenities are essential to helping people feel part of their community and supporting the overall social health of residents.¹⁹⁸ Communities with less access may have lower sense of community and experience more social isolation.

Access to services and amenities also supports an inclusive community. For example, access to public transport is very important for older Australians who are unable to drive, as it allows them to participate in society and contribute to the economy.¹⁹⁹ As Melbourne’s population ages, good access to public transport, as well as safe walking paths, will be critical for ensuring that older residents remain healthy, mobile and independent, and can fully participate in society.²⁰⁰ Older people living in different parts of Melbourne will have differing levels of access, and potentially different long-term quality of life outcomes.

Population-serving infrastructure such as walking and cycling paths and developed green open spaces are also important for generating a sense of community and place, and for providing opportunities for social interaction and cohesion.²⁰¹

Importantly, these community assets can also encourage people to engage in physical activity. Physical inactivity is the fourth leading cause of death due to non-communicable diseases worldwide (behind heart disease, stroke, diabetes and cancer), causing over three million preventable deaths annually.²⁰² As Melbourne’s population grows, access to existing public spaces is likely to come under pressure.²⁰³

Long commutes also affect community health and wellbeing. One study calculated that every additional hour a day spent in a car translated to a 6 per cent increase in obesity risk, while every additional kilometre walked translated into a 4.8 per cent reduction in the likelihood of being obese.²⁰⁴ In addition, people who spend more time driving are more likely to report having insufficient sleep and poor mental health.²⁰⁵ These types of stresses and health outcomes are likely to disproportionately affect people living in Melbourne’s outer ring and, in some cases, middle ring.



Regularly battling peak hour traffic and travelling long distances to work leads to poorer mental health, stress and an increase in road rage incidents.

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Deakin University

197 Victorian Government, *20-minute Neighbourhoods: Creating a More Liveable Melbourne* (2019), p. 15, https://www.planmelbourne.vic.gov.au/_data/assets/pdf_file/0018/515241/Creating-a-more-liveable-Melbourne.pdf.

198 Dolley, J. & Bosman, C., *Rethinking Third Places: Informal Public Spaces and Community Building* (2019)

199 RACV, *Mobility Beyond Driving* (2016), p. 1, <https://www.racv.com.au/content/dam/racv/images/public-policy/reports/Mobility%20Beyond%20Driving%20final%20report.pdf>

200 Victoria Walks and the Council on Ageing Victoria, *Senior Victorians and Walking: Obstacles and Opportunities: Final Report* (November 2013), p. 138, <https://www.victoriawalks.org.au/Assets/Files/FINALSeniorsFullReport.pdf>

201 Victorian Government, *20-minute Neighbourhoods: Creating a More Liveable Melbourne* (2019), p. 10, https://www.planmelbourne.vic.gov.au/_data/assets/pdf_file/0018/515241/Creating-a-more-liveable-Melbourne.pdf

202 World Health Organization, *Global Health Risks: mortality and burden of disease attributable to selected major risk* (2009)

203 Infrastructure Victoria, *Victoria's 30-year Infrastructure Strategy* (December 2016), p. 86

204 Frank, L., Andresen, M. & Schmid, L., *Obesity Relationships With Community Design, Physical Activity, and Time Spent in Cars*, *American Journal of Preventative Medicine* (2004), vol. 27, no. 2, pp. 87-96, <https://www.ncbi.nlm.nih.gov/pubmed/15261894>

205 Ding, D., Gebel, K., Phongsavan, P., Bauman, A. & Merom, D., *Driving: A Road to Unhealthy Lifestyles and Poor Health Outcomes* (2014), *PLoS One*, vol. 9, no. 6, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4049576/>

Melbourne's current and projected urban settlement patterns will mean that:

- More people will live further away from key employment centres and high value, knowledge-based jobs
- The move to less productive work will suppress Victoria's productivity
- Melburnians will continue to forgo the benefits of living in a 20-minute neighbourhood
- There will be inequitable access to services and amenities, potentially leading to different outcomes for different communities
- As more people live in suburbs with poor access to services and amenities, more communities will have poor social inclusion and more people will experience worse health and wellbeing.

3.5 Melbourne's challenges will worsen over time

This chapter has examined the critical challenges facing Melbourne as a monocentric city. The problems described in the chapter stem largely from the fact that, while Melbourne's central city will continue to serve Victoria well into the future, it was not designed as the sole centre for a city of nine million people. Many of the stresses of rapid population growth are starting to show and are expected to worsen over time without intervention.

If economic activity continues to be concentrated in the CBD, the economic potential of Melbourne's suburbs will be constrained:

- The very factors that make the central city so attractive for businesses will come under more pressure, including crowding on public transport and demand for floorspace
- Emerging growth areas outside of the central city will miss out on agglomeration benefits and access to larger potential workforce pools.

Melbourne's monocentric form will continue to place pressure on the city's transport network and limit access to suburban jobs and amenities:

- People in the outer ring will continue to experience poor public transport accessibility and the demand for orbital travel around Melbourne will remain unmet, leading to an increased reliance on private vehicles
- Increased crowding on public transport and increased road congestion will cause unreliable journeys. Melbourne will become less attractive and businesses may prefer to locate in Australia's other major cities.

Growing demand for new services and infrastructure in the outer suburbs due to population settlement means that existing services and infrastructure in Melbourne's middle suburbs will not be effectively and efficiently leveraged:

- 50 per cent of Melbourne's population is projected to live in the outer ring by 2056. Much of the population growth here will be accommodated in greenfield developments, increasing infrastructure costs
- Meanwhile, only 36 per cent of Melbourne's population will be living in the middle ring by 2056. Existing infrastructure in these areas will continue to be poorly leveraged.

Slower and less consolidated growth in Melbourne's middle ring will have significant impacts to Melbourne's connectivity and resilience:

- Poor public transport access and more reliance on private vehicles will contribute to longer journey times across the city and more emissions and pollutants affecting the environment
- Melbourne's transport network will continue to lack the resilience required for a modern, global city.

A lack of affordable and diverse housing will continue to create economic disparity across Melbourne's communities:

- Melbourne will become less affordable, but especially for people living in the outer ring and parts of the middle ring. People will have less choice about where they live and the type of home they live in
- More people will have poor access to key employment centres, affecting their ability to find work or work that matches their skills and qualifications.

Continued population growth in Melbourne's suburbs with poorer access to jobs and services will impact equality and wellbeing:

- More people will live further away from key employment areas and high value, knowledge-based jobs, and will live in suburbs with poor access to services and amenities
- Inequitable access to services and amenities may lead to different outcomes for different communities across Melbourne.

Melbourne is at a critical point in its growth as a global city. Melburnians are at risk of feeling the increasingly negative effects of urban expansion, unreliable travel and reduced economic growth – all leading to a deterioration in quality of life. Melbourne's size, stature and economic contribution means that these effects will have broader, flow-on implications for the rest of Victoria and Australia.

3.6 Identifying and measuring benefits

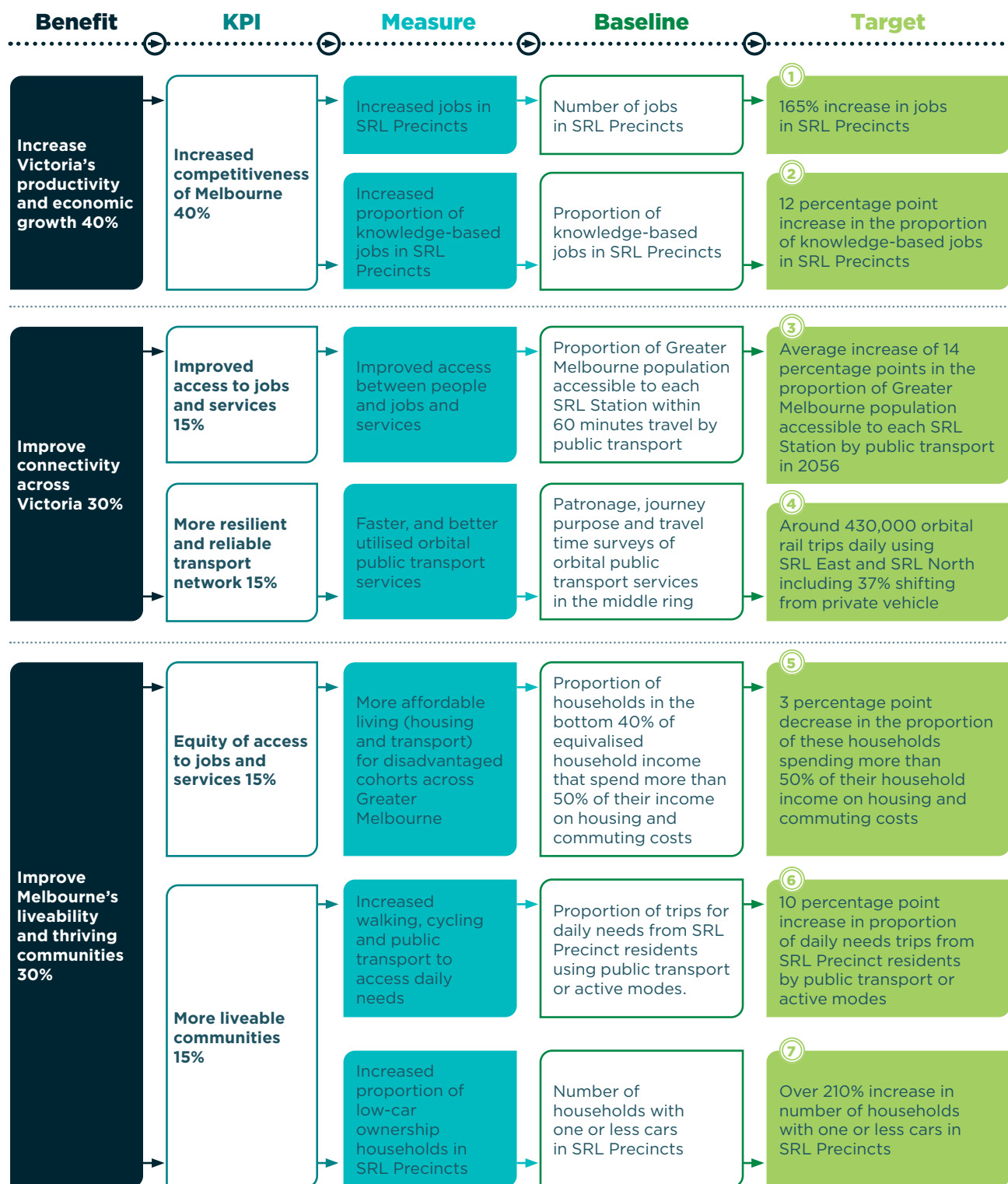
3.6.1 Benefits management

The benefits management process identifies, tracks and measures benefits to ensure that a project's potential and anticipated benefits are delivered. An effective benefits management process is critical to achieving the outcomes sought from investments.

The BMP (see [Figure 3-30](#)) was developed together with the ILM (presented as [Figure 3-1](#) in section 3.1). It identifies the key benefits that the SRL Program will deliver to effectively address the problems identified in this chapter (noting that these are key benefits only and are not intended to be exhaustive).

The anticipated benefits of SRL East and SRL North are described in section [3.6.2](#).

Figure 3-30: Benefits Management Plan



As well as specifying the key benefits that SRL will deliver, the BMP sets out an overall approach to managing the benefits and the Key Performance Indicators (KPIs), measures and targets which will be used to assess whether the anticipated benefits were delivered.

SRLA and DoT are working together to enhance the SRL BMP to enable the tracking of progress towards complete achievement of the benefits identified in the Business and Investment Case.

Many of the benefits will rely on the implementation of various policy and precinct initiatives by SRLA and other government authorities. SRLA and DoT recognise that establishing appropriate governance and oversight of these policy and precinct initiatives will be critical to ensuring that benefits are achieved.

3.6.2 Key benefits of SRL

The key benefits expected to be delivered as a result of SRL East and SRL North are:

- Increase Victoria's productivity and economic growth: Improved accessibility will mean better connections between businesses and their workforces, enabling better matching of skills to jobs. Reduced road congestion and improved travel time on the public transport network will save time for commuters and improve overall productivity and economic outcomes for Victoria
- Improve connectivity across Victoria: New or enhanced direct rail connections to and between key locations, such as Melbourne's growth centres and NEICs and MACs in the middle corridor, will provide Victorians with better access to economic opportunities and leading education and health institutions. Regional Victorians using regional rail services will have better accessibility to Greater Melbourne. Improved connectivity will mean reduced crowding on the rail network and reduced congestion on the road network, saving people time and improving the quality of their journeys
- Improve Melbourne's liveability and thriving communities: Precincts with distinctive, high quality design and good access to services and amenities will support people to live locally, attracting population and employment. Improved living affordability, housing diversity and better access to high value, knowledge-based jobs will lead to reduced locational disadvantage. Supporting people to live and work locally will create healthy, connected and vibrant communities in Victoria.

These benefits will be measured using the KPIs presented in [Figure 3-30](#). [Table 3-1](#) summarises how these KPIs will be measured. Specific outcomes of SRL East and SRL North are outlined in detail in Part C: SRL East and SRL North Outcomes.

Table 3-1: KPIs, measures and sources

KPI	Existing baseline measures	Target Measures	Target date	Department responsible	Data source from
KPI 1: Increased competitiveness of Melbourne					
Increased jobs in SRL Precincts	Number of jobs in SRL Precincts ²⁰⁶ in base year 2021	165 per cent increase in number of jobs in SRL Precincts by 2056 (which is nearly twice the growth projected under the Base Case).	2056	DoT	ABS Census data
Increased proportion of knowledge-based jobs in SRL Precincts	<p>Proportion of knowledge-based jobs in SRL Precincts in base year 2021. Knowledge-based jobs defined as jobs in ANZIC industry classifications of :</p> <ul style="list-style-type: none"> — Information media and telecommunications — Financial and insurance services — Rental, hiring and real-estate services — Professional, scientific and technical services — Administrative and support services — Public administration and safety — Education and training — Health care and social assistance 	12 percentage point increase in the total proportion of knowledge-based jobs in SRL Precincts between 2021 and 2056 (which is 2 percentage points greater than the projected baseline proportion in 2056).	2056	DoT	ABS Census data

206 SRL Precincts are measured as non-overlapping 1600 m radius from SRL Stations

KPI	Existing baseline measures	Target Measures	Target date	Department responsible	Data source from
KPI 2: Improved access to jobs and services					
Improved access between people and jobs and services	<p>Proportion (per cent) of Greater Melbourne population accessible to each SRL Station within 60 minutes travel by public transport in base year 2021:</p> <p>Cheltenham Clayton Monash Glen Waverley Burwood Box Hill Doncaster Heidelberg Bundoora Reservoir Fawkner Broadmeadows Melbourne Airport</p>	<p>Percentage point increase in proportion of Greater Melbourne population accessible to each SRL Station by public transport in 2056:</p> <p>Cheltenham 5 points Clayton 8 points Monash 4 points Glen Waverley 14 points Burwood 19 points Box Hill 14 points Doncaster 17 points Heidelberg 16 points Bundoora 14 points Reservoir 15 points Fawkner 23 points Broadmeadows 13 points Melbourne Airport 22 points</p> <p>Representing an average increase of 14 percentage points across 13 SRL Stations. It is noted that without intervention this figure would decline by an average of 2 percentage points across the Stations.</p>	2056	DoT	ABS Census data, Travel time surveys, Google maps, Here maps
KPI 3: More resilient and reliable transport network					
Faster, and better utilised orbital public transport services	Daily patronage, trip purpose and average travel time of passengers using orbital public transport services in Melbourne's middle ring in base year 2021	Around 430,000 orbital rail trips daily using SRL East and SRL North in 2056, including 30 per cent shifting from other public transport modes, 37 per cent shifting from private vehicle modes and 33 per cent from other modes and new trips.	2056	DoT	Targeted SRL (or orbital services) Travel Surveys / VISTA

KPI	Existing baseline measures	Target Measures	Target date	Department responsible	Data source from
KPI 4: Equity of access to housing, jobs and services					
More affordable living (housing and transport) for disadvantaged cohorts across Greater Melbourne	Proportion of households in the bottom 40 per cent of equivalised household income that spend more than 50 per cent of their household income on housing and commuting costs in base year 2021	3 percentage point decrease in the proportion of households in the bottom 40 per cent of equivalised household income that spend more than 50 per cent of their household income on housing and commuting costs in 2056 (which is around 1 percentage point higher than the projected baseline proportion change by 2056)	2056	DoT	Estimated using ABS Census (proportion of expenditure of income from Census)
KPI 5: More liveable communities					
Increased walking, cycling and public transport to access daily needs	Proportion of trips for daily needs from SRL Precinct residents using public transport or active modes in base year 2021 (Daily needs exclude higher order trips to employment and tertiary education)	10 percentage point increase in the proportion of daily needs trips from SRL Precinct residents by public transport or active modes by 2056 (which is greater than the projected baseline proportion of 5 percentage point increase by 2056).	2056	DoT	Targeted travel surveys / VISTA
Increased proportion of low-car ownership households in SRL Precincts	Number of households with one or less cars in SRL Precincts in base year 2021	Over 240 per cent increase in the number of one or less car households in SRL East Precincts by 2056 (which is around 80 percentage points higher than the growth in households). Over 210 per cent increase in the number of one or less car households across all SRL Precincts by 2056, (which is around 60 percentage points higher than the growth in households).	2056	DoT	ABS Census



**SUBURBAN
RAIL LOOP**

Part B: SRL East and SRL North – Scope Options and Recommended Solution

4 SRL East and SRL North – development process

Chapter summary

- This chapter outlines the process for developing the baseline SRL route alignment (as per the *Strategic Assessment*) and for determining the recommended scope of SRL East and SRL North, including determination of the SRL Precincts.
- The decisions involved in the program development process are summarised below:

Assessed within Strategic Assessment (2018)

- **Decision 1: Policy objectives** – *Plan Melbourne* is the overarching policy guide for the SRL Program, which informs the SRL Objectives (Productivity, Connectivity and Liveability).
- **Decision 2: Strategic options** – Preferred option is an integrated transport and planning / land use solution in the form of a new orbital rail network combined with planning and land use initiatives that connects and activates key precincts and economic clusters.
- **Decision 3: Corridor options** – The middle corridor of Greater Melbourne was selected as the preferred corridor option, as this corridor facilitates connection to key Places of State Significance as identified in *Plan Melbourne*. These Places of State Significance align with the concept of creating a polycentric city structure.

Assessed within SRL East and SRL North Business and Investment Case (Chapter 4 and Appendix B.1)

- **Decision 4: Anchor precincts** – Places of State Significance with the strongest alignment to the SRL Objectives were selected as anchor precincts – including National Employment and Innovation Clusters (NEICs), Metropolitan Activity Centres (MACs) and Health and/or Education Precincts (HEPs). As a key purpose of SRL is to provide a connection to Melbourne Airport, this is also an anchor precinct.
- **Decision 5: Program sequencing** – The scale and complexity of SRL East and SRL North necessitates a sequenced approach to delivery – in concert with Decision 6 (Precinct location options), SRL East is identified as Cheltenham to Box Hill, while SRL North is identified as Box Hill to Melbourne Airport.
- **Decision 6: Precinct location options** – Considers which precincts will form the basis of the SRL East and SRL North route. A long list of potential precinct location options was identified by overlaying the SRL Objectives on the middle corridor of Melbourne. SRL Precinct location options were grouped into investigation zones and assessed against a set of criteria: productivity, connectivity, liveability, cost and deliverability. The preferred SRL Precincts based on the precinct location options assessment process are:

SRL East (confirmed)	SRL North (preliminary*)	SRL West
– Cheltenham (North)	– Doncaster	SRL West from Melbourne Airport will be subject to further investigation, planning and development.
– Clayton	– Heidelberg	
– Monash	– Bundoora	
– Glen Waverley	– Reservoir	
– Burwood	– Fawkner (North)	
– Box Hill	– Broadmeadows	
	– Melbourne Airport	

**Note: The preferred SRL North precinct locations are preliminary only and subject to further options analysis, technical investigations and consultations. The final SRL Precincts for SRL North will be confirmed as part of future Funding Submissions.*

4.1 The importance of an integrated transport and precinct solution

SRL offers a once-in-a-generation opportunity to address the problems outlined in Chapter 3 and shape the future of Melbourne.

To unlock the full city-shaping potential of SRL East and SRL North and realise the objectives of *Plan Melbourne*, an integrated approach to transport and land use planning is required. Developing SRL as an integrated transport and precinct development solution will enable Melbourne to grow in strategic precincts along the rail corridor, with a focus on creating places that offer great liveability, productivity and connectivity outcomes.

Targeted planning and precinct development surrounding the SRL Stations will help to create a ‘city of centres’, providing the foundation for a globally competitive, resilient and liveable Melbourne. With the new rail line and stations as the key enabling infrastructure, the SRL Precincts will become consolidated, mixed-use destinations for people to live, work and visit. SRL East and SRL North will use the Victorian Government’s full suite of planning, investment and coordinated development levers to support productive, well-connected precincts that will continue to be thriving and vibrant communities as they grow.

An integrated transport and precinct development approach will not only improve access to jobs and services; it will also facilitate coordinated planning and investment across governments to rebalance population and employment growth across the city. SRL Precincts will bring more jobs to Melbourne’s middle ring, spurring residential development, attracting further private sector investment and making the best use of existing services and infrastructure.

The combination of a new rail line, new stations and renewed precincts will improve access to employment, education, services and affordable housing city-wide – reducing inequity and economic disparity and opening up more opportunities in a more consolidated and sustainable Melbourne.

This chapter outlines the process undertaken to develop the baseline SRL route, including the hierarchy of decisions and options assessed to determine the preferred SRL Precincts for SRL East and SRL North. The recommended high-level scope for the integrated rail and precinct solution is then outlined in Chapter 5.

4.2 Developing SRL East and SRL North

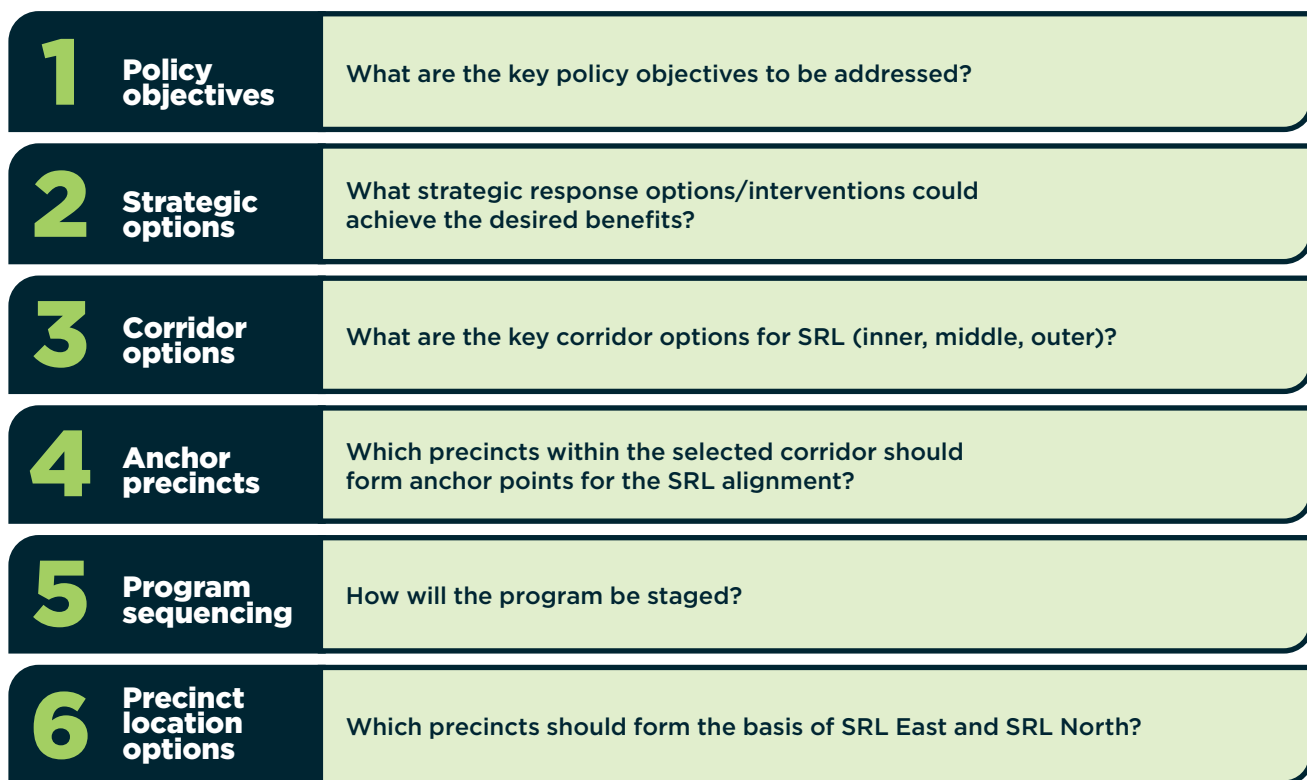
4.2.1 Overview of the Program Development Process

To guide scope definition for the SRL East and SRL North route alignment, a scope development methodology (Program Development Process) was established. The Program Development Process follows a hierarchy of decisions, which firstly seek to answer high-level policy and strategic questions and progressively become more focused to determine the preferred SRL Precincts.

The Program Development Process is summarised in [Figure 4-1](#).

Although there is a general hierarchy to the decision making process, the Program Development Process has been undertaken iteratively where decisions are interrelated, particularly in respect of Decisions 5 and 6.

Figure 4-1: Program Development Process



A summary of the decisions made at each step in the process is provided in the following sections.

4.2.2 Decisions 1-3: Policy objectives, strategic options and corridor options

Decisions 1 to 3 explored key strategic considerations, including policy direction, strategic response options and key corridor options. These decisions were made and communicated publicly in the 2018 *Strategic Assessment* (described in section 1.7).

Decision 1: Policy objectives

The Strategic Assessment identified *Plan Melbourne* as providing the overarching policy direction for the SRL Program.

Plan Melbourne sets out seven overarching outcomes to achieve its long-term vision (see section 6.1). There are three broad themes observed across these seven outcomes, which are particularly relevant: productivity, connectivity and liveability. These three themes have been adopted as the SRL Program Objectives.

Decision 2: Strategic options

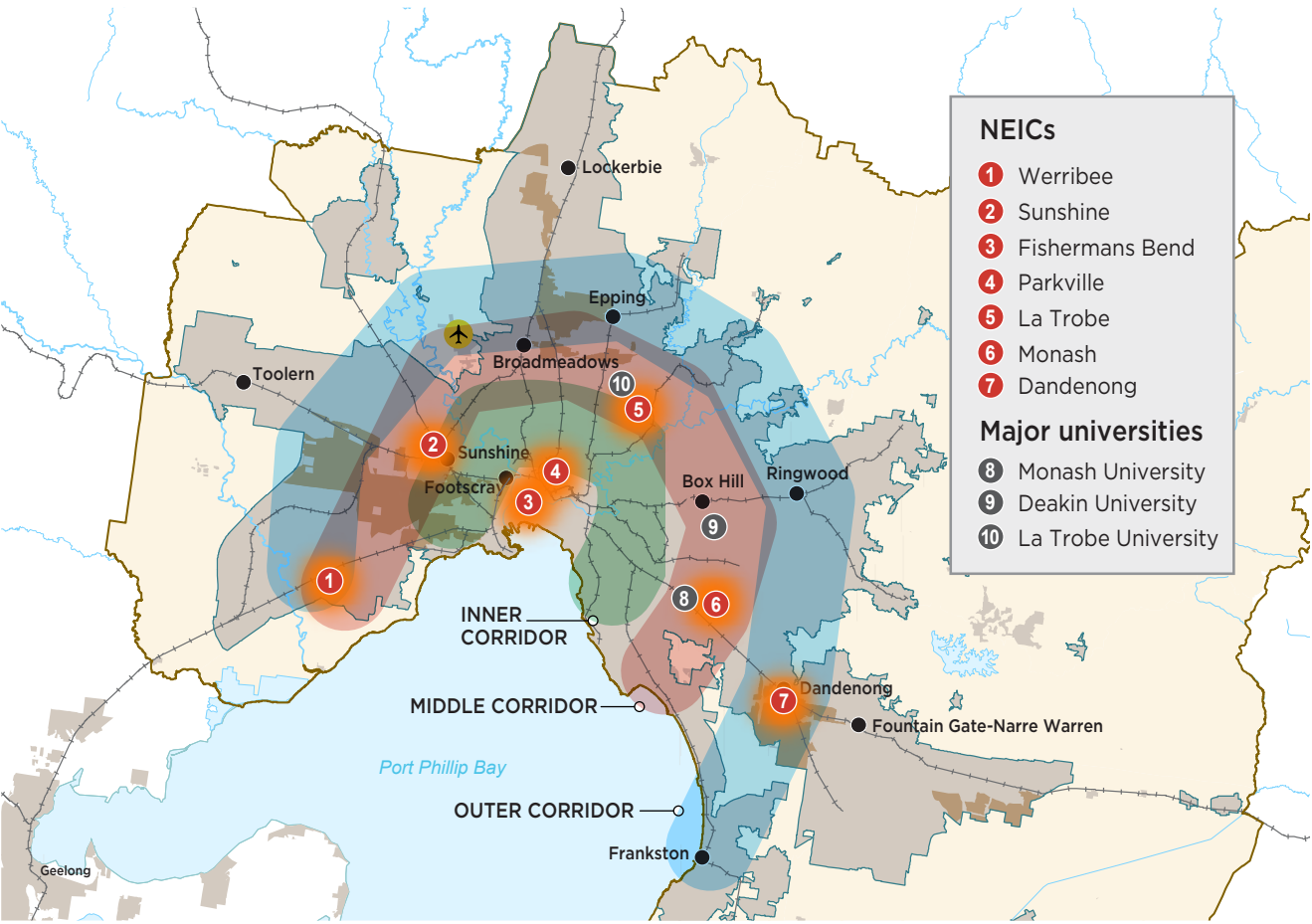
The *Strategic Assessment* established the preference and rationale for an integrated strategic response, incorporating both transport and planning / land use interventions.

The *Strategic Assessment* considered a range of strategic interventions and assessed their potential to address the challenges and opportunities identified by *Plan Melbourne*. An integrated transport and planning/ land use solution, in the form of a new orbital rail network underpinned by planning and land use initiatives that connects and activates key precincts and economic clusters across Greater Melbourne, was assessed as the preferred strategic response. This formed the basis of the concept of the SRL Program.

Decision 3: Corridor options

The *Strategic Assessment* considered three broad corridors across Melbourne's inner, middle and outer suburbs for the SRL baseline route alignment, as illustrated in [Figure 4-2](#).

Figure 4-2: Corridor options (inner, middle, outer) identified in the 2018 *Strategic Assessment*



Source: *Strategic Assessment*

The middle corridor of Greater Melbourne provides opportunities to connect more of the key Places of State Significance (including four NEICs, two MACs and multiple major HEPs) than the inner or outer corridors.

Places of State Significance

Plan Melbourne defines a range of Places of State Significance, including:

National Employment and Innovation Clusters

NEICs represent distinctive destinations of employment and business activities centred around medical, research and tertiary institutions across Melbourne. They are viewed as nationally significant because of the role they play in attracting workers, students and visitors from across Australia and overseas and attracting business and investment, particularly in knowledge-based industries. Within these clusters, there are diverse activities in the fields of international education, research, health, medical technology, pharmaceuticals, science, business services, high-tech manufacturing and information technology. These industries are the future of the Victorian economy and are expected to provide significant growth in jobs, close to where people live.

There are seven NEICs identified in *Plan Melbourne* (four of these are within the 'middle corridor' footprint), which are a key focus for jobs growth and strategic infrastructure investments.

Metropolitan Activity Centres

MACs play a strategically important role for their sub-regional catchments by providing the community with access to a range of major retail, community, government, entertainment, cultural and transport services. These centres are hubs for public transport, providing access from the surrounding suburbs. As the city grows, the Victorian Government is planning MACs to maximise opportunities for local communities to access a broad range of goods and services. MACs will be key contributors to the provision of jobs, activities and housing, outside of the CBD.

Health and/or Education Precincts

HEPs are places with hospitals, health services and medical centres, and/or university institutions, with the most prominent health and education precincts often residing within a NEIC or MAC.

Connecting these Places of State Significance is critical for realising the vision of Melbourne as a 'city of centres' and supporting the shift towards a polycentric city structure. On the basis that the middle corridor is home to a significant number of Places of State Significance, this corridor was considered to have the strongest alignment to *Plan Melbourne* and to the SRL Objectives. Melbourne's middle corridor was therefore selected as the preferred corridor option.

4.2.3 Decision 4: Anchor precincts

This decision considered the key precincts that would form the anchor points of the SRL alignment.

The Places of State Significance identified within *Plan Melbourne* (central city, NEICs, MACs, State-significant industrial precincts, transport gateways, HEPs and major urban renewal precincts) were considered for their relative alignment with the SRL Objectives – that is, their potential to deliver productivity, connectivity and liveability benefits. This assessment is outlined in [Table 4-1](#).

Table 4-1: Alignment of Places of State Significance with SRL Objectives

Places of State Significance		Alignment to Strategic Purpose: Connecting Melbourne's middle suburbs via Melbourne Airport	SRL Objectives		
			Productivity	Connectivity	Liveability
1	Central city	<ul style="list-style-type: none"> Central city is located outside the middle corridor, which has been identified as the focus for SRL Strategically, not aligned to SRL 	Central city is outside the middle corridor. Hence not aligned / relevant to SRL		
2	National Employment and Innovation Clusters	<ul style="list-style-type: none"> Identified NEICs within the middle corridor include Monash, La Trobe (Bundoora), Sunshine and Werribee Description of NEICs indicates alignment with all three SRL Objectives 	✓	✓	✓
3	Metropolitan Activity Centres	<ul style="list-style-type: none"> Identified MACs within the middle corridor include Box Hill and Broadmeadows Description of MACs indicates alignment with all three SRL Objectives 	✓	✓	✓
4	State-Significant Industrial Precincts (SSIP)	<ul style="list-style-type: none"> SSIPs are areas identified to support industrial activities and deliver major industrial developments – hence, residential activities are incompatible with the purpose of SSIPs Not aligned to SRL's 'liveability' objective 	✓	✓	✗
5	Transport Gateways	<ul style="list-style-type: none"> Transport gateways represent areas identified to support capacity required with respect to major airports, ports and interstate terminals – hence, residential activities are incompatible with the purpose of transport gateways Not aligned to SRL's 'liveability' objective 	✓	✓	✗
6	Health and/or Education Precincts	<ul style="list-style-type: none"> This category of Places of State Significance includes centres identified as education precincts, health precincts, and centres that are both HEPs Description of all centre types indicates alignment with all three SRL Objectives 	✓	✓	✓
7	Major Urban Renewal Precincts (MURP)	<ul style="list-style-type: none"> Identified MURPs are all located outside the middle corridor, which has been identified as the focus for SRL (refer to p.15 of <i>Plan Melbourne</i>) Strategically, not aligned to SRL 	There are no identified MURPs within the middle corridor.		

The key categories of Places of State Significance identified as having the greatest alignment with the SRL Objectives are NEICs, MACs and HEPs. The NEICs, MACs and HEPs located in the middle corridor have the strongest alignment with all three SRL Objectives and have therefore been selected as 'anchor precincts' for the SRL alignment – these include Monash NEIC, Box Hill MAC, La Trobe NEIC, Broadmeadows MAC, Sunshine NEIC and Werribee NEIC.

As a key strategic purpose of SRL is a connection to Melbourne Airport (a key Transport Gateway), Melbourne Airport is also identified as an anchor precinct for the baseline route.

4.2.4 Decision 5: Program sequencing

This decision was undertaken in parallel with Decision 6 (Precinct location options) as part of iterative decision making. It determines the sequencing for delivery of SRL East and SRL North.

The scale and complexity of SRL necessitates a sequenced approach to delivery, over multiple decades and over multiple funding cycles, enabling the Victorian Government to manage the delivery of its broader pipeline of infrastructure projects, all within the context of limited funding and financing capacity. A sequenced program will allow for a more manageable approach to delivery and improved management of disruption across Melbourne – keeping Victorians moving while this city-shaping program is delivered.

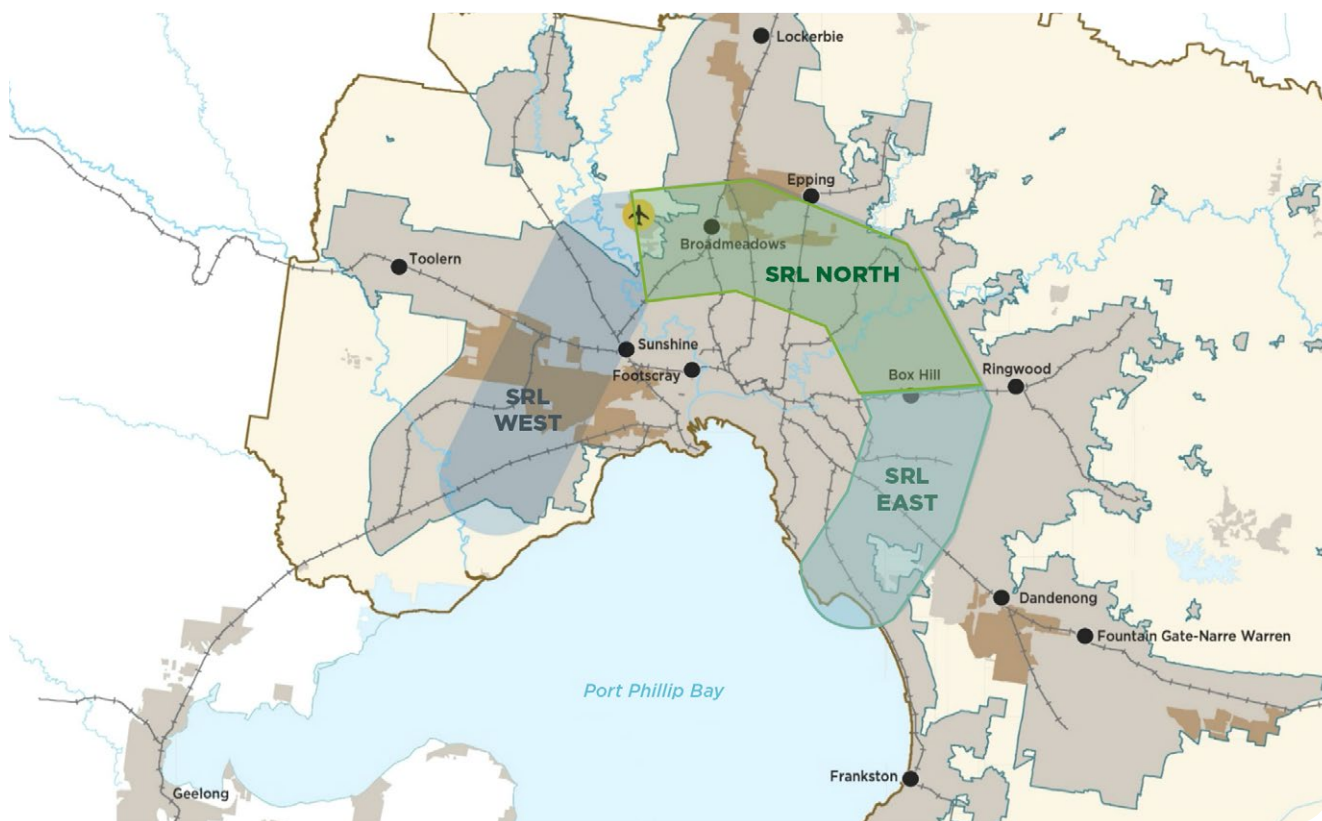
While development of the SRL Precincts may be staged in a variety of ways, the rail investment needs to take on a logical sequencing that will facilitate increased accessibility as well as a practical delivery approach. A sequenced program will also support the capacity of the domestic and international construction industry to deliver Australia's pipeline of mega projects.

The Victorian Government has announced that work will commence in 2022 on SRL East from Cheltenham to Box Hill. Work could commence on SRL North while SRL East is still under construction.

SRL West from Melbourne Airport to Werribee will be subject to further investigation, planning and development. There is already billions of dollars of investment in rail projects in the West, including projects such as Metro Tunnel, Melbourne Airport Rail and the Western Rail Plan, and all of these will be coordinated to ensure provision is made to deliver SRL to Werribee as soon as possible.

The scoping and staging of SRL are illustrated in [Figure 4-3](#).

Figure 4-3: SRL sequencing



Source: Suburban Rail Loop Authority (SRLA)

The basis for the proposed sequencing has taken into consideration *Plan Melbourne's* aim to transform Melbourne into a city of centres linked to regional Victoria and the need to focus on key employment areas and plan for their development.

To support businesses to be productive and grow, businesses in economic centres outside of the central city will need access to large potential employee and customer pools. The identification of the alignment from Cheltenham to Box Hill as SRL East aims to spur growth and maximise the impact of connectivity improvements.

On this basis, the key sequencing aspects taken into consideration included:

- Opportunities to connect employment centres and population catchments
- Opportunities to connect regional Victoria
- Opportunities to connect to Melbourne Airport
- Deliverability, scale and balance.

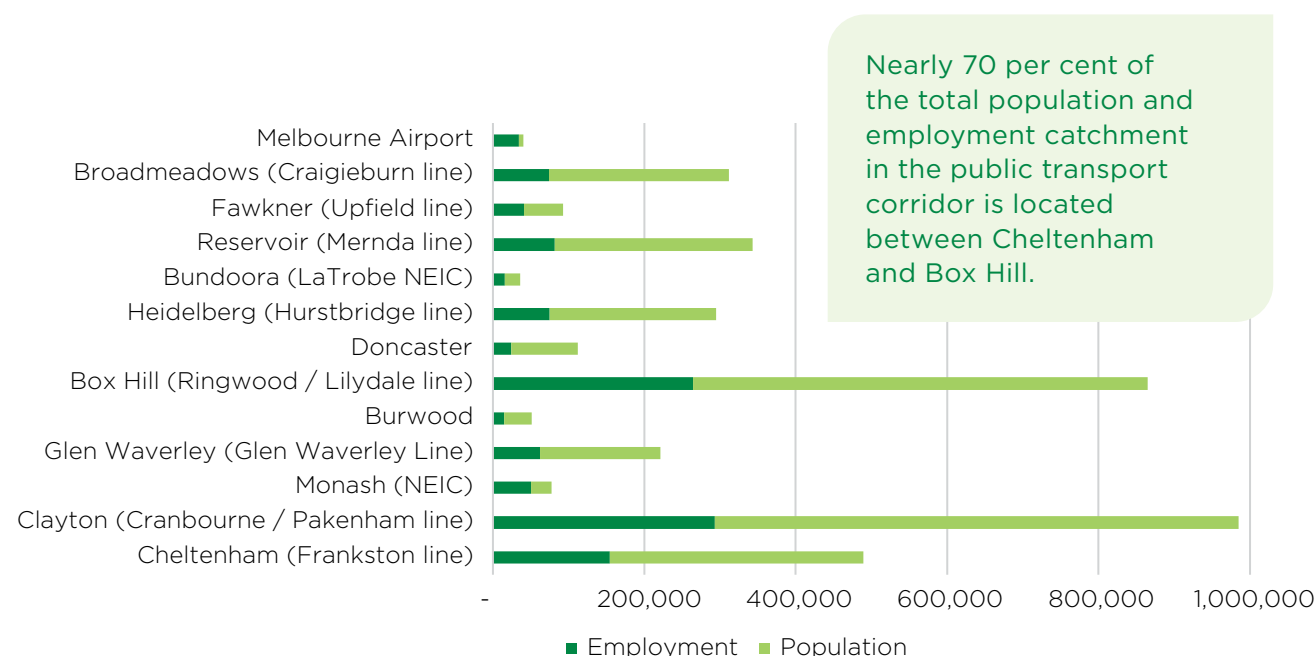
Connecting employment centres and population catchments

Growth of Melbourne's employment and economic centres outside of the central city will rely heavily on the accessibility of population, both as workforce and customers. While SRL aims to catalyse population within SRL Precincts, as part of a polycentric city, these centres will need to service and draw from significantly broader population catchments.

SRL East and SRL North will create connections between existing radial rail lines. By connecting radial rail lines across the middle corridor, SRL will generate a polycentric 'web' of connections with the potential to significantly increase accessibility between employment centres and population catchments.

To understand the potential improved accessibility, a high-level assessment was undertaken of the potential employment and population catchments within a five kilometre radius from each station along each connected radial line (inclusive of all stations within the middle and outer ring to the end of the radial line). The potential catchments of SRL Precincts without existing stations were also assessed. As expected, SRL Precincts with existing radial stations have larger employment and population catchments than newly added stations.

Figure 4-4: Existing employment and population catchment potential in middle and outer ring by intersecting rail line, 2018



Source: *Small Area Land Use Projections (SALUP) based on DELWP Projections 2018 (Unpublished)*

The analysis in [Figure 4-4](#) illustrates that Melbourne's existing patterns of settlement have created the most substantial population and employment catchments in the eastern and south eastern suburbs. For SRL East to deliver maximum benefits to the greatest number of people, priority was given to connecting Box Hill to Clayton – representing the two most substantial catchments of existing activity.

Connection to the Box Hill anchor precinct provides access to Box Hill MAC as well as Ringwood MAC, along with the Belgrave and Lilydale rail lines, and consequently facilitates connection to the second largest employment and population catchments within the SRL corridor. This makes Box Hill a critical site for early delivery as part of SRL East.

The south eastern section of the corridor is able to connect and incorporate the catchment of Monash NEIC, the most significant employment centre outside of the Melbourne CBD. In addition, and in combination with Clayton and its radial rail catchments, this section also facilitates access to Dandenong NEIC, as well as broader economic opportunities including Pakenham and Cranbourne.

From the perspective of connecting employment and population centres, the highest priority segment for early delivery is Box Hill to Clayton.

Cheltenham on the Frankston line facilitates a substantial catchment – ranking as the third highest priority precinct and radial line for connection – and is also a priority for early delivery.

Connecting regional Victoria

SRL East and SRL North will facilitate regional connections via the transport super hub at Clayton on the Pakenham Line, providing connections to East Gippsland, and the transport super hub at Broadmeadows on the Craigieburn Line, providing connections to northern Victoria. In 2056, regional service passengers boarding and alighting at Clayton will be around 7,000 per day and at Broadmeadows, around 8,500 per day, with SRL East and SRL North.²⁰⁷

Incorporating either Clayton or Broadmeadows early in the sequencing of SRL East and SRL North will benefit a similar number of potential regional passengers.

Connecting to Melbourne Airport

Melbourne Airport Rail (MAR) will be delivered concurrently with SRL East and will provide a much needed rail connection between Melbourne Airport and the CBD. As MAR connects Melbourne Airport to the rail network, providing a second rail connection early in the sequenced delivery program for SRL East and SRL North is a less pressing priority than the need to connect other Places of State Significance and existing radial lines.

Deliverability, scale and balance

The sequencing of SRL East and SRL North has to be manageable in terms of both the state's and the market's capability and capacity to deliver.

As noted above, the segment of SRL East between Clayton and Box Hill is considered a priority due to the large population catchments at these stations. However, only completing this segment would leave a relatively short segment between Clayton and Cheltenham for completion at a later date on its own or as part of a split segment delivery. Benefits of shared work sites, implementation progression opportunities, repetition and efficiency gains would be forgone, increasing the delivery costs.

Therefore, work is proposed to commence initially on the full SRL East section from Cheltenham to Box Hill, incorporating both a practical delivery approach and the inclusion of the three largest population and employment catchments. This section comprises six of the 12 precincts and connects four of the eight radial lines to be linked by SRL East and SRL North. This provides a balanced and manageable scale for the sequenced delivery of SRL East and SRL North.

4.2.5 Decision 6: Precinct location options

This decision was undertaken in parallel with Decision 5 (Program sequencing) as part of iterative decision making. It considers the precinct locations (i.e. SRL Precincts) that will form the basis of the SRL route alignment.

Section 4.3 below presents a summary of the precinct location options assessment undertaken by SRLA to identify, assess and recommend the preferred SRL Precincts.²⁰⁸ A summary of the stabling site options assessment is also provided (see section 4.3.5), the outcomes of which informed some elements of the precinct location options assessment (see section 4.3.4). The precinct location and stabling site options assessment processes were iterative in nature, with further analysis and reassessments undertaken in parallel to ensure a holistic baseline solution was recommended.

Further details of the SRL Precinct location options assessment are provided in Appendix B.1: SRL Precinct Location Options Assessment Summary.

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208 Note: SRL North is at an early stage of the design process (advanced feasibility) and the preferred precinct locations are preliminary only and subject to further analysis, technical investigations and consultations. The shortlist of SRL North precinct location options and preferred precinct locations (presented in section 4.3.4 and Appendix B.1) will be reassessed over time and confirmed as part of future Funding Submissions.

4.3 Precinct location options assessment

4.3.1 Purpose and assessment methodology

The purpose of the precinct location options assessment process is to determine the preferred SRL Precincts that will form the baseline SRL Alignment. The precinct location options assessment is based on a Multi Criteria Assessment (MCA) framework and uses a consistent set of assessment criteria (outlined in section 4.3.2).

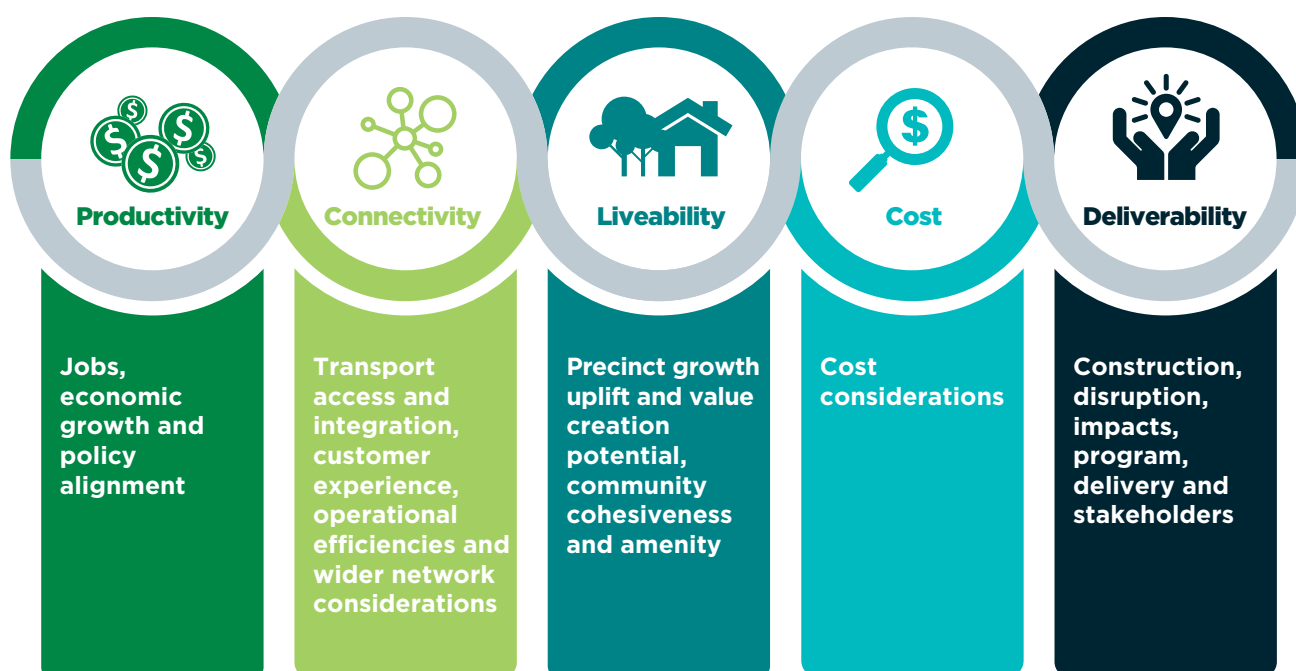
The options assessment process adopted for SRL East and SRL North draws on SRLA's optioneering methodology, which provides for a two-step options assessment approach (comprising appraisal and detailed assessment) through the 'development phase' of the program development cycle. The first step in this approach is to shortlist options by applying the options assessment criteria in an appraisal. The shortlist of options established is then subject to a more detailed assessment to arrive at a preferred baseline option.

4.3.2 Precinct location options assessment criteria

To facilitate consistency in the assessment of precinct location options across all locations, SRLA developed a set of assessment criteria. The precinct location options assessment criteria were designed to ensure the achievement of the SRL Objectives (Productivity, Connectivity and Liveability) and to include considerations for cost and deliverability.

The precinct location options assessment criteria are summarised in [Figure 4-5](#). The specific sub-criteria and key considerations within each of these criteria are described in Appendix B.1: SRL Precinct Location Options Assessment Summary.

Figure 4-5: Precinct location options assessment criteria



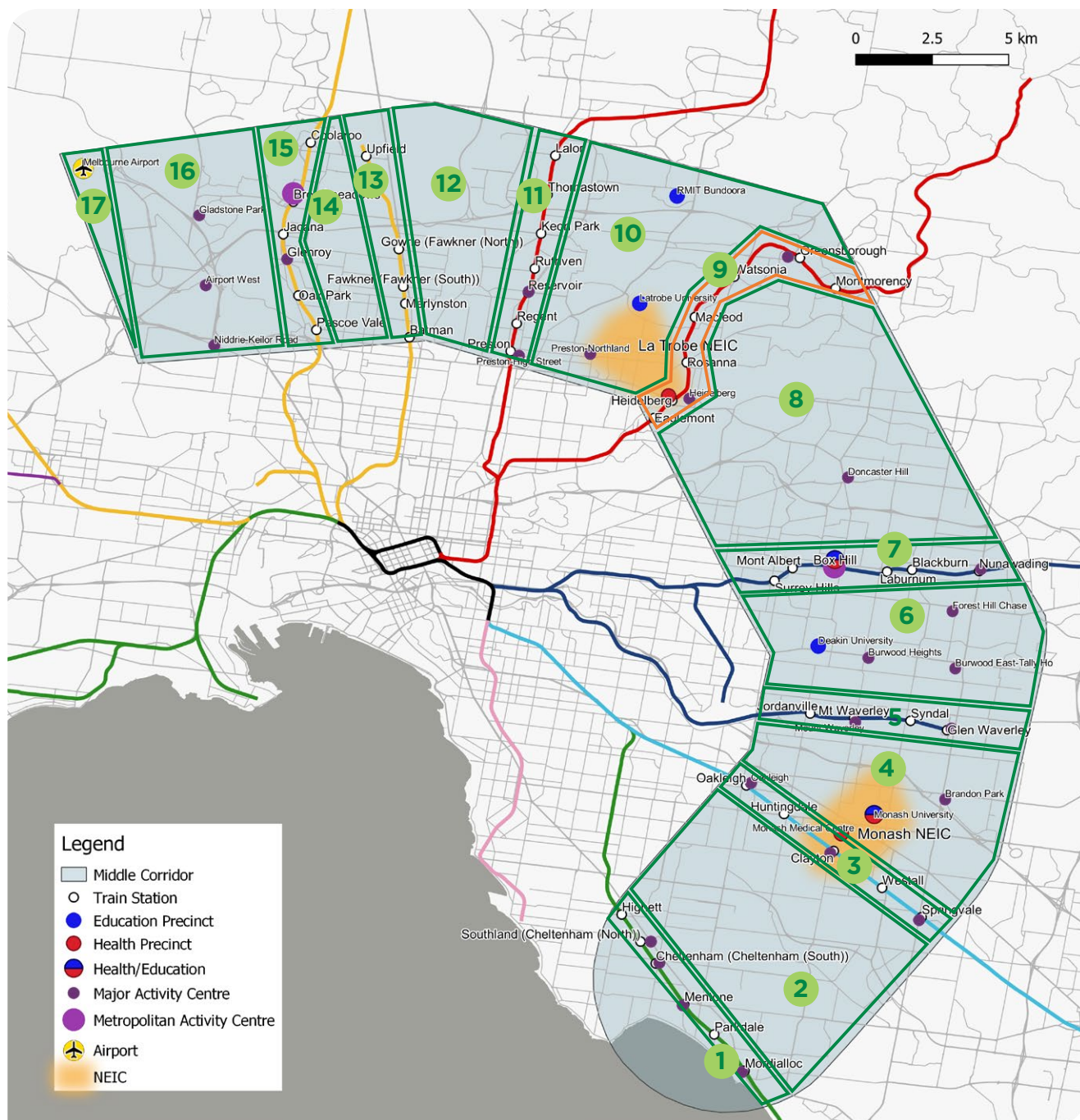
While it is intended that these criteria provide a consistent basis for precinct location options assessment, it is acknowledged that further information will become available over time during the development phase. The two-phased options assessment process (appraisal and detailed assessment) is structured to account for this and therefore applies the options assessment criteria in a manner that reflects the nature of each assessment phase.

Investigation zones

For the long list of potential precincts to be assessed, investigation zones were established to group the identified precinct location options into interchange options and greenfield options. This grouping of precinct location options into investigation zones enables relative ranking and assessment of options within each zone.

The long list of precinct location options and investigation zones is shown in [Figure 4-6](#).

Figure 4-6: SRL Precinct location options (long list) and investigation zones



The long list of precinct location options within each investigation zone was assessed to determine the baseline SRL Precinct for each investigation zone. A summary of the precinct location options assessment outcomes is presented in section 4.3.4 and further details are provided in Appendix B.1: SRL Precinct Location Options Assessment Summary.

A number of investigation zones did not require a relative assessment of precinct location options:

- **Investigation Zones 2 and 16 (stabling sites)** – These investigation zones are the locations for a primary stabling and maintenance depot (Southern Stabling Facility) and secondary stabling and maintenance facility (Northern Stabling Facility) respectively, and therefore were not subject to the precinct location options assessment process (i.e. each of these zones will accommodate a stabling and maintenance facility rather than an SRL Station). For completeness, it is noted that no potential precinct location options were identified within Investigation Zone 2 (however, provision for a potential future station was considered during the Concept Design of the Southern Stabling Facility). For Investigation Zone 16, three potential precinct location options were identified, which will be considered as further technical investigation and analysis is undertaken for SRL North
- **Investigation Zone 8 (single option identified)** – Doncaster is the only precinct location option identified within investigation Zone 8 and therefore this zone is not subject to the precinct location options assessment process
- **Investigation Zones 12 and 14 (no options identified)** – No precinct location options were identified in these investigation zones.

4.3.3 Precinct location options assessment outcomes

A summary of the precinct location options assessment outcomes, including the preferred baseline SRL Precinct locations within each investigation zone (as well as shortlisted precinct location options for SRL North), is provided in [Table 4-2](#). The preferred SRL Precinct locations for SRL North are preliminary only and will be subject to further analysis, technical investigations and consultations over time. Further details are provided in Appendix B.1: SRL Precinct Location Options Assessment Summary.

Table 4-2: Summary of precinct location options assessment outcomes

Precinct location options	Summary outcome
SRL EAST	
INVESTIGATION ZONE 1: Frankston line (Interchange)	
Option 1: Moorabbin	<p>Baseline: Cheltenham (North)</p> <ul style="list-style-type: none"> – Productivity: Cheltenham (North) is a <i>Plan Melbourne</i> designated Major Activity Centre with medium to high potential for major precinct development, economic growth and future employment. – Connectivity: Cheltenham (North) provides a relatively short journey time to the Southern Stabling Facility, as compared to the other options within this investigation zone. In addition, it provides largely favourable integrated transport outcomes (train, bus, road and active) relative to other options in this investigation zone. – Liveability: Local planning schemes / structure plans and/or policies relevant to Cheltenham (North) consider residential growth potential in the form of medium density residential development with a mixture of accommodation types. Preliminary built form analysis suggests that there is significant gross floor area uplift potential across major development sites and an opportunity to create a mixed-use development, similar to that at Chadstone Shopping Centre, with surrounding offices, hotel, and higher density mixed use neighbourhoods. – Cost: Cheltenham (North) provides a relatively short alignment length to the Southern Stabling Facility (and therefore tunnelling distance) and shallow station depth, which together provide for favourable cost outcomes. – Deliverability: Cheltenham (North) provides favourable deliverability outcomes. The relatively short alignment length will minimise program implications. There is also high quality access for movement of construction materials and spoil, and minimal disruption to the community or to the operation of the existing precinct. <p>Summary: Cheltenham (North) produces the most favourable outcomes on balance across the assessment criteria.</p>
Option 2: Highett	
Option 3: Cheltenham (North)	
Option 4: Cheltenham (South)	
Option 5: Mentone	
Option 6: Parkdale	
Option 7: Mordialloc	

Precinct location options	Summary outcome
INVESTIGATION ZONE 2: Frankston line to Cranbourne / Pakenham line (New)	
Not applicable: Southern Stabling Facility (see section 4.3.5 for a summary of the stabling site options assessment).	
INVESTIGATION ZONE 3: Cranbourne / Pakenham line (Interchange)	
Option 1: Oakleigh Option 2: Huntingdale Option 3: Clayton Option 4: Westall Option 5: Springvale	<p>Baseline: Clayton</p> <ul style="list-style-type: none"> – Productivity: Clayton is a <i>Plan Melbourne</i> designated Major Activity Centre with high potential for major precinct development, economic growth and future employment. – Connectivity: Clayton provides the shortest journey time and favourable integrated transport outcomes (train, bus, road and active transport) relative to other options in this investigation zone. – Liveability: Local planning schemes / structure plans and/or policies relevant to Clayton consider the redevelopment of single dwellings for medium density apartments and townhouses, with higher density mixed use buildings in the core. – Cost: Clayton provides the shortest alignment length (and therefore tunnelling distance). However, it will require a deeper station depth compared to other options in this investigation zone. On balance, Clayton provides favourable cost outcomes. – Deliverability: Clayton provides favourable deliverability outcomes. The shortest alignment length will minimise program implications. There is also quality access for movement of construction materials and spoil and moderate disruption to the community or to the operation of the existing precinct. <p>Summary: Clayton produces the most favourable outcomes on balance across the assessment criteria.</p>
INVESTIGATION ZONE 4: Cranbourne / Pakenham line to Glen Waverley line (New)	
Anchor precinct: Monash	<p>Baseline: Monash</p> <p>Summary: Monash is identified as a NEIC (Place of State Significance) in <i>Plan Melbourne</i> and therefore forms an anchor precinct for the SRL alignment.</p>
INVESTIGATION ZONE 5: Glen Waverley line (Interchange)	
Option 1: Jordanville Option 2: Mount Waverley Option 3: Syndal Option 4: Glen Waverley	<p>Baseline: Glen Waverley</p> <ul style="list-style-type: none"> – Productivity: Glen Waverley is a <i>Plan Melbourne</i> designated Major Activity Centre with high potential for major precinct development, economic growth and future employment. – Connectivity: While Glen Waverley provides a longer journey time compared to other options such as Mount Waverley and Syndal, it provides more favourable integrated transport outcomes (train, bus, road and active transport). – Liveability: Local planning schemes / structure plans and/or policies relevant to Glen Waverley promote the precinct as a major functional activity centre, with high rise residential development and an enhanced mix of retail, entertainment, office, residential and medical services. – Cost: Glen Waverley provides a relatively long alignment length (and therefore tunnelling distance). Station depth is not considered to be a key differentiating factor between options. Therefore, Glen Waverley is expected to produce cost outcomes that are less favourable than Mount Waverley or Syndal. – Deliverability: Glen Waverley produces a longer alignment length than Mount Waverley and Syndal, which will increase the duration of the tunnelling program (although this may not affect the critical path for SRL East works as a whole). However, this option has some deliverability benefits due to the comparatively favourable access for movement of construction materials and spoil and only moderate disruption to the community or to the operation of the existing precinct.

Precinct location options	Summary outcome
	<p>Summary: Glen Waverley produces the most favourable outcomes on balance across the assessment criteria. It offers a significantly greater opportunity (relative to other options in this investigation zone) to deliver on the SRL Program's productivity and liveability objectives, which justify the additional cost and impacts on the duration of the tunnelling program (although this may not affect the critical path for SRL East works as a whole).</p>
INVESTIGATION ZONE 6: Glen Waverley line to Belgrave / Lilydale line (New)	
<p>Option 1: Burwood (Deakin University)</p> <p>Option 2: Burwood Heights</p> <p>Option 3: Forest Hill Chase</p> <p>Option 4: Burwood East – Tally Ho</p>	<p>Baseline: Burwood</p> <ul style="list-style-type: none"> – Productivity: Burwood is a <i>Plan Melbourne</i> designated Education Precinct with significant potential for major precinct development, economic growth and future employment. – Connectivity: Burwood provides a relatively short journey time and favourable integrated transport outcomes (train, bus, road and active transport) relative to other options in this investigation zone. – Liveability: Local planning schemes / structure plans and/or policies relevant to Burwood consider growth potential and encourage an increase in student accommodation, supported by expanded neighbourhood facilities. – Cost: Burwood Heights provides the shortest alignment length (and therefore tunnelling distance) of all options within this investigation zone. Burwood provides the second shortest alignment length (and therefore tunnelling distance). However, Burwood and Burwood Heights are expected to require a deeper station depth compared to the other options in this investigation zone. On balance, Burwood Heights produces the most favourable cost outcomes of all options in this investigation zone, closely followed by Burwood. – Deliverability: Burwood provides favourable deliverability outcomes. The relatively short alignment length will minimise program implications. There is also quality access for movement of construction materials and spoil and moderate disruption to the community or to the operation of the existing precinct. <p>Summary: Burwood produces the most favourable outcomes on balance across the assessment criteria.</p>
INVESTIGATION ZONE 7: Belgrave / Lilydale line (Interchange)	
Anchor precinct: Box Hill	<p>Baseline: Box Hill</p> <p>Summary: Box Hill is identified as a MAC (Place of State Significance) in <i>Plan Melbourne</i> and therefore forms an anchor precinct for the SRL alignment.</p>
SRL NORTH*	
INVESTIGATION ZONE 8: Belgrave / Lilydale line to Hurstbridge line (New)	
Option 1: Doncaster	<p>Baseline: Doncaster</p> <p>Comparisons of productivity, connectivity, liveability, cost and deliverability outcomes for options within this investigation zone have not been undertaken as Doncaster is the only option identified.</p> <ul style="list-style-type: none"> – Productivity: Doncaster is a <i>Plan Melbourne</i> designated Major Activity Centre (Doncaster Hill), which includes the Doncaster Shopping Centre (Westfield), as well as areas of commercial and industrial employment. An SRL station located within this precinct will allow businesses and residents to connect to the heavy rail network and other employment and education precincts around Melbourne.

Precinct location options	Summary outcome
	<ul style="list-style-type: none"> – Connectivity: Doncaster provides integrated transport outcomes via connections to bus services at an existing bus interchange located on Williamson Road. In addition, there is potential in future for extension of tram route 48. However, the Doncaster precinct is expected to require improvements to pedestrian and cycling access to provide quality active transport connections. – Liveability: The Doncaster precinct presents opportunities for significant built form uplift, renewal of major development sites, improvements to urban fabric permeability and pedestrian linkages, as well as general community outcomes. – Cost: A more detailed assessment of cost outcomes will be undertaken as part of station location options assessment for Doncaster, including consideration of alignment length, station depth, land acquisition, ground conditions and construction methodology. – Deliverability: A more detailed assessment of deliverability outcomes will be undertaken as part of station location options assessment for Doncaster, including consideration of alignment length, station depth, program, disruption, ground conditions, construction methodology, stakeholder impacts and other land, planning and environmental impacts. <p>Summary: Doncaster is the only precinct location option identified within Investigation Zone 8 and therefore is shortlisted for consideration as part of station location options assessment.</p>
INVESTIGATION ZONE 9: Hurstbridge Line (Interchange)	
<p>Option 1: Eaglemont</p> <p>Option 2: Heidelberg</p> <p>Option 3: Rosanna</p> <p>Option 4: Macleod</p> <p>Option 5: Watsonia</p> <p>Option 6: Greensborough</p> <p>Option 7: Montmorency</p>	<p>Baseline: Heidelberg</p> <ul style="list-style-type: none"> – Productivity: Heidelberg is a <i>Plan Melbourne</i> designated Major Activity Centre and Health Precinct (with three separate hospitals) with high potential for major precinct development, economic growth and future employment in health, medical and allied sectors, and associated benefits for commercial employment growth in retail and commerce. – Connectivity: Heidelberg provides a relatively short journey time and favourable integrated transport outcomes (train, bus, road and active transport) relative to other options in this investigation zone. While Rosanna provides a marginally shorter journey time compared to Heidelberg, it provides less favourable integrated transport outcomes. – Liveability: Local planning policies / structure plans and/or policies relevant to Heidelberg suggest that increased density and diversity of residential housing stock should be encouraged, with greater height and scale at the centre to enable mixed uses such as retail, commercial and residential. In particular, the residential areas surrounding the commercial precinct are identified as a prime location for change, with densification rapidly occurring within proximity to the Heidelberg Activity Centre and Heidelberg Station. – Cost: Heidelberg produces a longer alignment length (and therefore tunnelling distance) compared to Rosanna and Macleod. Heidelberg is also expected to require a deeper station depth compared to other options in this investigation zone. Therefore, Heidelberg is expected to produce cost outcomes that are less favourable than Rosanna and Macleod. – Deliverability: Heidelberg produces a longer alignment length than Rosanna and Macleod, which will increase the duration of the tunnelling program (although this may not affect the critical path for SRL North works as a whole). Rosanna provides quality access for movement of construction materials and spoil with moderate disruption to the community or to the operation of the existing precinct. Heidelberg presents less favourable deliverability outcomes than Rosanna and Macleod due to somewhat constrained access for movement of construction materials and spoil, with moderate disruption to the community or to the operation of the existing precinct.

Precinct location options	Summary outcome
	<p>Summary: Heidelberg produces the most favourable outcomes on balance across the assessment criteria.</p> <p>Shortlisted options: Heidelberg, Rosanna</p>
INVESTIGATION ZONE 10: Hurstbridge line to Mernda line (New)	
<p>Anchor precinct: Bundoora</p>	<p>Baseline: Bundoora</p> <p>Summary: La Trobe (Bundoora) is identified as a NEIC (Place of State Significance) in <i>Plan Melbourne</i> and therefore forms an anchor precinct for the SRL alignment.</p>
INVESTIGATION ZONE 11: Mernda line (Interchange)	
<p>Option 1: Preston</p> <p>Option 2: Regent</p> <p>Option 3: Reservoir</p> <p>Option 4: Ruthven</p> <p>Option 5: Keon Park</p> <p>Option 6: Thomastown</p> <p>Option 7: Lalor</p>	<p>Baseline: Reservoir</p> <ul style="list-style-type: none"> — Productivity: Preston is a <i>Plan Melbourne</i> designated Major Activity Centre and has high potential for major precinct development, economic growth and future employment, relative to other options in this investigation zone. While Reservoir is also a <i>Plan Melbourne</i> designated Major Activity Centre, it has marginally less favourable (medium to high) potential for major precinct development, economic growth and future employment, compared to Preston. — Connectivity: Reservoir and Preston are expected to provide favourable connectivity outcomes. Reservoir provides the second shortest journey time of the options within this investigation zone and favourable integrated transport outcomes (train, bus, road and active transport). While Preston provides a relatively long journey time relative to other options in this investigation zone, such as Reservoir and Ruthven, it provides favourable integrated transport outcomes (train, bus, road and active transport). — Liveability: Local planning schemes / structure plans and/or policies relevant to Preston and Reservoir suggest growth potential in these precincts. However, Preston Central is identified as a strategic development precinct and the foremost location for substantial housing change in the municipality. Relevant local planning policies suggest that increased housing density and mixed use developments should be encouraged, with greater height and scale in the activity centre. — Cost: Ruthven and Reservoir are expected to provide favourable cost outcomes as a result of their short alignment lengths (shortest and second shortest respectively). Ruthven also has the second shallowest average station depth. While Reservoir has a deeper average station depth relative to other options within this investigation zone, the cost savings associated with its shorter alignment length materially outweigh the increased costs of a deeper station box. Preston is expected to provide less favourable cost outcomes, largely as a result of its materially longer alignment length relative to Reservoir and Ruthven. — Deliverability: Reservoir, Ruthven and Keon Park are expected to provide favourable deliverability outcomes as a result of their short alignment lengths and therefore tunnelling program duration. All three options are expected to provide quality access for movement of construction materials and spoil. These options are also expected to limit the level of disruption to the community or to the operation of the existing precincts (minimal or moderate), compared to other options such as Preston, where disruption is expected to be significant. <p>Summary: Reservoir produces the most favourable outcomes on balance across the assessment criteria.</p> <p>Shortlisted options: Reservoir, Preston</p>
INVESTIGATION ZONE 12: Mernda line to Upfield line (New)	
<p>Not applicable: No precinct location options identified within this investigation zone.</p>	

Precinct location options	Summary outcome
INVESTIGATION ZONE 13: Upfield line (Interchange)	
Option 1: Batman Option 2: Merlynston Option 3: Fawkner (South) Option 4: Fawkner (North) Option 5: Upfield Option 6: Campbellfield	<p>Baseline: Fawkner (North)</p> <ul style="list-style-type: none"> – Productivity: Batman, Merlynston, Upfield and Campbellfield are expected to provide the most favourable productivity outcomes of the options in this investigation zone. None of the options in this investigation zone are designated as NEICs, MACs, Health and/or Education Precincts or Major Activity Centres within <i>Plan Melbourne</i>. Merlynston, Upfield and Campbellfield are <i>Plan Melbourne</i> designated MACs and are therefore considered to have greater potential for major precinct development, economic growth and future employment relative to other options such as Fawkner (South) and Fawkner (North), which are not designed as activity centres in <i>Plan Melbourne</i>. While Batman is not designated as an activity centre in <i>Plan Melbourne</i>, it is within 100 metres of the Coburg Major Activity Centre, and relevant planning schemes, structure plans and/or policies for Batman suggest that there may be potential for major precinct development, economic growth and future employment. – Connectivity: Fawkner (North) and Campbellfield provide the shortest journey times compared to other options in this investigation zone. However, Campbellfield provides limited integrated transport outcomes (train, bus, road and active transport), compared to Fawkner (North) and Batman. While Batman provides a relatively long journey time, it provides more favourable integrated transport outcomes (train, bus, road and active transport) compared to all other options within this investigation zone. – Liveability: Local planning schemes / structure plans and/or policies relevant to Batman suggest there is growth potential in respect of gross floor area and population uplift. Expanding the boundaries of the Coburg Major Activity Centre to include Batman could create a centre of metropolitan scale and significance. – Cost: Fawkner (North) and Campbellfield provide the equal shortest alignment length (and therefore tunnelling distance) and relatively shallow station depths. In contrast, Batman provides a relatively long alignment length and the deepest station depth of all options in this investigation zone, resulting in less favourable cost outcomes. – Deliverability: Fawkner (North) and Campbellfield provide favourable deliverability outcomes. The relatively short alignment length for both options will minimise program implications. There is also quality access for movement of construction materials and spoil and minimal disruption to the community or to the operation of the existing precincts at both options. <p>Summary: Fawkner (North) produces the most favourable outcomes on balance across the assessment criteria.</p> <p>Shortlisted options: Fawkner (North), Batman, Campbellfield</p>
INVESTIGATION ZONE 14: Upfield line to Craigieburn line (New)	
Not applicable: No precinct location options identified within this investigation zone.	
INVESTIGATION ZONE 15: Craigieburn line (Interchange)	
Anchor precinct: Broadmeadows	<p>Baseline: Broadmeadows</p> <p>Summary: Broadmeadows is identified as a MAC (Place of State Significance) in <i>Plan Melbourne</i> and therefore forms an anchor precinct for the SRL alignment</p>
INVESTIGATION ZONE 16: Craigieburn line to Melbourne Airport (New)^	
<p>Not applicable: Northern Stabling Yard (see section 4.3.5 for a summary of the stabling site options). The Northern stabling site options assessment undertaken to date is preliminary only and will be subject to further analysis, technical investigations and consultations over time.</p>	

Precinct location options	Summary outcome
INVESTIGATION ZONE 17: Melbourne Airport (Greenfield)	
Anchor precinct: Melbourne Airport	Baseline: Melbourne Airport Summary: A key strategic purpose of the SRL Program is a connection to Melbourne Airport (a key transport gateway). Therefore, Melbourne Airport is also an anchor precinct for the SRL alignment.

* Note: The SRL North precinct locations are preliminary only and will be subject to further analyses, technical investigations and consultations. [Table 4-2](#) and [Appendix B.1](#) present a shortlist of SRL North precinct location options, which – along with the preliminary preferred SRL North precinct locations – will be re assessed over time.

^ Note: There are three potential precinct location options identified within Investigation Zone 16 – Gladstone Park, Airport West and Niddrie-Keilor Road. Given the long-term nature of SRL North delivery, the shortlisted and preferred precinct location options are preliminary only and subject to further assessment. These three precinct location options will be retained and will be considered as further technical investigation and analysis is undertaken for SRL North over the coming years.

SRL North

Potential future sequencing of SRL North was considered as part of the precinct location options assessment process to identify preliminary preferred precincts to form the baseline SRL East and SRL North route alignment presented in this Business and Investment Case. Given the long-term nature of SRL and its sequenced delivery over multiple decades, the preliminary preferred SRL Precincts and other shortlisted precinct location options for SRL North (as identified in [Table 4-2](#) and [Appendix B.1: SRL Precinct Location Options Assessment Summary](#)) will be reassessed over time as the planning and development work for SRL North is progressed. This includes:

- Further options analysis, including to update the preliminary analysis for any changes in circumstances over time
- Additional technical investigations
- Ongoing stakeholder consultations.

There is no Concept Design for SRL North at this point in time. This level of design work will not be completed until further options analysis, technical investigations and stakeholder consultations have been undertaken.

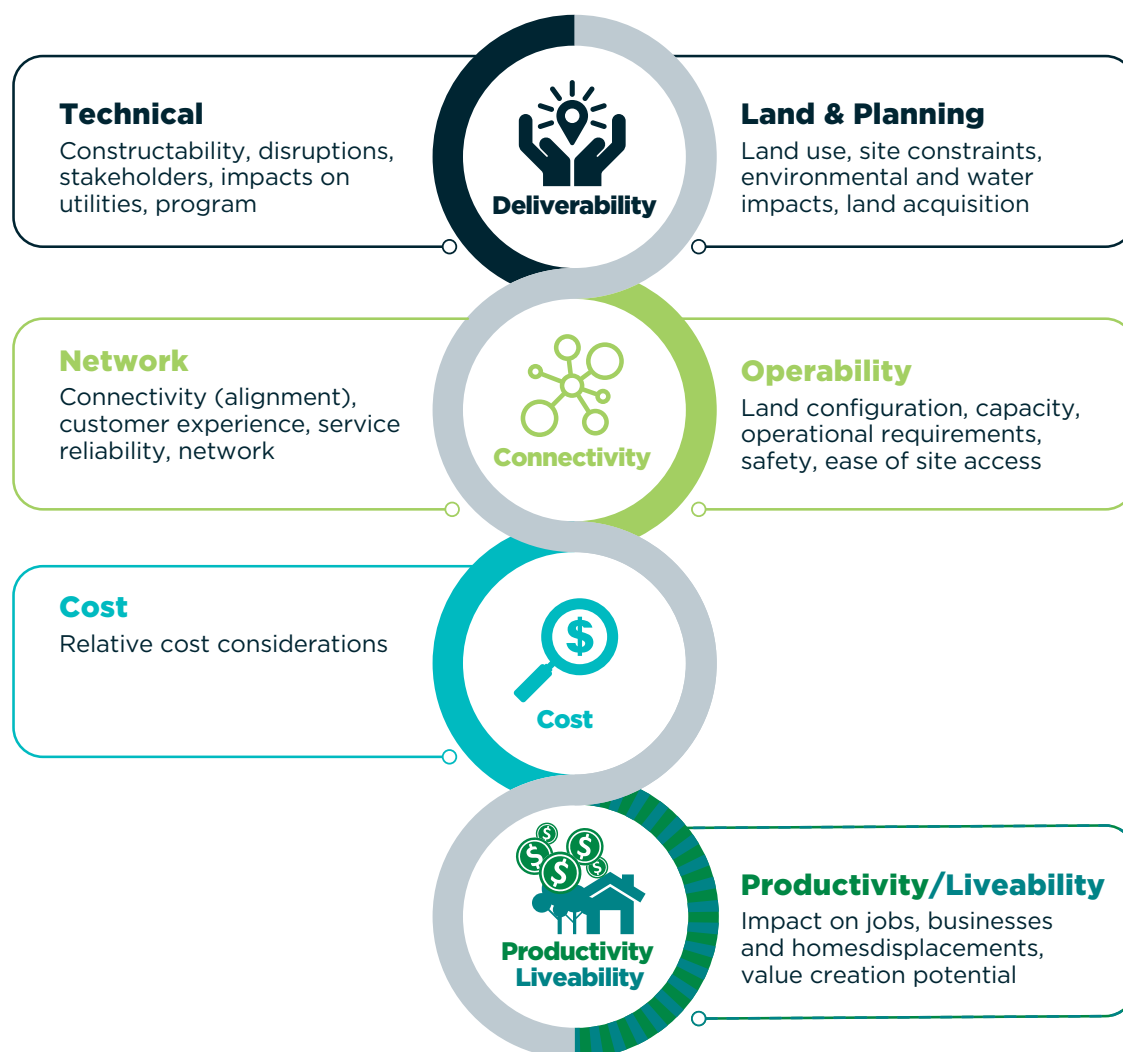
4.3.4 Stabling site options assessment outcomes

The purpose of the stabling and maintenance facilities is to provide operational and maintenance functions required for SRL rail infrastructure, with sufficient capacity to accommodate the SRL East and SRL North train fleet. A primary Southern Stabling Facility will be delivered between Cheltenham and Clayton as part of SRL East to provide for all operations and heavy maintenance functions and with capacity to accommodate the train fleet to service SRL East and SRL North operations. An additional Northern Stabling Facility will be delivered between Melbourne Airport and Broadmeadows as part of SRL North for light maintenance functions.

To enable the development of concept layouts for the SRL East and SRL North stabling and maintenance depots as part of the feasibility design phase, a number of site options were identified and considered by SRLA for the Southern Stabling Facility. The Northern stabling site options assessment undertaken to date is preliminary only.

The objective of the stabling site options assessment is to identify suitably sized land parcels in appropriate locations that can accommodate the functional requirements of each of the stabling and maintenance yards. To guide this process, a set of options assessment criteria was developed. These criteria were adapted from the precinct location options assessment criteria (outlined in [section 4.3.2](#) earlier) to reflect the unique objectives, requirements and considerations for the selection of an appropriate stabling and maintenance site.

Figure 4-7: Stabling site options assessment criteria



From an operational perspective, it is necessary for the Stabling Facility be located as close as practicable to the 'end of line' station (i.e. Cheltenham) in order to minimise dead-running (the distance between the yard and the end of the line) and main line operations by trains moving to/from stabling. If it was to be located beyond the 'end of line' station it would result in inefficient operations and additional costs (for example, additional tunnelling, extended line-wide works and land acquisition). Further, to facilitate operational requirements, a large surface footprint is needed. Intensive land use beyond Cheltenham and between Clayton and Box Hill limits the number of potentially suitable land parcels on the SRL East alignment in these areas.

Consistent with the two-phased options assessment approach (appraisal and then detailed assessment), SRLA considered a number of potential sites for the southern and northern stabling and maintenance facilities. During the appraisal phase, preliminary technical reports were prepared to inform the shortlisting decision:

- **Southern Stabling Facility location** – three options (out of a list of 10 potential sites) were shortlisted and these are described in [Table 4-3](#). The shortlisted options were all considered to be capable of supporting the draft functional requirements of the Southern Stabling Facility and, as part of the detailed assessment, were investigated through the Concept Design process to determine the recommended baseline
- **Northern Stabling Facility location** – three options (out of a list of 15 potential sites) were shortlisted and progressed to more detailed assessment; these are described in [Table 4-3](#). The Northern stabling site options assessment undertaken to date is preliminary only and will be subject to further analysis, technical investigations and consultations over time.

A summary of the stabling options assessment outcomes is provided in [Table 4-3](#). More details including the list of options identified, appraisal outcomes, location of shortlisted sites and key findings from the detailed assessment are provided in Appendix B.1: SRL Precinct Location Options Assessment Summary.

An iterative assessment process

The stabling site options assessment was an iterative process, requiring further analysis and confirmation of stabling site options.

Specifically, a key criterion for the selection of a preferred stabling site option is network connectivity / operational outcomes. For the Southern Stabling Facility site, this required analysis of relative alignment length to Cheltenham (North) and Clayton station precincts, which impacts line travel times and overall operational efficiency.

Table 4-3: Summary of stabling site options assessment outcomes

Stabling site options assessment – Summary outcomes

SRL EAST – Southern Stabling Facility

Shortlisted site options:

- **Option 4: Heatherton Farmland (Green Wedge Zone / Public Use Zone)** – The proposed site footprint is ~25.5 ha and is within a Green Wedge Zone – Schedule 2, and also partly within Public Use Zone and is subject to a Land Subject to Inundation Overlay (LSIO). The area is currently a mix of agricultural and residential use. The site's distance to Cheltenham is ~4.4 km, and total rail alignment length between Cheltenham and Clayton via this stabling site option is ~10 km. Utilities likely to be impacted under this option include the Western Alton Geelong (WAG) oil pipeline (relocation required), Clayton South Drain and HV/LV power poles.
- **Option 6: Heatherton Cleanfill (Green Wedge A Zone)** – The proposed site footprint is ~27.9 ha and is within a Green Wedge A Zone. The area is primarily a clean fill site. Part of the site footprint is on land to be acquired by Parks Victoria to provide public open space, and also earmarked for City of Kingston's Chain of Parks concept. The site's distance to Cheltenham is ~4 km, and total rail alignment length between Cheltenham and Clayton via this stabling site option is ~9.4 km. Utilities likely to be impacted under this option include the WAG pipeline (relocation required) and HV/LV power poles. Given the potential for differential ground movement due to deep deposits of uncontrolled fill, the site will require significant ground improvement works to support a stabling facility.
- **Option 7: Moorabbin Industrial Precinct (Industrial Zone)** – The proposed site footprint is ~23 ha and is within an Industrial Zone. The site is within an industrial estate and will require acquisition (and demolition) of a number of industrial properties. The site's distance to Cheltenham is ~2 km, and total rail alignment length between Cheltenham and Clayton via this stabling site option is ~8.5 km. Given the existing ground profile, this option will require a large volume of earthworks to flatten the site and make it suitable for train stabling.

For all shortlisted options, at-grade stabling adjacent to the main line is proposed, with tunnel portal structures provided at either end of the stabling site. The selected stabling site will be used as a TBM launch site prior to the construction of the stabling and maintenance facilities, which is likely to be on the critical path for SRL East construction.

Stabling site options assessment – Summary outcomes

Options assessment outcomes:

Baseline: Option 6 – Heatherton Cleanfill

- **Deliverability (technical):** Option 4 is considered to provide the best deliverability outcome because it involves fewer complexities than the other sites, excluding managing the impacts from the adjacent flood plain. Option 6 is the next preferred but will require significant ground improvement works prior to construction commencement (this will not impact the critical path TBM launch); however, the site configuration does provide flexibility to address the technical requirements. Option 7 is the least preferred as it will likely involve significant program delays due to property acquisitions, business relocations, building demolitions and asbestos management.
- **Deliverability (land use and planning):** The strategic land use impact of Option 6 is considered more favourable than Option 4, as it will not impact upon productive agricultural area to the same extent as Option 4. However, Option 6 is on land earmarked for Kingston Council's Chain of Parks concept and will require significant ground improvement to prepare the site for rail infrastructure. On balance, Options 6 and 4 are considered on par in terms of deliverability outcomes from a land and planning perspective. Of the three options, Option 7 is considered the least preferred given its impact on industrial land employment and the direct displacement of businesses.
- **Connectivity (network):** Option 7 is considered the most preferred, given its relative proximity to the proposed Cheltenham and Clayton stations, and therefore provides the shortest rail alignment (which supports a faster journey and better customer experiences). In contrast, Option 4 is the least preferred option given it is the furthest from Cheltenham and produces the longest rail alignment. Option 6 is the middle-preferred option.
- **Connectivity (operability):** All three options meet the minimum land configuration requirements for rail infrastructure and provide around-the-clock site access from the arterial road network and are therefore considered to provide equally favourable connectivity outcomes from an operability perspective. However, if a larger footprint is required, Options 4 and 6 would not preclude the potential for expansion subject to necessary approvals, whilst Option 7 offers limited potential given existing site constraints.
- **Cost:** Based on an indicative costing exercise aimed at providing a relative comparison between the three stabling site options, Option 6 was assessed as the lowest overall cost option due to comparatively lower land acquisition (based on available land estimate) and tunnelling costs. Option 4 is the next preferred, primarily driven by significantly higher tunnelling costs compared to Option 6. Option 7 is by far the least preferred option due to significant costs associated with property acquisitions within the industrial estate.
- **Productivity and Liveability:** Sites within a Green Wedge Zone will result in lower displacement of employers/employees compared to an Industrial area and are therefore considered to produce comparatively better productivity and liveability outcomes. Option 6 is considered more favourable than Option 4 because the site for Option 6 is predominantly vacant. Option 4 will directly impact a number of residential / commercial properties and is expected to have impacts to agricultural businesses associated with market gardens. Option 7 is the least preferred given significant displacement of jobs within a regionally significant industrial precinct.

Summary: Based on outcomes of the six assessment criteria, SRLA recommends **Option 6 – Heatherton Cleanfill** as the baseline Southern Stabling Yard site location.

The site is recommended due to its reduced impacts to residential properties and agricultural businesses as well as comparatively lower land acquisition and tunnelling costs resulting in overall lower costs. Based on further analyses and concept design, Option 6 is considered to provide the most flexibility to accommodate varying design parameters and depot features and is confirmed as the baseline.

Site investigations of the recommended site have been carried out, along with impact assessment studies. Community and stakeholder consultation will be ongoing.

Supported by a range of technical investigations and studies, the Environment Effects Statement (EES) will carefully consider potential impacts on people, structures and the environment, including at the recommended site. The EES will include investigations into social impacts, construction impacts (including tunnelling) on the local environment, including noise, vibration, air quality and ground movement, and include measures to minimise potential impacts.

Stabling site options assessment – Summary outcomes

SRL NORTH – Northern Stabling Yard*

Shortlisted site options:

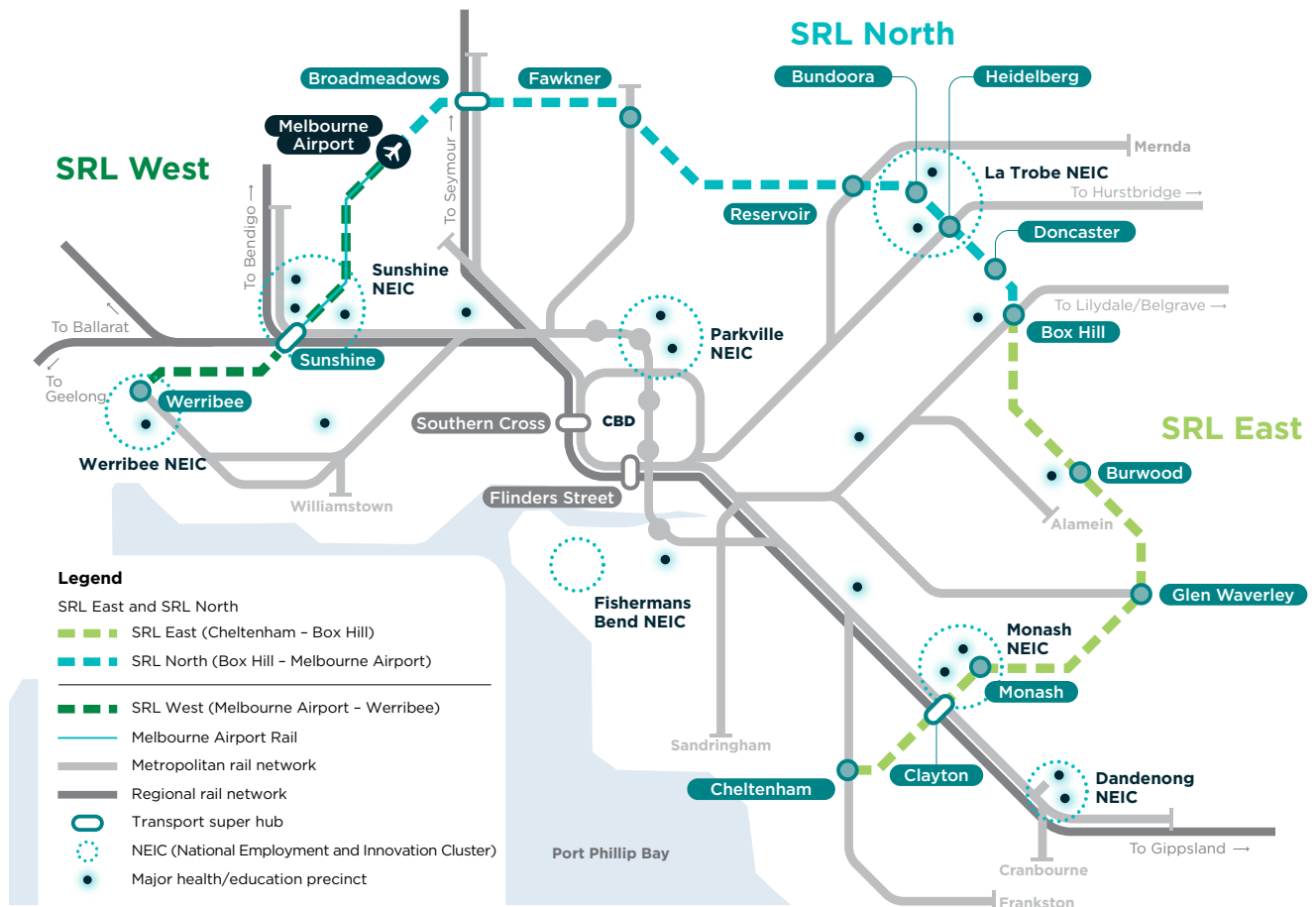
- **Option 4: East of Mickleham Road (Green Wedge Zone)** – Preliminary stabling layout indicates an area of ~10 ha, with additional land required for alignment and tunnel dive structure. Distance to Melbourne Airport is ~3.7 km, and total rail alignment length between Melbourne Airport and Broadmeadows via this option is ~7.8 km
- **Option 7: Farmland (Farming Zone)** – Preliminary stabling layout indicates an area of ~32 ha. The constraints of the site would require a sub-surface connection to the mainline. Distance to Melbourne Airport is ~1.8 km, and total rail alignment length between Melbourne Airport and Broadmeadows via this option is ~6.6 km
- **Option 10: Commercial Site - Western Ave. (Commercial Zone)** – Preliminary stabling layout indicates an area of ~18 ha. Distance to Melbourne Airport is ~400 m, and total rail alignment length between Melbourne Airport and Broadmeadows via this option is ~6.4 km. Some localised contamination may be present and a number of utilities may be impacted.

** Note: Given the protracted delivery timeline of SRL North (which includes the Northern Stabling Facility), the stabling site options will be reassessed and confirmed as part of future design development.*

4.4 Baseline alignment

The precinct location options assessment summarised in section 4.3 identifies the preferred precinct locations for SRL East and SRL North. The baseline SRL alignment, including the confirmed SRL East section, is illustrated in Figure 4-8 below. As noted previously, SRL North precinct locations are preliminary only and will be subject to further analysis, technical investigations and consultations.

Figure 4-8: Baseline SRL alignment



Source: SRLA

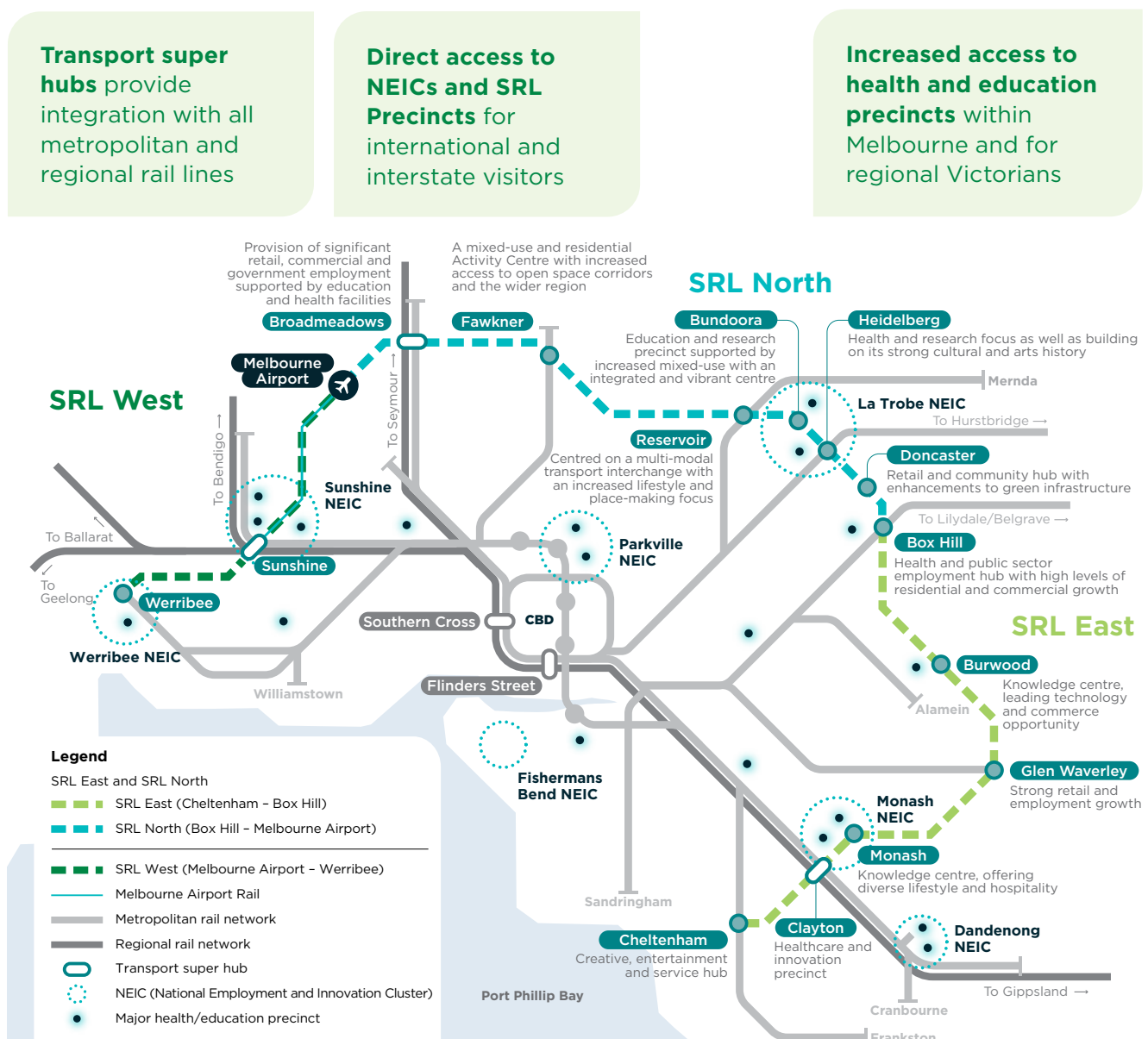
The baseline SRL Precincts formed the basis for further development of the SRL East and SRL North program scope, which encompasses an integrated transport and precinct solution. The recommended scope of the SRL East and SRL North transport and precinct solution is presented in Chapter 5.

5 Recommended integrated transport and precinct solution (high-level scope)

Chapter summary

— This chapter presents a summary of the recommended scope of the rail transport infrastructure and precinct development solutions that comprise SRL East and SRL North. The recommended rail corridor and SRL Precinct ambition statements are depicted in [Figure 5-1](#).

Figure 5-1: SRL East and SRL North rail corridor with SRL Precinct ambition statements



Source: Suburban Rail Loop Authority (SRLA)

- Key scoping decisions have been underpinned by:
 - A focus on integrated infrastructure and land use planning, aimed at maximising benefits across the SRL Objectives of Productivity, Connectivity and Liveability
 - Program delivery optimisation, with disruptions to the community and businesses minimised
 - Cost optimisation
 - Best practice and lessons learnt from precedent rail transport and precinct projects in Australia and overseas.
- Responding to the sequenced and programmatic nature of SRL East and SRL North, SRLA has developed a clear framework to guide the Program Development Process for all phases of SRL East and SRL North. This Scope Framework provides a tool to identify and define scope elements, and provides context and parameters for the economic appraisal presented in Chapter 12 of this Business and Investment Case.

5.1 SRL Precinct Principles and Ambitions

5.1.1 Precinct Principles

Following the selection of preferred precinct location options (presented in section 4.3.4), a set of SRL Precinct Principles was developed to guide the planning, design and development of SRL Precincts and to ensure that the benefits of SRL East and SRL North are realised over time. The SRL Precinct Principles employ the key hallmarks of the '20-Minute Neighbourhood Strategy' within *Plan Melbourne* and draw on lessons learned from best-practice local and international experiences of urban renewal and development.

The SRL Precinct Principles:

- Provide direction and guidance for identifying and prioritising initiatives for precinct development
- Will be used as a reference to ensure the vision of *Plan Melbourne* is translated to regional plans, corridor plans, master plans and place plans
- Ensure that the design and development of SRL Precincts continue to maximise and deliver community benefits over generations to come.

These principles will result in a coordinated and cohesive approach to SRL Precinct development across government, regardless of the scale.

Figure 5-2: SRL Precinct Principles



5.1.2 Precinct Ambitions and future opportunities

As discussed throughout this Business and Investment Case, Melbourne is growing and will continue to grow over coming decades – and SRL provides an opportunity to plan for the services, amenity and infrastructure Melbourne will need outside of the CBD and inner city. SRL East and SRL North will enable clusters of jobs, businesses, quality housing choice and services in growing middle suburbs – with infrastructure to support and connect them.

The SRL Precincts are largely established middle-ring suburbs that already have their own contexts, with vibrant histories and communities. SRLA has engaged with SRL East communities, councils and key stakeholders to understand these unique contexts to enable the precinct initiatives to build on and support this local character. These will also be important considerations for SRL North Precincts, where planning and consultation is still in early stages.

The forward-looking ambition statements for each SRL Precinct (Precinct Ambitions)²⁰⁹ represent the desired evolution of each SRL Precinct, as well as the important role each precinct will play in delivering the *Plan Melbourne* vision. The Precinct Ambitions and SRL Precinct Principles will be refined through further ongoing engagement with the community and stakeholders.

The Precinct Ambitions will drive the prioritisation of investments within a precinct, while the Precinct Principles will set the shared tone for precinct development across SRL East and SRL North. A preliminary assessment of precinct initiatives has been undertaken using a robust Precinct Development Framework to identify the future potential, desired outcomes and key opportunities for each SRL Precinct (see Appendix B.3: SRL Precinct Development Framework). This has informed the identification, assessment and prioritisation of potential catalyst and broader precinct initiatives that could be delivered over time to realise Precinct Ambitions and the SRL Objectives. Further scoping and initiative development is required to define and appraise the viability of these opportunities.

Table 5-1: SRL East and SRL North Precinct ambition statements

SRL Precinct	Precinct Ambitions
Cheltenham (interchange station)	Cheltenham will become an integrated centre of connected shopping, employment and housing opportunities supported by a thriving community and entertainment hub with an attractive public realm for its workers and residents, as the southern gateway to the SRL corridor.
Clayton (transport super hub & interchange station)	Clayton will be both a leading health cluster and ‘transport super hub’ for Melbourne’s southern metropolitan and Gippsland region. Home to world-standard healthcare and leading-edge commercialised research and development innovations, it will also be a hub for local living services and maintain a high amenity environment.
Monash (new station)	Monash Precinct will be known globally for innovation, building on Monash University’s strengths in science, technology, engineering and mathematics (STEM) to attract and retain leading global firms. Significant employment growth will be supported by an attractive public realm, comprehensive walking, cycling and public transport networks, and a diverse lifestyle and hospitality offering.
Glen Waverley (interchange station)	Glen Waverley will be a centre for workers, students and residents, accessible from across the eastern metropolitan region and anchored by a vibrant multicultural core. Central Glen Waverley will grow through an intensified mix of businesses, retail, services and entertainment uses, within a pedestrian- and cycling-friendly local environment.
Burwood (new station)	Burwood will have significant mixed-use activity areas and be a major education precinct for Victoria, anchored by Deakin University’s strengths as a leader in technology and commerce. An activated public realm along the Burwood Highway corridor will support more jobs and residents and enhanced access to Gardiners Creek will be supported by comprehensive walking and cycling links.

²⁰⁹ A Precinct Ambition has not been developed for Melbourne Airport. Substantial precinct development and implementation of precinct initiatives is unlikely to be undertaken at Melbourne Airport as part of the SRL North program of works.

SRL Precinct	Precinct Ambitions
Box Hill (interchange station)	Box Hill will continue to grow as a Metropolitan Activity Centre and strategic multi-modal transport hub for Melbourne's east. Growth in health and public sector jobs will be supported by continued mixed use development and high quality landscaped central areas that are attractive for pedestrians. The precinct will remain a multicultural hub, providing amenity and community infrastructure for its diverse population.
Doncaster (new station)	Doncaster will continue to grow as a dynamic Major Activity Centre, anchored by the Westfield Shopping Centre and Manningham Civic Centre with a broad range of businesses, employment opportunities, community services, and a vibrant night time economy to support its diverse local community.
Heidelberg (interchange station)	Heidelberg will be the eastern gateway to the La Trobe NEIC, home to a significant medical precinct that will maximise employment opportunities in health and supporting industries. Building on its rich history of culture and the arts, Heidelberg will flourish with high visitation to its cultural heritage sites and institutions along the Yarra River.
Bundoora (new station)	Bundoora will be a lively university city, the integral education and research precinct of the La Trobe NEIC, highly connected to other precincts through an integrated multi-modal transport interchange. Hosting a vibrant and thriving mixed-use town centre, Bundoora will support a flourishing residential, student and working community.
Reservoir (interchange station)	Reservoir will remain a highly liveable and connected precinct, providing new opportunities for population and employment growth centred on a multi-modal transport interchange and a vibrant main street.
Fawkner (interchange station)	Fawkner will be a new and distinctive mixed-use and residential activity centre connected to the station and Sydney Road, providing local connectivity and quality public realm and landscape.
Broadmeadows (transport super hub & interchange station)	Broadmeadows will be a growing commercial and services hub for the northern region, leveraging its proximity to Melbourne Airport to provide significant retail and commercial employment. The precinct will be supported by important health and education facilities and diverse housing options for residents.

Precinct characteristics and the Precinct Ambitions outlined above have been considered in the process of determining the location of SRL Stations.

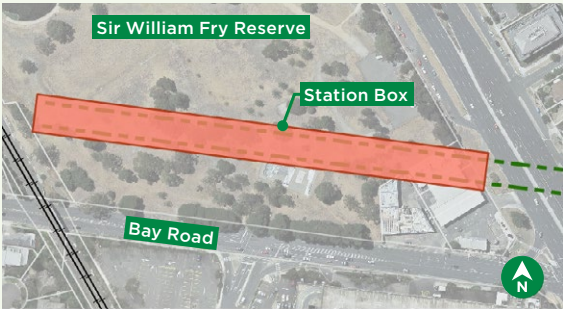
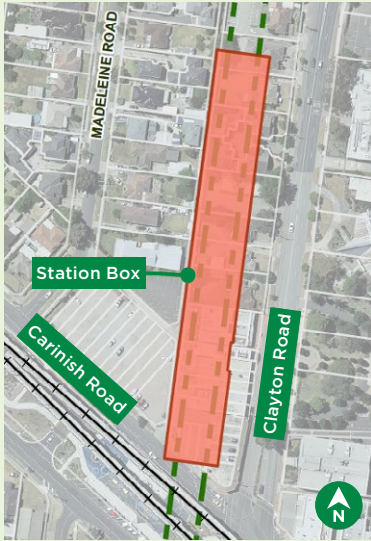
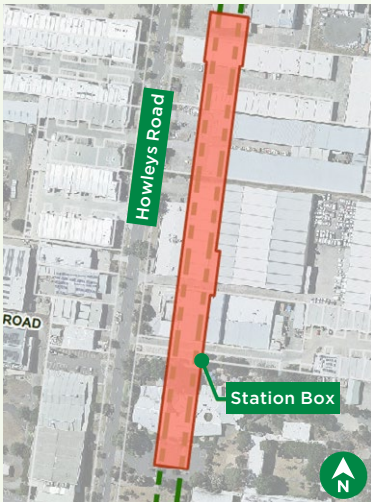
5.1.3 Station location options

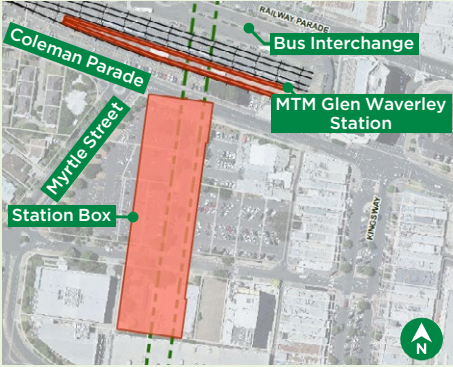
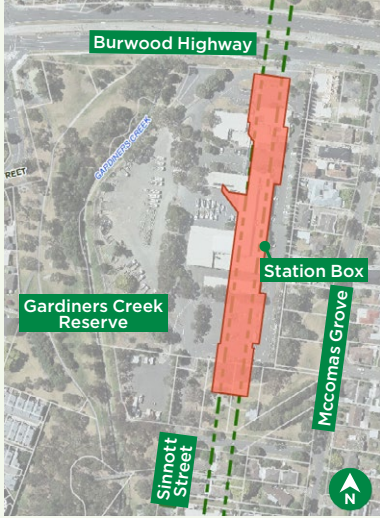

The SRL Precincts were determined through the precinct location options assessment process, with SRL East station precincts between Cheltenham and Box Hill confirmed (see Chapter 4).

To further define the SRL East route alignment, a station location options assessment was undertaken to identify the baseline station box site for each SRL Precinct along the route, within the context of precinct characteristics and future ambitions for each precinct.

A summary of the SRL East baseline station locations is presented in [Table 5-2](#), based on SRLA's Concept Design for SRL East. The precise station details are subject to change as the design is progressed, informed by further site investigations, consultation, planning approval processes and market engagement.

Table 5-2: SRL East baseline station locations

SRL Precinct	Baseline station location
<p>Cheltenham Precinct</p>	<p>Option 1: Reserve (east-west)</p> <p>The proposed SRL Station site is on parkland known as Sir William Fry Reserve to the north of Bay Road, between the Frankston rail line and Nepean Highway. The existing Southland train station and Southland Shopping Centre are located opposite the proposed station location to the south of Bay Road and a convenient interchange will be provided between Southland Station.</p> <p>As Cheltenham station is at the end-of-the line, crossover and turnback structures will be provided to allow terminating trains to recommence passenger services in the opposite direction.</p> 
<p>Clayton Precinct</p>	<p>Option 1: West of Clayton Road (north-south)</p> <p>The proposed SRL Station site sits between Clayton Road and Madeleine Road, with Carinish Road forming the southern boundary and the north extending to the approximate alignment of Lillian / Wright Street. It is currently occupied by a mixture of shop fronts along the southern leg of Clayton Road, detached residential dwellings, medical suites and community uses.</p> <p>A convenient interchange will be provided between the SRL Station and the existing Clayton train station.</p> 
<p>Monash Precinct</p>	<p>Option 1: Howleys Road (north-south)</p> <p>The proposed SRL Station site is to the north of Normanby Road and east of Howleys Road. To the north of Monash University, within walking distance, the broader area is currently dominated by light industrial, large format buildings and street level car parks. CSIRO occupies land to the west and southwest of the core area.</p> <p>This location includes provision for crossover and turnback structures to provide increased operational flexibility.</p> 

SRL Precinct	Baseline station location
<p>Glen Waverley Precinct</p>	<p>Option 2: Glendale Street (north-south)</p> <p>The proposed SRL Station site is south of the existing Glen Waverley rail line and station, within the Glen Waverley activity centre. The core station precinct is broadly defined by Myrtle Street to the west, Railway Parade to the north, the Ikon Building and Kingsway retail strip to the east, and Bogong Avenue to the south. A convenient interchange will be provided between the existing Glen Waverley Station.</p> 
<p>Burwood Precinct</p>	<p>Option 2: Industrial site at 200 Burwood Highway (north-south)</p> <p>The proposed SRL Station site is to the south of Burwood Highway and east of Gardiners Creek. The core station precinct is broadly defined as the land west of McComas Grove and north of Sinnott Street.</p> <p>Deakin University is directly opposite on the north side of Burwood Highway. Tram route 75 operates along Burwood Highway, with an existing stop to the east of the proposed station site.</p> 
<p>Box Hill Precinct</p>	<p>Option 3: Market Street (north-south)</p> <p>The proposed SRL Station site is to the north of the existing Belgrave/Lilydale rail line, east of Market Street and crosses Whitehorse Road.</p> <p>As the Box Hill station is at the end-of-the line for SRL East, crossover and turnback structures will be provided to allow terminating trains to recommence passenger services in the opposite direction (prior to the delivery of SRL North). A convenient interchange will be provided between the existing Box Hill Station.</p> 

Details of the SRL East station location options assessment are provided in Appendix B.2: Station Location Options Assessment Summary (SRL East). The outcomes of this assessment process have informed the rail infrastructure solution, underpinning the development of both the Concept of Operations and Concept Design for SRL East.

For SRL North, as concept definition is currently at an early stage of the design process (advanced feasibility), only a preliminary station location options assessment has been undertaken. Details of station box locations for SRL North will be confirmed in due course and are not presented in this Business and Investment Case.

5.2 SRL East and SRL North rail infrastructure

5.2.1 Overview

The combined SRL East and SRL North orbital rail line stretches approximately 60km from Cheltenham to Melbourne Airport, connecting jobs, retail amenities, education and health services in key strategic activity centres across Melbourne's middle suburbs. The new rail line will deliver 'transport super hubs' at Clayton and Broadmeadows, providing regional Victorians with a more direct link to employment, world-class hospitals and universities.

As discussed earlier in this Business and Investment Case, SRL is a multi-generational project that will be sequenced over several decades. The program of works includes:

- **SRL East** – comprising approximately 26km of twin-bored tunnels, six new underground stations between Cheltenham and Box Hill, and the primary train stabling and maintenance facility for SRL East and SRL North
- **SRL North** – assumed to comprise approximately 34km of twin-bored tunnels, seven new stations between Box Hill and Melbourne Airport, and a secondary stabling and maintenance facility
- **SRL West** – comprising Melbourne Airport to Box Hill, will be subject to further investigation, planning and development.

The SRL East and SRL North rail network will be a standalone system, designed to operate independently of the existing Melbourne rail network, with interchange stations to provide connections to the existing radial rail lines. This operational separation from the existing rail network delivers a number of advantages with respect to design, delivery and operations, which are not constrained by any legacy issues imposed by the existing rail network and systems.

Passengers will be able to easily transfer between SRL and the existing radial rail lines via interchange stations, with the same ticketing system servicing both networks.

As a standalone line, SRL can use state-of-the-art systems from around the world without having to retrofit technology into the existing network, saving time and money during design and delivery. Being a dedicated line also means the design of the fleet is not constrained by the requirements of Melbourne's hundred-year-old train network, allowing the adoption of high-tech trains that are purpose-built to provide a 'turn up and go' service.

5.2.2 SRL rail network – operational objectives

The operational and services objectives of SRL include:

- Provide a 'turn up and go' metro-style rail service, with SRL Stations located in areas of new and established communities
- Initiate precinct developments around SRL Stations to provide greater diversity of housing choices
- Minimise impacts on the existing communities within and between SRL Precincts
- Encourage commuters to switch from road transport to rail, thereby encouraging a more sustainable form of transport and supporting environmental outcomes
- Enhance transport connectivity by providing passenger interchange with other railway lines
- Connect regional communities to employment opportunities, education, health and other services in Melbourne's metropolitan areas
- Increase the railway network's resilience during disruptions by providing alternative railway links.

These objectives have underpinned the design development of the SRL East and SRL North rail network. The overarching focus throughout the design phase has been to optimise user experience, minimise operational costs, maintain efficiency and safety, and drive innovation.

During the design development of SRL East and SRL North rail infrastructure, key decisions have been benchmarked to existing international rail systems and, specifically, to comparable 'turn up and go' metro orbital rail examples. The benchmarking has provided evidence to support the design decision making process, ensuring an up-to-date rail infrastructure solution is developed.

5.2.3 Train service levels

The design of rail operations is focused on achieving increased flexibility of train frequencies (aligned to patronage demand), delivery of high-frequency services, greater train capacity, improved passenger comfort and safety, minimised energy costs and enhanced ability to respond to service disruptions and degraded modes of operations to reduce overall impact to users. The trains will provide a safe, reliable and accessible form of public transport that meets passenger expectations for a modern 'turn up and go' service.

The level of train services required is based on network demand projections, which in turn determine the ultimate design capacity. The rail infrastructure is then designed in response to this ultimate design capacity, with fleet size and rolling stock requirements developed to meet the operational needs of SRL at various stages.

Actual operating hours and service patterns for SRL will be determined by the Victorian Government based on customer requirements and government policy.

The service outcomes outlined in this Business and Investment Case reflect current working assumptions and should be treated as indicative only.

Assumed service frequency

Operating hours for SRL are planned to generally align with the first and last train services on the existing Melbourne metropolitan rail network to support connectivity with the broader rail network and interface with other transport modes. Based on the current metropolitan train timetables, SRL services will operate 20 hours per day (between 4:30am and 12:30am) from Sunday to Thursday and 24 hours on Fridays and Saturdays. The operating hours and service patterns will be revised in coordination with the maintenance strategy, while ensuring these meet user expectations.

To accommodate forecast patronage for the opening of SRL East, it is assumed that trains will run every six minutes during peak periods and every 10 minutes during off-peak periods between Cheltenham and Box Hill. As SRL North is delivered progressively, train frequency will increase to meet higher patronage demand, with an ultimate assumed peak period service frequency in the order of a train every two minutes. SRLA's demand modelling indicates that this service headway will be sufficient to support patronage demand growth through to 2080 (however, service frequency needed to support demand on 'Day 1' of the combined SRL East and SRL North is still being determined).

Estimated journey times

Rail infrastructure for SRL is being designed to support train operational speed of 100km per hour.

The estimated journey time between most SRL stations is estimated to be around 3-4 minutes. This translates to an estimated journey time of approximately 22 minutes from Cheltenham to Box Hill and an overall total journey time of up to approximately 55 minutes from Cheltenham to Melbourne Airport.

Table 5-3: SRL East and SRL North indicative journey times

Line speed: 100km per hour Dwell time: 30 seconds	Indicative distance	Total journey time (including dwell)
SRL East: Cheltenham - Box Hill	26km approx.	22 minutes approx.
SRL North: Box Hill - Airport	34km approx.	28 minutes approx.

Ticketing and revenue collection

The SRL rail network will adopt the same ticketing and revenue collection system as the broader Victorian transport network. This improves user experience and makes it easy to interchange between rail networks and other transport modes.

During the design and development of the rail infrastructure, consideration has been given to the possible forms that future ticketing may take.

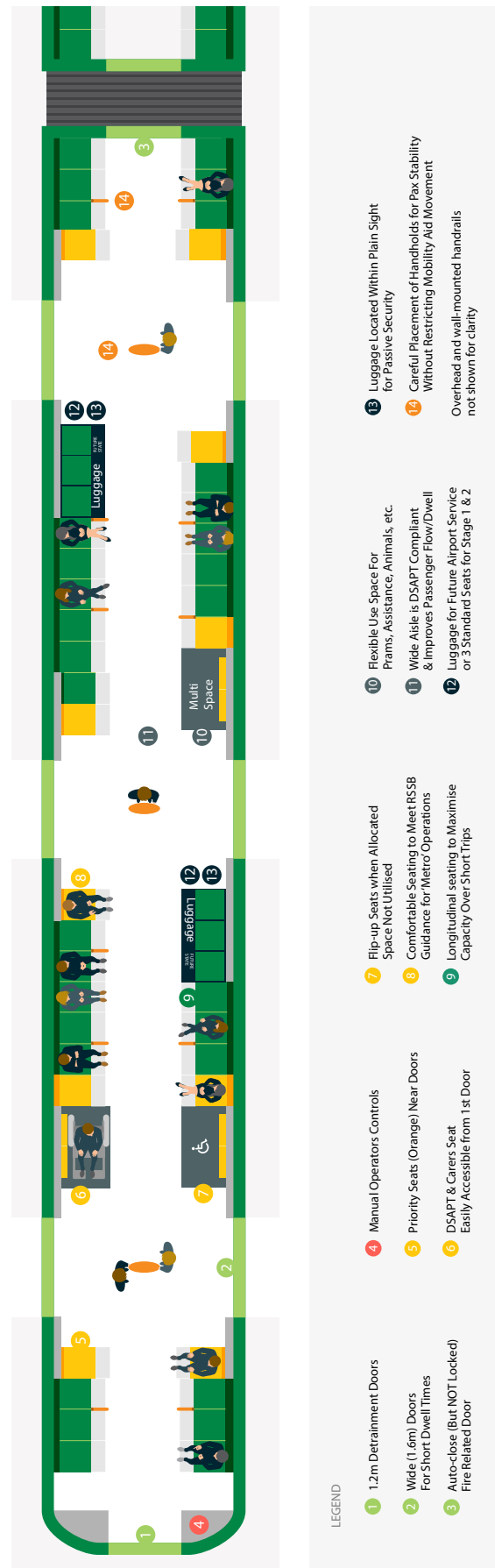
5.2.4 A dedicated train fleet

The SRL rail line will operate independently (of other metropolitan rail networks), with its own new dedicated fleet of rolling stock. In response to forecast demand projections, the 'SRL East and SRL North reference train' is identified as a four-car medium capacity rolling stock (MCRS), with vehicle specifications including all the necessary features for underground / tunnel operations.

The train will provide easy access, passenger comfort, low internal and external noise emissions, a sense of security, high quality passenger information systems and comfortable and ergonomically designed seating. Carriages will have dedicated spaces for wheelchairs and passengers with special needs, as well as flexible use spaces for prams, assistance animals and other uses. As SRL will ultimately connect to Melbourne Airport, the train interior will be configured for flexibility and ease of movement for passengers travelling to the airport. An illustration of indicative train features is depicted in [Figure 5-3](#).

The SRL rolling stock will be automated and capable of an operating line speed of 100km per hour. The train system will be controlled and monitored from the operational control centre (OCC) utilising location data, with onboard and centralised systems to ensure safety of train operations. Further, the train design will anticipate future upgrades and enhancements to onboard systems, subsequent train orders and the need for the fleet to remain highly available as it progresses through its maintenance cycle.

Figure 5-3: SRL train features (indicative)



Source: SRLA

5.2.5 SRL Station design

Each SRL Station has been designed to respond to its surroundings and the unique characteristics of each SRL Precinct. In designing the station floor plans, consideration has been given to entrance locations, public circulation, construction and operational impacts, interchange with the radial rail network and other public transport, while maintaining a focus on creating simple and cost-efficient designs.

Station guiding design principles

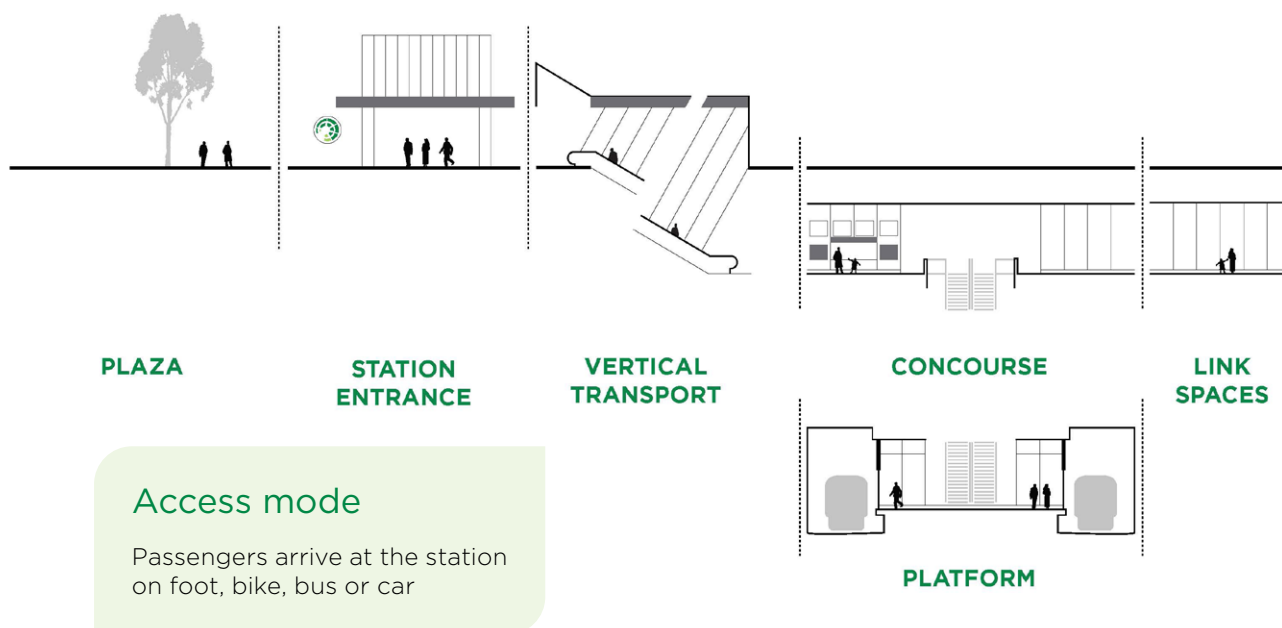
To guide the development of station designs, SRLA developed a set of guiding design principles including (but not limited to):

- Minimise platform-to-platform walk time and enable direct paid connections (where possible)
- Provide efficient intermodal interchange with buses / trams
- Limit construction disruption to existing rail operations at interchange stations
- Maximise patronage, based on the projected demand and user base
- Support and enhance '20-minute neighbourhoods' for convenient and desirable access to everyday services, facilities and key institutions
- Standardise underground design (insofar as practical) to assist with user wayfinding and to support operations and maintenance, and respond to a preference for incorporation of natural light
- Provide integrated land use and transport solutions that respond to the precinct ambition, as well as strategic transport and land use planning for the broader precinct
- Design and integrate new above-ground infrastructure to respond and contribute to the unique and valued social, cultural, physical and economic context of the surrounding precinct
- Provide an accessible layout and journey experience for all users.

The user journey

SRLA recognises that the user experience of a station is a sequential journey from public realm, through the entrance, concourse, gateline, platform and finally onto the train. This sequence is shaped by the components that go together to form the station, as illustrated in [Figure 5-4](#).

Figure 5-4: User journey through a station



The design of a station's public areas offers an opportunity for the expression of identity, with each station element having the potential to frame the user experience and establish and reinforce the line-wide SRL identity. This includes the station plaza and entrance (and immediate surroundings), the concourse and the platform. Interchange stations will be developed with a heightened focus on the user journey experience with respect to connectivity, permeability and wayfinding, while responding to any specific station location limitations and constraints.

Descriptions of each station element and key objectives are provided in [Table 5-4](#). Station development and its role in achieving broader precinct outcomes is discussed in section [5.3](#).

Table 5-4: Key station components

Station elements	Description and key objectives
Plaza	Safe and inviting, and will foster a variety of public activities including meeting, greeting, waiting, interchange between transport modes and orientation for those arriving.
Entrance	A welcoming, generous space that provides shelter from the elements, and a strong sense of identity that is instantly recognisable by users and easy to find.
Vertical transport	Naturally and easily connects with ground, concourse and platforms, comprising escalators and lifts that assist in easy and intuitive wayfinding through the station.
Concourse	SRL Stations will all have a below-ground concourse level where, for most stations, a single gateline is located that makes the user journey as easy as possible.
Platform	Platforms will incorporate platform screen doors and station furniture, with a visual identity that immediately allows passengers to know where they are.

The primary objective of the SRL rail line is to deliver fast and reliable rail transport between suburbs and existing rail corridors, supported by convenient interchanges with other train lines, trams, buses and active transport modes (pedestrians and cyclists). By creating stations that are easy to get to and that fit in and add to the amenity of local neighbourhoods, SRL will encourage more people to leave their cars at home – helping to reduce road congestion and associated impacts on pedestrians and cyclists, and also minimising the need for car parking. Car passengers will be able to access well-designed and convenient pick-up and drop-off facilities at the new stations for a hassle-free travel experience.

The overriding focus of SRL is on making sure the areas around the new stations continue to be thriving and vibrant places to live and to visit. This means ensuring that the limited and valuable land in the SRL Precincts will be dedicated primarily to initiatives that enhance amenity, add to services and create jobs.

User-centric station design requirements will cater to the needs of all passengers

All-abilities access will be integral to the station design, creating enjoyable journeys for users with varying and diverse needs. All SRL Stations will be compliant with Disability Standards for Accessible Public Transport (DSAPT), which will include compliant access to the station at ground level and lifts to the platform level. Station staff will also be available to assist passengers boarding or alighting trains and navigating the stations.

All-abilities wayfinding infrastructure, including tactile ground surface indicators and audio-loops, will be implemented at all stations. Consideration has been made for the platform height and the carriage interface to ensure a smooth and safe transition on and off the train.

5.2.6 Stabling and maintenance

The SRL dedicated train fleet will require suitable stabling and maintenance infrastructure to provide storage when not in use, as well as to support full capability for maintenance throughout its life. The stabling and maintenance yards for SRL will be located in close proximity to the main line to facilitate the launching and recovery of trains in a timely and efficient manner.

As discussed in section [4.3.5](#) (Stabling site options assessment outcomes), a Southern Stabling Facility will be delivered as part of SRL East at the southern end of the line. This is the primary stabling and maintenance depot for SRL East and will provide train stabling and maintenance facilities and the OCC, as well as engineering vehicle storage and a workshop.

An additional Northern Stabling Yard will be delivered as part of SRL North at the northern end of the line. This is a secondary stabling and maintenance depot for SRL East and SRL North and will provide train stabling and light maintenance and cleaning facilities.

5.2.7 Control centres

As a standalone rail network, SRL will have its own system-wide control centre, the OCC, with capability for both centralised and station-based control facilities. The OCC will manage and control all trains across the SRL network, provide control and monitoring of tunnel ventilation, fire safety and passenger movements, and notify incidents to police, fire services and other emergency services. The OCC will also provide public announcements, overhead traction power supply control and system fault evaluations and analysis.

A back-up control centre (BCC) is required to facilitate network continuity in the event of an incident or problem at the OCC. The BCC will be designed to allow quick and efficient transfer of control, and have the capability to control and operate all primary systems needed to maintain rail operations in normal, degraded and emergency modes for an ongoing period of time.

5.2.8 Safety and security

The overall strategy for the safe implementation and operation of SRL will be established under an operational safety and security policy, supplemented by interface arrangements with other rail lines. A robust and documented approach to safety and system assurance will be developed in line with recognised standards and requirements, including those of the Office of the National Rail Safety Regulator (ONRSR) and relevant rail safety accreditations.

An effective safety management approach requires consideration of all stages of delivery including design, construction and commissioning, as well as operations (addressing normal, degraded and emergency operation modes). All stations and facilities will be designed to provide for the safety of passengers and staff, including use of materials with low flammability and fire-resisting characteristics. Further, safety will be addressed across all areas in a systematic manner using formal techniques, including systematically evaluating each hazard or risk identified and developing mitigations to address each issue.

Fire and Life Safety

The SRL Fire and Life Safety strategy is based on the principle of minimising the severity of a fire event such that passengers and rail staff are able to safely evacuate the station, train and/or tunnel before untenable smoke conditions develop, and to allow fire brigade and other emergency services access in a safe environment to conduct their operations.

A suite of fire safety systems will support the implementation of the Fire and Life Safety strategy. Input from various stakeholders including Fire Rescue Victoria and other emergency services is ongoing to ensure specific fire and life safety issues are addressed and/or resolved at the earliest possible stage of design.

5.2.9 Sustainability and environment

An SRL Sustainability Strategy considers the Victorian and Australian legislative framework and policy context, as well as the United Nations Sustainable Development Goals. For rail infrastructure, key sustainability objectives include:

- Reducing demand on resources such as energy, water and materials through efficient design, recovery and innovative technologies
- Supporting Victoria's shift to a circular economy, considering whole-of-life impacts
- Providing opportunities to improve and enhance each station's surrounding environment, focusing on culture, ecology and biodiversity
- Improving liveability, mobility, health and wellbeing.

Program-wide sustainability targets have been identified and will be progressively updated in line with advancements in technology and are benchmarked against local, national and world best practice on similar infrastructure and precinct projects. The sustainability targets will be embedded in contract documents to drive improvements and innovation during delivery.

SRLA has a clear vision for SRL to demonstrate best practice environmental, social and economic outcomes in their design, delivery and operation. Sustainability underpins the core program objectives and will be integrated across all program phases.

5.3 SRL precinct development and activation

5.3.1 Precinct initiatives

To achieve the Precinct Ambitions outlined in section 5.1.2, realise the benefits described in Chapter 3 and derive continued value from this significant investment, SRLA will work with other Victorian Government departments and agencies, local government, community organisations and the private sector to develop and enhance the SRL Precincts. Specifically, SRLA will play an active role in providing the enabling environment to meet the broader objectives of SRL, including through activities in the following categories.

Planning settings

Planning levers to guide land use, built form, local access and public spaces to support changing community needs

Examples

- Precinct structure planning, master planning and strategic zoning changes to encourage more intensive, employment and housing-focused, mixed use development in activity centres
- Preservation of space to allow for future transport connections, public open space, community facilities or other uses.



Source: City of Melbourne

Broader infrastructure

Coordinating the delivery of community facilities and services to enhance the liveability, productivity and connectivity of precincts for current and future generations.

Examples

- Priority walking and cycling links to connect major destinations within precincts and to open space
- New/upgraded public open space and public realm improvements
- Other community facilities such as schools, sporting and cultural facilities and health facilities.



Source: Yagan Square

Station development

Provision of over-station and adjacent-to-station development to capitalise on the opportunity to leverage land for additional commercial, residential and community infrastructure.

Examples

- New underground SRL stations with plazas and provisions for development above and adjacent
- Coordinated and integrated commercial development
- Activated town centres around the station precinct with opportunities to integrate amenities, such as community hubs (e.g. library, co-working space and kindergarten)
- Introducing or extending pedestrian links and zones.



Source: Sydney Metro

Catalyst projects

Investments in civic infrastructure and commercial developments that add to and support thriving communities and leverage Victoria's competitive strengths.

Examples

- Expansion of education and health precincts
- Attraction of anchor tenants to catalyse coordinated development
- Relocation of a public sector workforce to diversify economic activity
- Creation and expansion of business and innovation parks across a range of sectors, including advanced manufacturing, technology and creative industries
- Enhanced precinct permeability, such as providing pedestrian bridges over major roads and rail links
- Growth of the evening and night-time economy to stimulate high streets
- Economic growth strategies that facilitate investment.



Source: NSW Government

Planning settings

Strategic and coordinated land use planning will enable the Victorian Government to identify, prepare and better employ existing infrastructure and services, and partner across government agencies and with the private sector to realise Precinct Ambitions. This approach will actively involve traditional owners, communities and businesses in imagining their future potential, so that careful consideration is given to the place's social, cultural, environmental and economic contexts.

While SRL Precincts are focused around the new rail corridor, the accessibility offered by SRL will change the shape of the city – requiring planning settings that will help to attract greater investment along connecting rail corridors.

The land use implications of SRL will be reflected in more detail in a series of strategic plans. SRL Structure Plans will establish a precinct boundary and describe preferred land use and development outcomes within each precinct, to guide the realisation of the various strategic and economic opportunities associated with the rail infrastructure. The Structure Plans will outline sub-precinct use and development objectives, strategies and desired development outcomes (including the design principles for development, major land uses, transport and open space networks).

Further details of the planning framework and implementation considerations are discussed in Chapter 14.

Station development

The new SRL Stations provide additional opportunities for diverse housing as well as new civic infrastructure and amenities, such as retail, plazas and recreation spaces. In particular, there are exciting prospects for creating development spaces over the underground stations and around the stations. Over-station developments (OSD) and adjacent-to-station developments (ASD) are becoming standard practice for transport projects in many cities around the world, enabling the use of land directly above and around the station box. Rail stations have become more than just transition zones and many cities have shown that OSD and ASD can create a community heart and focal point for residents and businesses within walking distance of the station. While Australian cities have been relatively slow to embrace OSD, it is increasingly being seen as a viable way to create vibrant new urban places and provide new employment, housing and entertainment options in areas where there is otherwise very limited space available.

Strategic OSD and ASD development investment in SRL Precincts can unlock opportunities, stimulate economic development and leverage investment by others. Attracting investment around SRL Stations and the broader precinct will mean people living in the suburbs and regional Victoria have greater access to more diverse employment opportunities, as well as health, education, recreation and other services, without having to travel to or through the central city.

The demand for residential, retail and other complementary amenities in and around SRL Precincts is also expected to rise over time, which will support the development feasibility of OSD/ASD projects.

Development in motion

A number of development sites will be considered above and around the SRL Stations following completion of construction works. Preliminary feasibility analysis has been conducted to assess the opportunities that may be generated by each of the station related development sites within each SRL Precinct. This analysis indicates that there are likely to be different types of development opportunities across the SRL East Precincts. For example, with its existing density and good retail access, Box Hill has the potential for further commercial and residential development. Burwood represents an opportunity for residential focused development.

Catalyst projects

Strategic investments will shape the way precincts develop. Catalyst projects will help realise *Plan Melbourne* by:

- Growing strategic economic centres
- Creating vibrant and thriving communities
- Improving access to desirable services and amenities such as green open spaces
- Supporting an integrated transport system that can support Melbourne into the future.

A range of government planning and investment opportunities have been identified as being the most likely to support these precincts moving towards the future state envisioned. Potential catalyst projects include delivering new 'town centres', GovHubs and economic infrastructure such as start-up accelerators.

The Victorian Government will evaluate opportunities to take a direct role in delivering some catalytic projects (such as civic infrastructure and commercial developments) and will support and partner with other stakeholders with roles in delivering improvements to the SRL Precincts. Further detail and delineation of roles is provided in section 5.4.1.

Broader infrastructure

Broader precinct infrastructure will help to ensure that the benefits of SRL to local communities extend beyond improvements to the rail network. This includes improvements to local transport options, such as walking and cycling links, as well as coordinated government action to plan and deliver schools, health and community services, integrated developments for private and council infrastructure, and master-planning for areas that are likely to be able to offer significant amenity.

A range of public and private sector organisations will have responsibility to deliver broader precinct infrastructure to fully realise the SRL Program Objectives. The Victorian Government, through SRL, will partner with local governments and the private sector to enable integrated planning and delivery of legacy social and community infrastructure.

Capturing the social value of SRL

The social value of SRL has been analysed to capture and monetise the breadth of their impacts on society's wellbeing, including economic, environmental and wider societal impacts. This analysis focused on measuring the benefits from improved social connectedness and wellbeing, together with increased diversity in jobs in SRL Precincts. These values relate to two of the SRL Objectives:

- **Productivity:** shifting from being unemployed or under-employed to fully employed
- **Liveability:** feeling safe in your neighbourhood, access to high quality green spaces, reduced air pollution.

Traditionally, these types of benefits are not fully captured in an economic appraisal. However, there is evidence that this type of analysis is being increasingly adopted, such as the UK's HM Treasury Green Book and Magenta Book and the Organisation for Economic Co-operation and Development's valuation guidelines (2018).

Results

The social value analysis indicates that SRL East and SRL North will provide three wellbeing impacts for Melburnians, further to those assessed through the Economic Appraisal.

Liveability: Social connectedness and wellbeing **Improved sense of safety in the neighbourhood**

A range of factors, including increased economic activity and access to public green open spaces, can help improve sense of safety within a neighbourhood. The six precincts in SRL East currently report levels of perceived safety either in line with or higher than the rest of Greater Melbourne, which means the welfare gain for these precincts is calculated as zero due to the limitations of the diagnostic benchmarking model.

For SRL North precincts, the social value associated with an increase in sense of safety (based on the prediction that perceived safety would increase in SRL Precincts up to the levels currently reported in the rest of Greater Melbourne) is documented in the table below:

Total wellbeing benefit of improved sense of safety (SRL North precincts)

\$81.8 million

Note: due to low sample sizes, the lower bound with a five-year appraisal period has been used.

Improved sense of belonging

When a person has a sense of belonging, their overall wellbeing and life satisfaction is likely to improve. The overall social value associated with an increase in neighbourhood belonging produced by SRL Precincts (based on the prediction that perceived belonging would increase in SRL Precincts up to the levels currently reported in Greater Melbourne) is documented in the table below:

Total wellbeing benefit of belonging to neighbourhood

\$229.7 million

Note: due to low sample sizes, the lower bound with a five-year appraisal period has been used.

Productivity: More future relevant and diversity of jobs in SRL Precincts Shift to more productive jobs

When there is a greater diversity of jobs on offer, people can find pathways to more productive or higher skilled jobs. This not only reduces the incidences of skills mismatch or less productive work, but provides greater life satisfaction for a person. The analysis found that SRL East and SRL North will reduce the number of people engaged in work that is not commensurate with their qualifications and skillsets by improving access to higher-skilled jobs. In addition to the economic benefit that this provides through improved productivity, the wellbeing value of improved access to higher skilled jobs among those who were previously in less productive jobs is documented in the table below:

Total wellbeing benefit from a shift to more productive (skilled) jobs

\$270.9 million

Note: the more conservative lower bound value has been used, which assumes a 15-year appraisal period and imperfect competition in the job market leading to a 50 per cent reduction in overskilling.

About the method

The Wellbeing Valuation approach uses econometric techniques to estimate the Life Satisfaction created by a particular non-market good and converts this into a monetary value by combining it with an estimate of the effect of income on Life Satisfaction. It draws on subjective wellbeing data from national-level datasets, such as the Household, Income and Labour Dynamics in Australia (HILDA) Survey, which surveys more than 17,000 Australians each year. The results of the analysis were tested against three comparator areas: Greater Sydney, Greater Melbourne (excluding target precincts) and a more precise benchmark of the Local Government Area, Boroondara.

While there is growing evidence of the merit of this type of analysis, SRLA has been conservative and has not included these benefits in the economic appraisal of SRL East and SRL North outlined in Chapter 12.

Simetrica-Jacobs, Social Value: Application of subjective wellbeing approach to the Suburban Rail Loop (December 2020).

5.3.2 Precinct activation

SRL will be delivered over multiple decades, with initial and early works anticipated to commence in 2022. The decades-long timeframe for the construction of SRL is considerably longer than most infrastructure projects due to its scale and complexity.

Precinct activation

In the context of SRL East and SRL North, precinct activation refers to a wide range of short- and longer-term projects that seek to provide public benefit and contribute to making productive, connected and liveable precincts. These projects, referred to as 'activations', will be delivered through a wide range of temporary spatial initiatives, demonstration projects, installations, experiences, events, performances and programming, as well as permanent initiatives.

The following overarching objectives have been identified for precinct activation:

1. Celebrate the unique character, identity and cultural diversity of each precinct
2. In consultation with the Traditional Custodians of the land, identify and interpret Aboriginal cultural values and heritage through activations to strengthen the recognition of the precincts as Aboriginal places
3. Embed an inclusive place-focused approach to activations that engages and leverages communities, businesses, creative industries and other stakeholders to develop a shared vision, bring activity and create vibrant and thriving precincts and communities
4. Enhance precinct planning and design outcomes through testing and trialling priority precinct initiatives
5. Uncover value and maximise interim land and asset opportunities for public benefit
6. Deliver community-serving projects that strategically offset and minimise construction impacts
7. Guide SRL delivery contractors on the design and implementation of creative works and temporary programming as part of the Main Works Package.

Given the long delivery timeframe of SRL, precinct activation provides important opportunities to demonstrate, test and deliver early benefits and amenity to precincts and bring SRL Precinct Ambitions to life before and during the construction phase. Activations and early initiatives taken as part of SRL East will look to optimise and enhance key sites within the precincts and engage and support communities and stakeholders to ensure a place-focused approach throughout the duration of SRL's delivery.

Precinct activation can facilitate a shared vision of the precincts in ways that embrace their unique identities and stories and leverage existing social and cultural, environmental and economic opportunities. Activations can bring renewed use and life to underused or overlooked spaces, provide interim uses on land earmarked for future redevelopment and enhance a wide range of other spaces within the precincts.

CASE STUDY

Activation case study – Testing Grounds

Once home to the largest YMCA in the Southern Hemisphere, the 1 City Road site has been owned by the Victorian Government since the 1980s when the construction of the nearby Arts Centre was underway.

For decades, the site sat as a dusty, empty lot. Managed by Creative Victoria, the site is the only vacant parcel of land in the area and is slated for development in the future. In the meantime, it has been transformed into an urban design experiment – a low-cost arts incubator and a make-shift public park.

Established in late 2013, the land features a combination of covered and open air spaces, and a focus on unique programming.

Hundreds of projects and events have been hosted on the site since its inception, with the vast majority being free to the public.

Central to the Testing Grounds concept is the notion of experimentation, and research outcomes. This creative use of a previously underused empty lot has attracted new visitors to the Southbank area and enlivened the local precinct, which is undergoing a rapid transition to become a highly liveable residential area.

Midsumma Horizon at Testing Grounds



Source: Testing Grounds website

5.3.3 Urban design

Good urban design is central to great places, thriving communities and ensuring the ongoing liveability of Melbourne. It is more than just the appearance of the built environment. Good urban design creates functional, environmental, economic and social benefits, and has the ability to positively transform how people feel and behave.

Urban design operates on a variety of scales, from precinct neighbourhood planning to the design of a station forecourt or public park. High quality urban design will underpin the SRL Program, from the largest to even the smallest initiatives.

Achieving high quality design requires good processes and guidance that optimise outcomes and value. This includes the drawing on expertise from industry and stakeholders at all stages of the program lifecycle.

Good urban design processes and outcomes are important because they improve:

- Functionality, character and spirit of public places for individuals and communities
- Levels of comfort, accessibility, safety and inclusiveness of places
- Expression of social and cultural values associated with places
- Socio-economic composition, diversity and economic vibrancy of urban areas
- Sustainability and the resilience of urban environments
- Community connectedness, health and wellbeing, and pride of place.

SRL is a complex and long-term program. Embedding urban design thinking into the planning and design process will optimise benefits and create greater lasting financial value.

Urban design to support liveability outcomes is discussed in Chapter 9. Details on the urban design principles are provided in Appendix B.4: Urban Design Framework.

5.4 SRL scope and delivery

5.4.1 The Scope Framework

SRL will involve investments in a new railway and a range of initiatives and activities to develop the SRL Precincts. Given SRL involves a multi-generational program of investments, it is not possible to identify and define every scope element today. In response to these challenges, SRLA developed the Scope Framework.

Specifically, SRLA has developed the Scope Framework to provide:

- Certainty of scope (required to be delivered overall to achieve benefits, delivered by SRLA or by third parties, now or later)
- Context to each SRL East and SRL North Funding Submission, whether in parallel or over time
- Support to identify and manage interfaces and setting of requirements
- Alignment of claimed benefits with necessary scope / costs.

The Scope Framework comprises four scope categories.

Table 5-5: Summary of Scope Framework categories

Category	Description	Delivery responsibility	Funding responsibility
1: Core	Essential to achieve the SRL Objectives.	SRLA	SRLA
2: Enabling	Essential to achieve the SRL Objectives or mitigate unacceptable impacts (including construction impacts, operation impacts and negative impacts arising from growth and change in SRL Precincts). Final scope will be subject to SRL Structure Planning.	SRLA and/or program partners (including other Victorian Government departments or agencies).	SRLA and/or program partners (including other Victorian Government departments or agencies).
3: Critically Interdependent	Essential to achieve the SRL Objectives or mitigate unacceptable impacts (including construction impacts, operation impacts and impacts arising from growth and change in SRL Precincts).	Delivered by third parties, including other Victorian Government departments / agencies.	A range of funding arrangements may apply, including investment by local governments, institutions and the private sector. Any required Victorian Government funding will be procured by other departments / agencies.
4: Complementary	Further benefits SRL (including capitalising on opportunities created by SRL East and SRL North) but are not essential to achieve the SRL Objectives.	Delivered by third parties, including other Victorian Government departments / agencies.	A range of funding arrangements may apply, including investment by local governments, institutions and the private sector. Any required Victorian Government funding will be procured by other departments / agencies.

5.4.2 Delivery responsibility

Delivering SRL requires a whole-of-government approach given the size, complexity and timeframe of the program of works. In this regard, the Scope Framework provides a methodology for defining and allocating delivery responsibilities between SRLA and its partners.

Specifically, SRLA will be responsible for delivering scope elements identified as 'Core' and some 'Enabling' under the Scope Framework. 'Critically Interdependent' and 'Complementary' scope elements will be delivered by other parties and generally funded by other parts of government or precinct stakeholders (such as local governments and institutional and private sector bodies), with some Enabling works also to be delivered by program partners (or jointly delivered by SRLA and program partners).

The delineation of delivery responsibilities in accordance with the Scope Framework is outlined later in Chapter 19. In [Figure 5-5](#), delivery and funding responsibilities for various scope categories are indicated by colour-coding.

5.4.3 SRL works components

As discussed earlier in this Business and Investment Case, the scale and complexity of SRL necessitates a sequenced delivery over multiple decades.

To de-risk the delivery of SRL East and minimise disruption, SRLA has identified a package of preparatory works to be procured and delivered ahead of the SRL East main works (SRL East Main Works). These preparatory works include:

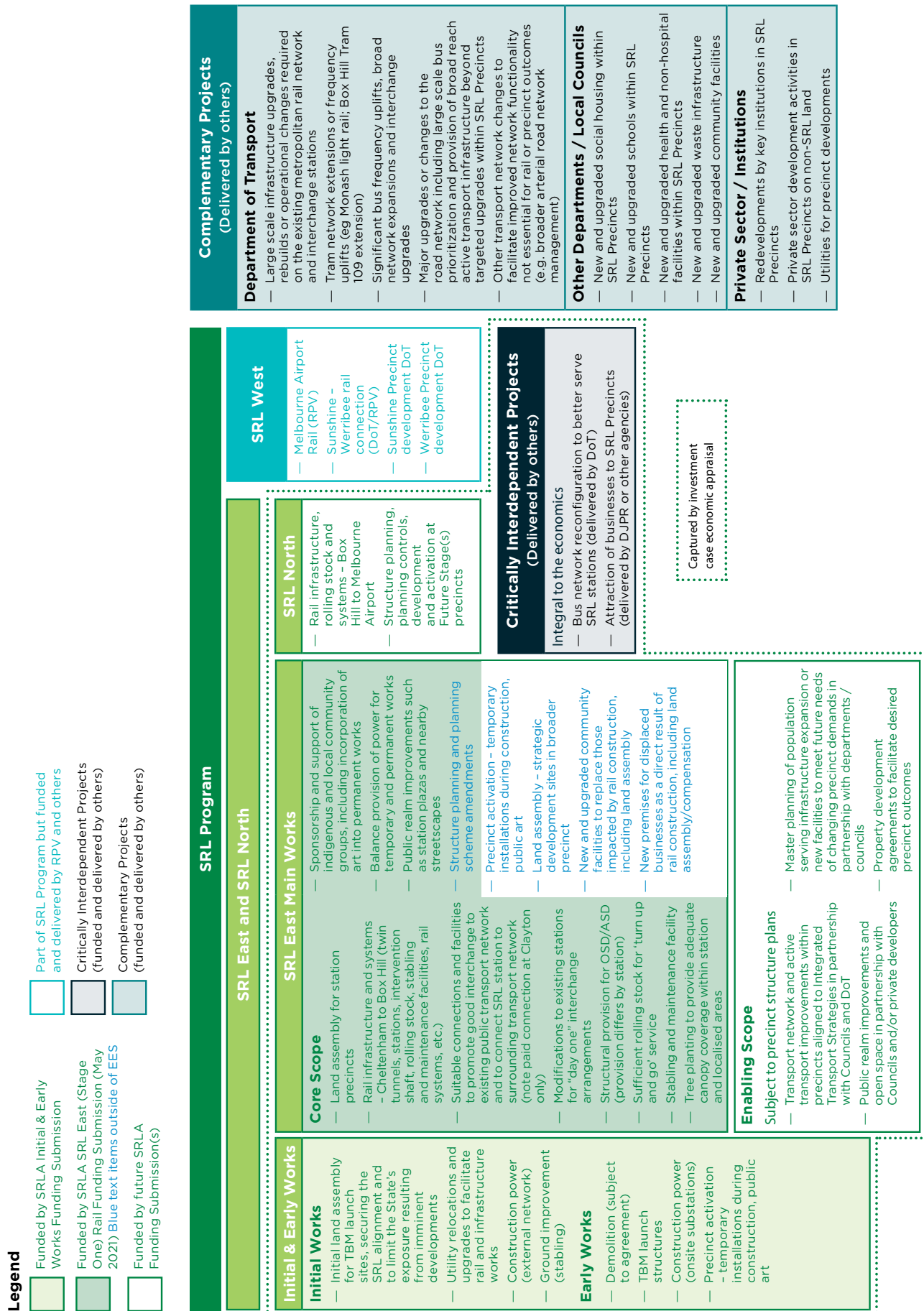
- **Initial Works:** These are defined as works that may proceed independent of the primary planning approval for the SRL East works (i.e. the Environment Effects Statement process)
- **Early Works:** These are works that are planned to be delivered ahead of the main works, but that can only be carried out once the primary planning approval for SRL East has been obtained.

A high-level overview of the works components is presented in [Figure 5-5](#).

5.4.4 SRL scope summary

The scope of the SRL Program is summarised in [Figure 5-5](#). Core, Enabling and Critically Interdependent scope items have been considered in this Case and accounted for in the SRL East and SRL North economic appraisal (refer to Chapter 12). Complementary scope items have been considered in the context of value creation and are discussed in Chapter 11.

Figure 5-5: Scope Framework - categorisation of scope items (non-exhaustive)





**SUBURBAN
RAIL LOOP**

Part C: SRL East and SRL North Outcomes

6 Realising *Plan Melbourne*

Chapter summary

Plan Melbourne is the Government's long-term planning strategy that sets out the vision for Melbourne to remain a global city of opportunity and choice. SRL will deliver the Victorian Government's higher-order objectives as articulated in *Plan Melbourne* by:

- Creating a 'city of centres' – The integrated transport, land use and precinct development approach will reshape Melbourne as a polycentric city, supporting population, economic and jobs growth in major centres beyond the central city. SRL Precincts will support around 232,000 households and 545,000 jobs by 2056 – up from 92,500 and 192,000 respectively in 2018.
- Providing a transport network for the future – SRL will create high quality polycentric and orbital transport connections, transforming how Melburnians travel across and around the city. By 2056, SRL East and SRL North will carry more than 430,000 passengers orbitally by rail each day, taking 2.2 million vehicle kilometres off the road network. 'Turn up and go' services will make trips to Melbourne Airport and between the SRL Precincts easier, faster and more reliable.
- Developing a local city – SRL will encourage 'local living' and 20-minute neighbourhoods by supporting more local journeys and consolidating jobs, services and housing in accessible, attractive precincts. As more people call these precincts home, there will be a 1.5 per cent decline in urban expansion by 2056 – with more than 16,000 additional households locating within the inner/middle ring suburbs rather than in the outer growth areas.
- Increasing connections and opportunities for regional Victoria – SRL will improve connections between parts of regional Victoria and Melbourne's middle ring and Melbourne Airport. In particular, regional travellers using SRL East and SRL North will be able to interchange at the Clayton and Broadmeadows transport super hubs instead of having to transit through the central city. This will improve accessibility for many regional Victorians to healthcare, education institutions and jobs. Regional passenger loads are projected to increase by 20 per cent on the Hume corridor and 10 per cent on the Gippsland corridor, indicating a significant change in regional demand for rail services.

6.1 A global city of opportunity and choice

Plan Melbourne is the Victorian Government's long-term planning strategy that sets out the vision for Melbourne to remain a global city of opportunity and choice. As noted in Chapter 1, realising *Plan Melbourne's* vision requires more than just reacting to waves of demand; we need to plan ahead to shape where and how that demand materialises. Melbourne will need infrastructure that not only enhances how people move around the city, but that also changes where people choose to live and businesses choose to locate.

At its core, *Plan Melbourne* advocates for infrastructure investment that has the power to fundamentally reshape the city. SRL is a city-shaping program of works and initiatives that will shift Melbourne's urban form. SRL will also ensure Melbourne's transport system is up to the task in the coming decades and will support Melbourne to become a more consolidated and sustainable city.

Figure 6-1 outlines how SRL will help deliver on each of *Plan Melbourne's* seven outcomes and assesses how SRL East and SRL North align to policy directions that underpin the seven outcomes.

Figure 6-1: Contributing to *Plan Melbourne's* outcomes and policy directions

LEGEND  Degree of alignment between <i>Plan Melbourne</i> policy directions and SRL outcomes		
OUTCOME 1: Melbourne is a productive city that attracts investment, supports innovation and creates jobs		
Direction 1.1 Create a city structure that strengthens Melbourne's competitiveness for jobs and investment.	  	SRL Precincts will become centres of gravity and support Melbourne to transform to a polycentric city.
Direction 1.2 Improve access to jobs across Melbourne and closer to where people live.	  	Unlock the economic potential of Melbourne's middle ring by encouraging high value, knowledge-based clusters of employment in NEICs and MACs.
Direction 1.3 Create development opportunities at urban renewal precincts across Melbourne.	  	Enhance productivity of businesses by providing improved public transport connections.
Direction 1.4 Support the productive use of land and resources in Melbourne's non-urban areas.		Encourage businesses to cluster together and improve accessibility to activity centres. Generate agglomeration benefits and boost business productivity.
OUTCOME 2: Melbourne provides housing choice in locations close to jobs and services		
Direction 2.1 Manage the supply of new housing in the right locations to meet population growth and create a sustainable city.	  	Enable more people to live in areas with good access to jobs, services and amenities. Increase the diversity of housing available in middle ring, especially in SRL Precincts.
Direction 2.2 Deliver more housing closer to jobs and public transport	  	Improve living affordability and increase housing supply.
Direction 2.3 Increase the supply of social and affordable housing.	  	Enhance the overall liveability of SRL Precincts, making them attractive places for people to live and businesses to locate.
Direction 2.4 Facilitate decision making processes for housing in the right locations.	  	
Direction 2.5 Provide greater choice and diversity of housing.	  	

LEGEND ✓ **Degree of alignment between *Plan Melbourne* policy directions and SRL outcomes**

OUTCOME 3: Melbourne has an integrated transport system that connects people to jobs and services and goods to market

Direction 3.1 Transform Melbourne's transport system to support a productive city.	✓ ✓ ✓	Transform the way people and goods move around Melbourne. Create new orbital public transport connections – for the first time, people will be able to travel orbitally around the city by rail.
Direction 3.2 Improve transport in Melbourne's outer suburbs.	✓ ✓ ✓	Improve access to jobs and services for households in Melbourne's outer ring.
Direction 3.3 Improve local travel options to support 20-minute neighbourhoods.	✓ ✓ ✓	Integrate with the existing public transport network to support people to easily switch between modes, encouraging a shift towards public transport.
Direction 3.4 Improve freight efficiency and increase capacity of gateways while protecting urban amenity.	✓ ✓	Connect Victorians by public transport to emerging employment centres across Melbourne. Reduce road congestion to improve the overall performance of Melbourne's transport network, include freight services.

OUTCOME 4: Melbourne is a distinctive and liveable city with quality design and amenity

Direction 4.1 Create more great public places across Melbourne.	✓ ✓	Breathe new life into Melbourne's middle corridor, especially SRL Precincts, which will attract businesses and population.
Direction 4.2 Build on Melbourne's cultural leadership and sporting legacy.	✓	Develop distinctive, quality environments that enhance their existing features so that they retain their own unique character.
Direction 4.3 Achieve and promote design excellence.	✓ ✓ ✓	Improve equity of access to amenity and services across Melbourne by intensifying provision in SRL Precincts.
Direction 4.4 Respect Melbourne's heritage as we build for the future.	✓ ✓	
Direction 4.5 Plan for Melbourne's green wedges and peri-urban areas.	✓ ✓ ✓	
Direction 4.6 Strengthen community participation in the planning of our city.	✓ ✓	

















OUTCOME 5: Melbourne is a city of inclusive, vibrant and healthy neighbourhoods

Direction 5.1 Create a city of 20-minute neighbourhoods.	✓ ✓ ✓	Support the development of 20-minute neighbourhoods by creating new public transport connections.
Direction 5.2 Create neighbourhoods that support safe communities and healthy lifestyles.	✓ ✓ ✓	Develop vibrant communities and attract a diverse array of people and households.
Direction 5.3 Deliver social infrastructure to support strong communities.	✓ ✓	Develop healthy neighbourhoods that facilitate healthy communities.
Direction 5.4 Deliver local parks and green neighbourhoods in collaboration with communities.	✓ ✓	Improve and enhance cycling paths accessing SRL stations to encourage active transport and enhance liveability.





LEGEND

Degree of alignment between *Plan Melbourne* policy directions and SRL outcomes

OUTCOME 6: Melbourne is a sustainable and resilient city

Direction 6.1 Transition to a low-carbon city to enable Victoria to achieve its target of net zero greenhouse gas emissions by 2050.	  	Reduce carbon emissions by reducing the length and distance of private vehicle journeys. Improve and protect the natural environment across Melbourne's middle suburbs.
Direction 6.2 Reduce the likelihood and consequences of natural hazard events and adapt to climate change.	  	Help slow the urban sprawl to prevent Melbourne from encroaching further on wildlife habitat.
Direction 6.3 Integrate urban development and water cycle management to support a resilient and liveable city.	  	
Direction 6.4 Make Melbourne cooler and greener.	 	
Direction 6.5 Protect and restore natural habitats.		
Direction 6.6 Improve air quality and reduce the impact of excessive noise.	  	
Direction 6.7 Reduce waste and improve waste management and resource recovery.		

OUTCOME 7: Regional Victoria is productive, sustainable and supports jobs and economic growth

Direction 7.1 Invest in regional Victoria to support housing and economic growth.		Improve regional Victoria's connectivity to employment opportunities, health, education, and retail.
Direction 7.2 Improve connections between cities and regions.	  	Reduce inefficient, multi-leg trips for regional Victorians.

Further detail on how SRL will deliver on the outcomes for *Plan Melbourne* is provided in the following sections.

6.2 A city of centres

Plan Melbourne recognises that Melbourne's urban form needs to be reshaped to support economic growth, jobs growth and investment. While the central city will continue as Melbourne's largest employment centre, Melbourne will need to adapt to ensure it is able to efficiently support a city of nine million people. To this end, *Plan Melbourne* articulates that Melbourne needs to become a city of centres, linked to regional Victoria.

To align with this vision, SRL adopts an integrated transport, land use and precinct development approach that will create centres of gravity outside of the central city. These connected, liveable and productive centres will encourage population growth away from the urban fringe and attract businesses to Melbourne's middle corridor, facilitating job growth closer to where people live.

SRL will enable an uplift in activity density (the population and the number of jobs) in the SRL Precincts. The combined SRL East and SRL North will support around 545,000 jobs in the SRL Precincts in 2056, compared to around 192,000 in 2018.²¹⁰ Around 232,000 households will call SRL Precincts home in 2056, compared to around 92,500 in 2018.²¹¹

²¹⁰ CityPlan Note, while two different Program Cases have been assessed for the purposes of the Business and Investment Case, the expected benefits highlighted in Part C (excluding Chapter 12) are drawn from Program Case A.

²¹¹ CityPlan

More people will work and live in places with good access to jobs, services and amenities. Communities, businesses and institutions located in SRL Precincts will benefit from increased economic activity and the creation of more vibrant communities. These outcomes are discussed further in Chapter 7: Productivity outcomes and Chapter 8: Connectivity outcomes.

6.2.1 More than a rail line

High capacity public transport is vital for a successful precinct. It supports a growing population, attracts business and catalyses investment in a precinct.²¹² It also improves connectivity to other activity centres, businesses and opportunities. However, transport connectivity alone is insufficient to drive the transformational change required to realise *Plan Melbourne's* objectives.

Precincts are increasingly important for driving business and economic growth and facilitating collaboration and innovation.²¹³ Without appropriate precinct development, SRL will miss the opportunity to catalyse urban renewal in Melbourne's middle corridor to create sustainable and thriving precincts.

Delivering SRL East and SRL North as integrated programs comprising rail and precinct development initiatives will support SRL Precincts along these two sections to have 139,500 more households and 353,000 more jobs in 2056 than 2018.²¹⁴ Under a 'rail only' scenario, households and jobs growth in these SRL Precincts would be around 32 and 46 per cent less (respectively) by 2056 than that of an integrated rail and precinct development solution.²¹⁵

In the same way, precinct development alone will not meet Melbourne's needs for transformative change. Without high capacity public transport it would be challenging to drive the population and employment growth required to sustain a successful precinct.²¹⁶ Higher reliance on private vehicles and the accompanying need for car parking and road infrastructure would make it difficult to maximise land use in the precinct. The resulting congestion from the increased movement of people and goods would reduce productivity and make the precinct less attractive overall.

This would particularly affect Monash and La Trobe National Employment and Innovation Clusters (NEICs). These NEICs are currently not serviced by high capacity public transport. While most other SRL Precincts are located around existing radial rail stations, the radial transport network is constrained. Connectivity is effectively limited to a single radial corridor that is reaching capacity.

Melbourne can only realise the full potential of the city-shaping impact of SRL and help realise *Plan Melbourne's* vision with an integrated rail and precinct development solution.

6.2.2 The vision for SRL Precincts

The Victorian Government's ambition for SRL Precincts aligns with *Plan Melbourne's* vision to create a more diverse and resilient, polycentric city structure. By facilitating more diverse housing choices and improved access to services, amenity and population-serving infrastructure, SRL will stimulate investment, creating value and a better way of 'living locally' within communities.

SRL Precincts will become centres of gravity outside of Melbourne's central city, breathing new life into Melbourne's middle corridor and spurring growth.

SRL will provide new connections, creating opportunities to maximise the unique potential of Melbourne's suburban NEICs, Metropolitan Activity Centres (MACs) and other key economic precincts. It will encourage the clustering of high value, knowledge-based employment to strengthen Melbourne's competitiveness for jobs and investment in industries that align with Victoria's future economy. This clustering will lead to cross-pollination and knowledge spillover, encouraging innovation and productivity, and generating job growth and increased economic activity.

By harnessing the two key drivers of the property market – public transport connections and urban renewal – SRL will create value uplift. Land values will increase in SRL Precincts as these areas become more attractive to people and businesses due to improved accessibility and enhanced liveability and amenity.²¹⁷

212 Property Council of Australia, *Principles of Successful Precincts* (2020), p. 17

213 Department of Industry, Science, Energy and Resources, *Statement of Principles for Australian Innovation Precincts – Place Based Partnerships Building on Competitive Strengths* (October 2018), p. 3

214 CityPlan

215 CityPlan

216 Property Council of Australia, *Principles of Successful Precincts* (2020), p. 17

217 CityPlan

6.2.3 SRL East Precincts

SRL East Precincts (i.e. the precincts surrounding the SRL Stations from Cheltenham to Box Hill) are located in the south eastern and eastern suburbs, which are generally well-established, desirable and productive. SRL East will build on the existing characteristics of these areas and harness their potential to make them comparable to existing key economic centres across Melbourne.

Projected increases in SRL Precinct activity for SRL East (population and employment) at 2056, and comparable precincts in Melbourne today, are outlined in [Table 6-1](#).

Table 6-1: SRL East Precinct activity

Precinct	Population 2018	Population 2056 with SRL East	Jobs 2018	Jobs 2056 with SRL East	Activity* increase (2018-2056) with SRL East	Comparable Precinct activity* (in 2056) with SRL East
Cheltenham	20,500	52,500	16,500	36,500	147 per cent	Cremorne Hawksburn
Clayton	23,000	55,000	21,000	57,500	155 per cent	Collingwood
Monash	14,000	30,500	36,500	162,000	285 per cent	East Melbourne South Melbourne
Glen Waverley	22,500	46,500	11,500	25,000	112 per cent	Balaclava
Burwood	22,000	44,500	11,500	24,000	102 per cent	Carlton North
Box Hill	29,000	77,500	23,500	48,500	142 per cent	South Yarra

* Activity represents total of population and employment combined

Source: CityPlan

SRL East will support the growth of residential, health, education, retail and business opportunities in the east and south east by harnessing the potential of existing anchor tenants and the unique attributes of each precinct. Some of this growth may be driven by over-station development (OSD) and adjacent-to-station development (ASD) (see section [5.3.1](#)).

6.2.4 SRL North Precincts

SRL North Precincts comprise the precincts surrounding SRL Stations from Doncaster to Broadmeadows. These precincts are anchored around established economic centres, including the La Trobe NEIC, Broadmeadows MAC and other health, education and retail hubs with significant potential for growth.

Table 6-2: SRL North Precinct activity

Precinct	Population 2018	Population 2056 with SRL North	Jobs 2018	Jobs 2056 with SRL North	Activity* increase (2018-2056) with SRL North	Comparable Precinct activity* (in 2056) with SRL North
Doncaster	22,500	49,000	12,000	24,500	112 per cent	Balaclava
Heidelberg	20,500	59,000	18,500	50,000	178 per cent	Windsor
Bundoora	12,500	37,000	8,500	41,500	277 per cent	Albert Park
Fawkner	17,000	35,500	4,500	11,500	115 per cent	Northcote
Reservoir	27,000	52,000	4,500	9,000	95 per cent	Ripponlea
Broadmeadows	15,500	33,000	9,000	26,000	135 per cent	Brunswick
Melbourne Airport (anchor precinct)	0	0	14,500	29,000	100 per cent	N/A

* Activity represents total of population and employment combined

Source: CityPlan

Due to the staged approach to delivering SRL East and SRL North, the SRL North Precincts will have had less time to catalyse and facilitate activity growth by 2056 when compared to SRL East Precincts. Activity in SRL North precincts will continue to grow well beyond 2056, with the associated benefits also increasing over time.

6.3 A transport network for the future

Victorian Government projections indicate that Melbourne's transport system will need to cope with an additional 11.8 million trips per day by 2050.²¹⁸ SRL will deliver significant, well-planned investment in infrastructure and integrated land use planning to help ensure Melbourne remains a sustainable and liveable city by increasing the share of public transport and active transport trips across Melbourne.

To support a productive city, SRL will create polycentric transport connections to link people to jobs and businesses to markets. Delivering *Plan Melbourne*, these connections will create high quality public transport connections to job-rich areas. To attract businesses and workers alike, SRL will connect Melbourne's NEICs to public transport, as well as walking and cycling paths.²¹⁹

SRL East and SRL North will transform travel across and around Melbourne by:

- Taking cars off the road and reducing congestion – by 2056, 606,000 private vehicle trips will be taken off the network and close to 90,000 vehicle hours will be saved each day
- Creating high capacity, orbital public transport connections – in 2056, the combined SRL East and SRL North will carry more than 430,000 passengers orbitally by rail each day
- Saving people time – on average, trips between SRL Precincts will be more than 40 minutes faster by public transport in 2056 with SRL East and SRL North
- Creating sustainable travel options – in 2056 there will be more than 230,000 extra public transport trips per day across Greater Melbourne compared to a future without SRL East and SRL North
- Making healthier travel choices – in total, Melburnians are expected to take about 2.4 million additional trips by walking or cycling per day in 2056 compared to 2018, leading to increased levels of ancillary physical activity

²¹⁸ Victorian Government, *Plan Melbourne 2017-2050, Addendum 2019* (2019), p. 5

²¹⁹ Victorian Government, *Plan Melbourne 2017-2050*, p. 25

- Decreasing the demand on some strained sections of existing radial rail network, particularly on the Dandenong and Glen Waverley lines
- Providing direct access to Melbourne Airport – a journey from Cheltenham to Melbourne Airport will take up to 55 minutes
- Creating a resilient and reliable network – providing ‘turn up and go’ services, together with reduced peak period crowding and the ability to transfer between radial lines via the new SRL orbital line.²²⁰

Further details of the broader connectivity outcomes delivered by SRL East and SRL North are provided in Chapter 8: Connectivity outcomes.

6.4 Developing a local city

The 20-minute neighbourhood is a key objective of *Plan Melbourne*. SRL will support the creation of 20-minute neighbourhoods by building transport infrastructure that reshapes Melbourne into a city of centres and supports more local journeys. Precinct development and initiatives in SRL Precincts will be guided by the hallmarks of 20-minute neighbourhoods, with opportunities to incorporate aspects such as cool and green open spaces and vibrant and attractive station plazas and civic squares.

SRL will consolidate jobs in precincts and provide more housing choice in the right places, close to jobs and services. As more people call these precincts home, the rate of urban sprawl will reduce. With SRL East and SRL North, there will be a 1.5 per cent decline in urban sprawl in 2056, with more than 16,000 additional households locating within the inner/middle ring suburbs rather than in the growth areas.²²¹ In other words, SRL will help reduce Melbourne’s urban sprawl by about the same size of Shepparton today – Victoria’s fifth largest regional city.

SRL Precincts will also encourage a variety of housing options that cater to a range of household types and lifestyles, leading to diverse and inclusive communities.

Further details of the broader liveability outcomes delivered by SRL are provided in Chapter 9: Liveability outcomes.

6.5 Increasing connections and opportunities for regional Victoria

SRL will provide improved connections and new opportunities for many regional Victorians. New parts of Melbourne’s middle corridor will now be conveniently accessible by rail for many regional Victorians. Regional rail passengers will not be constrained by Melbourne’s radial rail network that largely facilitates trips to and from the central city.

SRL East and SRL North will improve outcomes for regional Victorians by:

- Creating transport super hubs at Clayton and Broadmeadows
- Providing more direct travel across Melbourne’s middle corridor by removing the need for regional travellers to travel through the CBD
- Improving access to health, education and employment opportunities
- Creating improved connectivity between Melbourne Airport and regional areas
- Creating new opportunities for regional tourism
- Improving the attractiveness of Victoria’s regional centres and towns as places to live, work, learn and visit.

²²⁰ VITM and MABM

²²¹ CityPlan The following municipalities were deemed ‘growth areas’ for the purpose of this analysis: City of Cardinia, City of Casey, City of Hume, City of Melton, Shire of Mitchell, City of Whittlesea and City of Wyndham.

6.5.1 Transport super hubs

Regional rail services will be connected to the new orbital line via interchanges at two new transport super hubs at Clayton and Broadmeadows. SRL West will tap into and further enhance the Sunshine super hub already being delivered as part of Melbourne Airport Rail, where precinct planning is underway. Regional passengers travelling from Western Victoria will be able to connect to the rest of the SRL network at Sunshine.

At Broadmeadows, regional passenger alightings and boardings will increase to around 8,500 per day with SRL East and SRL North in 2056, with more than half of all passengers on regional services approaching Melbourne from the Hume corridor alighting at Broadmeadows. At Clayton, regional passenger movements will triple to around 7,000 per day with SRL East and SRL North in 2056. Similar to the Hume corridor, more than 40 per cent of regional passengers approaching Melbourne from the Gippsland corridor will alight at Clayton.²²²

The improved connectivity offered by SRL East and SRL North will increase regional passenger loads by 20 per cent on the Hume corridor and 10 per cent on the Gippsland corridor, representing a significant change to regional service passenger demands.²²³ Potential upgrades to local transport networks surrounding the transport super hubs may support even further growth in passengers.

6.5.2 More direct travel

The current radial regional rail network is focused on providing access to central Melbourne and limits the accessibility of Melbourne's middle corridor by public transport for regional passengers. SRL will create new opportunities for more direct and convenient journeys for regional passengers. With SRL East and SRL North operating, V/Line boardings are expected to increase by 5 per cent by 2056 across Greater Melbourne.²²⁴

Critically, regional rail passengers can connect to all of Melbourne's major radial rail lines, from the Frankston line to the Craigieburn line, without the need to travel to and from the CBD. The number of passenger boardings and alightings at Melbourne's major interchange hub Southern Cross station to and from regional services is expected to decrease by around 4,000 per day, as passengers will instead use Clayton and Broadmeadows to connect to Melbourne's broader transport network.²²⁵

CASE STUDY

Wallan to Deakin

Wallan, a growing regional centre located 45km north of Melbourne, will benefit from increased access to Melbourne's middle ring suburbs due to SRL. Access to key destinations in Melbourne will be greatly improved, including major employment, health and education centres. For instance, getting to Deakin University from Wallan will be around 45 minutes faster than it presently is by public transport – making it within a commutable 73 minute travel time, and significantly faster than access via car during peak periods.ⁱ

SRL will help regional centres to attract and maintain population growth by facilitating commutable and convenient connections to broader areas of Melbourne.

ⁱ VITM 2056

222 VITM 2056

223 VITM 2056

224 VITM 2056

225 VITM 2056

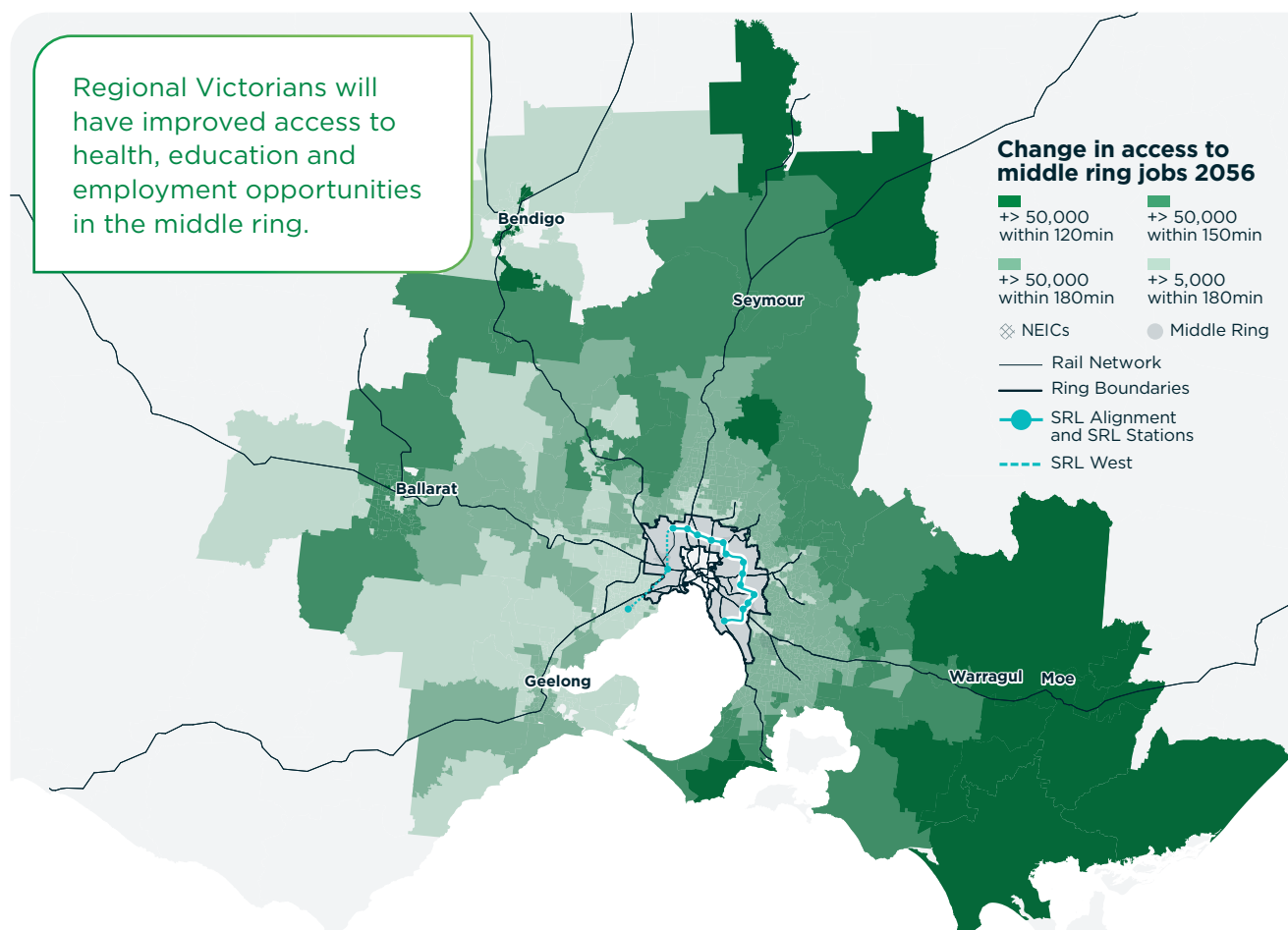
6.5.3 Improved access to jobs, health and education

SRL will vastly expand the ability for regional Victorians to access employment opportunities, as well as healthcare and education in Melbourne's middle corridor.

By 2056, over 11 per cent of Melbourne's jobs will be located within SRL Precincts and around 13 per cent will be located in the central city (including CBD, Southbank and Docklands).²²⁶ With SRL East and SRL North, regional Victorians living along key regional rail lines will have better access to the significant employment opportunities in SRL Precincts and the broader middle ring.

Figure 6-2 illustrates the change in the number of jobs in Melbourne's middle ring accessible by public transport from regional areas in less than 180 minutes with the combined SRL East and SRL North in 2056.

Figure 6-2: Regional Victoria areas with improved access to employment in Melbourne's middle ring, 2056



Source: VITM

In addition, SRL East and SRL North will provide faster and easier travel to tertiary education institutions including Monash University, Deakin University and La Trobe University, as well as major hospitals such as Monash Medical Centre, Box Hill and the Austin, helping to improve education and health outcomes for regional Victorians.

These improvements to accessibility are evidenced by the anticipated change in V/Line boardings by 2056, which are expected to increase by around 5 per cent across Melbourne.²²⁷

226 CityPlan

227 VITM

CASE STUDY

Connecting regional Victoria

Latrobe Valley and Seymour

Latrobe Valley

The Latrobe Valley is around 150 kilometres east of central Melbourne. It has three major centres – Moe, Morwell and Traralgon – and a combined population of around 73,000 people.ⁱ SRL will improve access from the Latrobe Valley to Melbourne's middle corridor, consequently improving access to employment and education opportunities, as well as access to key healthcare institutions.

A 120-minute journey by public transport from Moe in the Latrobe Valley will access more than twice the number of middle ring jobs in 2056 with both SRL East and SRL North operating. In addition, around 250,000 extra middle ring tertiary education opportunities are accessible within 180 minutes from the Latrobe Valley. Travel times between Traralgon and Box Hill Hospital will be around 26 minutes faster – taking around two and a half hours, and making train travel times comparable to driving.

The Latrobe Valley's access to Melbourne Airport will also be improved, ensuring the regional centre remains well-connected to interstate and international opportunities

Seymour and surrounds

SRL North will ensure the Seymour corridor is better connected to Melbourne's north eastern suburbs, including La Trobe NEIC, providing access to more employment opportunities and tertiary education places.

The number of jobs in Melbourne's middle ring in 2056 that are accessible in less than 180 minutes by public transport from Nagambie and Euroa on the Seymour corridor increases by 210,000 and 295,000 respectively with both SRL East and SRL North operating.ⁱⁱ

An additional 265,000 tertiary education places located in the middle ring will be available to Euroa residents within 180 minutes, as well as numerous additional health services.ⁱⁱⁱ

ⁱ ABS, 2016 Census QuickStats

ⁱⁱ VITM

ⁱⁱⁱ VITM

6.5.4 Better airport access

By connecting to Melbourne Airport, the SRL rail line will improve regional access to interstate and international markets. This will help to boost the business and tourism potential of regional Victoria, and also to expand business and travel opportunities for regional passengers.

When travelling to Melbourne Airport from northern areas of regional Victoria, SRL North will remove the need for regional passengers to rely on taxis or local bus trips between Broadmeadows and the airport. Current transport options offer poor connectivity between services, challenges for luggage transfer and cumbersome access to passenger terminals. Public transport travel times between Broadmeadows and the airport will be reduced by around 45 per cent²²⁸ – and comfort, ease of transfer and reliability of access will increase.

6.5.5 Growth in regional visitors and tourism

Tourism is an important part of the regional economy. Regional Victoria attracted over 19.1 million domestic visitors in 2019, generating a spend of \$7.5 billion.²²⁹

SRL will make it easier for Melburnians living in the middle and outer corridor to travel to regional areas for day-trips, weekend getaways and family holidays. For example, a resident of Glen Waverley would save around half an hour on their journey to Seymour by train – reaching their destination in around two hours and 10 minutes. Similarly, a resident of Heidelberg could also save around half an hour in accessing East Gippsland by transferring at Clayton via SRL East and SRL North.²³⁰

The new orbital line will also expand tourism opportunities through the connection to Melbourne Airport by rail, increasing the accessibility of regional centres to interstate and international markets.

6.5.6 Improving the viability of Victoria's regional centres and towns as places to live, work and learn

Plan Melbourne notes that transport travel times between regional cities and central Melbourne need to be reduced to improve the attractiveness of these centres in order to encourage a greater share of population growth within regional areas.

SRL will reduce travel times between parts of regional Victoria and Melbourne's middle suburbs, helping to increase the competitiveness of the regions to attract business activity and support population growth.

Regional tertiary education institutions will particularly benefit from improved connectivity. Improved accessibility to different regional centres may help regional tertiary education institutions to attract students and, importantly, staff from Greater Melbourne. This may also benefit primary and secondary schools, and other key community services, such as healthcare providers.

6.6 SRL East and SRL North outcomes

SRL will deliver a significant and broad range of outcomes – including the higher-order transformations addressed in this chapter – that will help realise *Plan Melbourne's* vision. Drawing on land use, transport demand and economic modelling (described in detail in Appendix C.1: Demand Modelling Report and Appendix C.2: Suburban Rail Loop Economic Appraisal Report), the following three chapters outline key outcomes of SRL East and SRL North as they relate to the three Strategic Objectives: Productivity, Connectivity and Liveability. The outcomes and specific results presented in these chapters are based on Program Case Option A demand and economic modelling.

229 Department of Jobs, Precincts and Regions, *Victoria's Domestic Tourism Performance*, (2020)

230 VITM 2056

7 Productivity outcomes

Chapter summary

- SRL will boost access to employment opportunities across Melbourne by providing new public transport connections and helping to attract jobs to the city's middle corridor.
- The potential workforce pools of SRL Precincts are anticipated to grow substantially due to SRL East and SRL North. The number of workers able to access Monash by public transport is projected to grow from 800,000 to 1.2 million between 2036 and 2056, and Bundoora from 400,000 to 1.6 million – both equivalent to or greater than the workforce catchment of Melbourne's CBD today. This will give businesses access to a larger pool of workers, meaning they can more easily find employees with the skills they need.
- SRL will generate thousands of local job opportunities and will help train the next generation of skilled Victorian workers. SRL East will be delivered first, directly supporting up to 8,000 jobs, with SRL North directly supporting an additional 5,100 jobs. This will include apprentices, trainees and cadets employed under the Victorian Government's Major Projects Skills Guarantee.
- SRL will drive businesses to locate in clusters outside of the central city – by 2056, SRL Precincts will be home to 545,000 jobs. By driving growth in the knowledge economy and leveraging new and existing anchor tenants, SRL will attract high value, knowledge-based jobs to SRL Precincts. Knowledge-based jobs in the SRL Precincts are expected to increase from 102,000 in 2018 to 362,000 in 2056. This will represent 66 per cent of all jobs in SRL Precincts in 2056. This will give Melburnians the opportunity to access more suitable jobs, improving individual productivity and wellbeing and delivering benefits for both the economy and households alike.
- Consolidation and clustering of businesses and economic activity, combined with better business-to-business connectivity across 73 per cent of Melbourne's middle ring, will generate \$6 billion to \$9.7 billion in agglomeration benefits in present value terms – increasing innovation and productivity and generating value for Victoria.
- SRL is an investment in the long-term productivity, liveability and connectivity of Victoria. Across Victoria, this level of investment will create 3,900 net additional jobs (FTE) at the peak of construction. The combined impact of SRL East's and SRL North's precinct-specific land use changes and productivity enhancements will lead to an increase in employment across the state with 4,000 net additional FTE jobs created at the peak of the operation phase. Across the whole economy, SRL East and SRL North will support between 17,900 and 23,900 direct and indirect jobs.
- SRL East and SRL North are anticipated to increase Victoria's Gross State Product (GSP) by \$50.8 billion in present value terms. Overall, Australia's Gross Domestic Product (GDP) will be higher by \$49.3 billion in present value terms over the evaluation period.
- The increase in economic output as measured through GSP and GDP will lead to increased state and federal tax receipts. Over the SRL East and SRL North construction and operations phases, the Victorian Government's tax receipts will be higher by \$3.2 billion in present value terms. The Australian Government's tax receipts will be substantially higher by around \$10.9 billion in present value terms. Total tax receipts for the State and Australian Governments will therefore be around \$14.1 billion higher in present value terms as a result of SRL East and SRL North.

Productivity and SRL East and SRL North

Productivity is one of the three Objectives of the SRL Program. SRL East and SRL North are expected to increase Victoria's productivity and economic growth, helping Melbourne become a more competitive city. The Victorian Government will have the opportunity to stimulate economic development, create jobs and guide the location of living and working activity zones along the SRL corridor. Developing Places of State Significance (particularly National Employment and Innovation Clusters (NEICs) and Metropolitan Activity Centres (MACs)) into major future activity and growth centres outside of the central city will support Victoria's economy for many decades to come.

7.1 Boosting access to jobs

As discussed in Chapter 3, Melbourne's outer ring has experienced significant population growth but has not experienced a commensurate increase in employment opportunities (refer to section 3.3.1). In addition, the existing radial rail network does not efficiently service the dispersed population in the middle and outer suburbs, creating pockets of limited or no service (refer to section 3.4.2).

Households in Melbourne's outer ring are generally relatively disadvantaged – improved access to employment in this area may help increase household income and reduce economic disparity across the city. Research indicates that when unskilled or low-skilled workers live close to employment centres, unemployment rates may decrease and productivity may increase.²³¹

7.1.1 Better access to jobs

Access to jobs across Greater Melbourne

Better access to jobs across Greater Melbourne creates significant benefits for individuals and communities alike. SRL will improve access to jobs across Melbourne by:

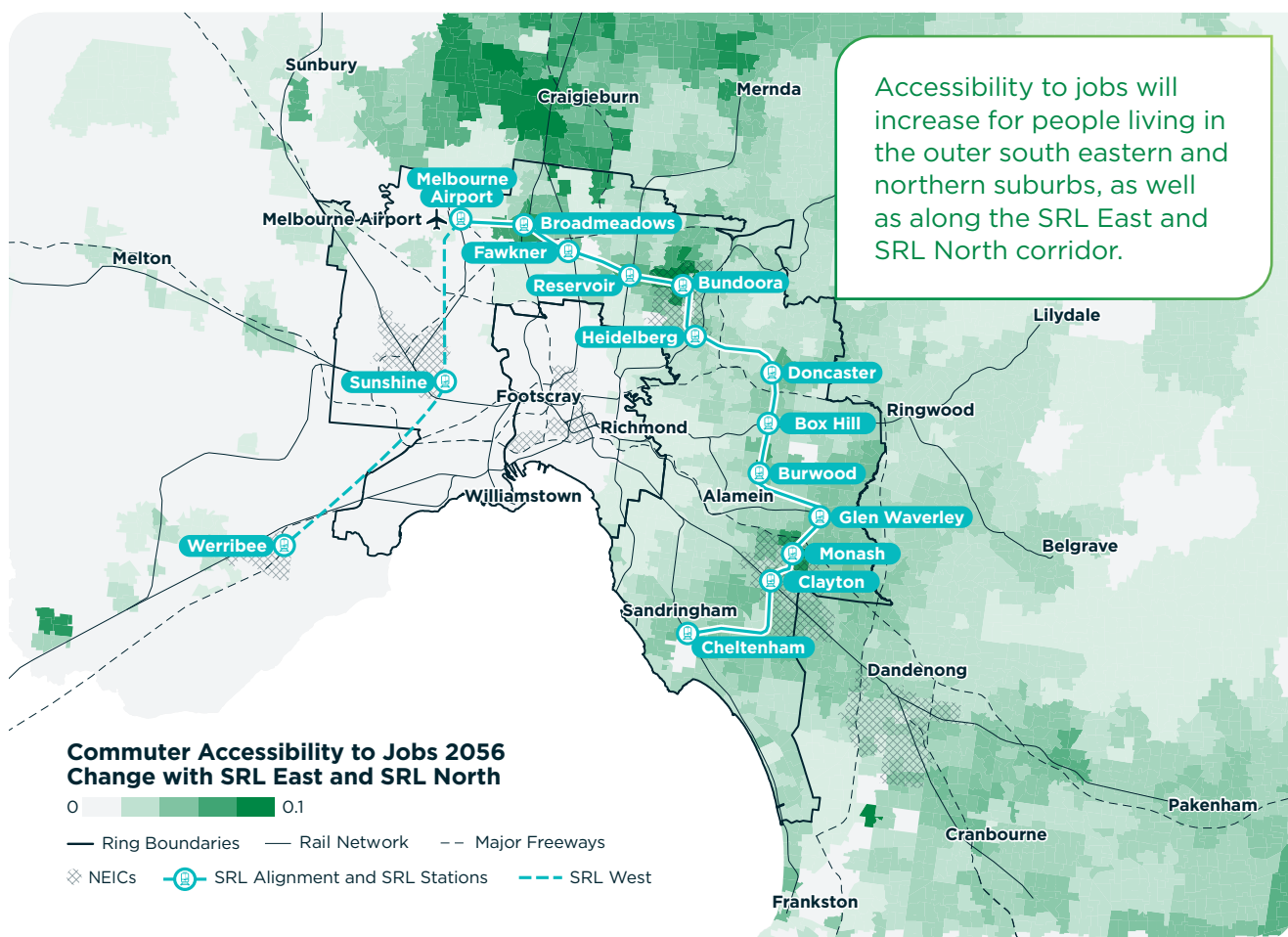
- Attracting jobs to Melbourne's middle corridor – SRL Precincts will have an additional 353,000 jobs in 2056 compared to 2018²³²
- Providing new public transport connections to SRL Precincts.

Figure 7-1 shows the strong improvements in job accessibility across Greater Melbourne as a result of SRL East and SRL North, especially for those in the middle and outer suburbs to the north and south east of Melbourne.

231 RMIT University, *Identifying and valuing the economic benefits of 20-minute neighbourhoods: Higher density mixed use and walkability dimensions* (2019), https://www.planning.vic.gov.au/_data/assets/pdf_file/0018/450135/Economic-benefits-of-20-minute-neighbourhoods.pdf

232 CityPlan 2056

Figure 7-1: Change in commuter accessibility to jobs, 2056



Source: VITM and CityPlan²³³

Access to jobs for regional Victorians

SRL will create new opportunities for more direct and convenient journeys for regional Victorians living along regional rail lines. As discussed in detail in Chapter 8, this improved accessibility will substantially increase the number of jobs in Melbourne's middle ring accessible to regional Victorians. These improvements to accessibility are evidenced by expected increases in regional passenger loads and V/Line boardings by 2056 (see section 6.5).

In addition, locations in regional Victoria will be more accessible to Melburnians, visitors and tourists. Accessibility is a key driver of tourism. Growth in tourism has the potential to generate greater employment opportunities in the regions.

7.1.2 Access to more productive jobs

Melbourne's urban form and patterns of population growth are also affecting the types of employment opportunities people can access.

About one third of Melbourne's skilled workforce are not realising their potential. In 2016, around 33 per cent of people living in the middle ring and around 38 per cent living in the outer ring were engaged in 'less productive work' – meaning their job is not commensurate to their level of qualification.²³⁴ Part of this phenomenon can be attributed to poor job accessibility.²³⁵

²³³ Accessibility is a measure on a scale of 0.0 to 1.0.

²³⁴ Compared to 29 per cent of people in the inner area of Melbourne. ABS - Census 2016

²³⁵ Refer to section 3.4.2 for details about how 'less productive' is determined. ABS - Census 2016

SRL East and SRL North improve accessibility to employment for 70 per cent of Melbourne's middle ring and for 72 per cent of Melbourne's outer ring (see [Figure 7-1](#)).²³⁶ Improved job accessibility means more employment opportunities and a greater likelihood that people will find employment commensurate to their qualifications and skills. This will help combat the trend towards less productive work, helping people – and consequently, the Victorian economy – to reach its full economic potential.

CASE STUDY

Recovery from the COVID-19 pandemic

Attracting jobs where they are most needed

The COVID-19 pandemic has led directly to an economic challenge with hundreds of thousands of jobs affected. With businesses missing a customer base or unable to operate at different points during public health restrictions to contain the pandemic, employers have relied on government support to keep employees on their payrolls. Where such support was not available, many jobs were lost. In the period between 14 March 2020 and the week ending 19 September 2020, payroll jobs in Australia decreased by 4.1 per cent.ⁱ

Although there are signs that some jobs are returning as restrictions ease, some people will have lost their jobs permanently. In Victoria, early analysis indicates that people living in the central city, together with the north west and south eastern suburbs have been most affected by job and income losses because of the pandemic.ⁱⁱ By attracting high value, knowledge-based jobs to SRL Precincts in Melbourne's middle corridor, SRL will encourage job growth closer to where it is most needed – across Melbourne's middle and outer suburbs. SRL East Precincts will be highly-accessible to the middle and outer south eastern suburbs, while SRL North Precincts such as Broadmeadows and La Trobe will provide access to employment opportunities for residents of Melbourne's north and western suburbs.

In addition, the construction and delivery of SRL will not only generate a pipeline of jobs over decades, it will also directly generate employment opportunities in the nearer term. Many of these jobs will be located along the SRL Alignment, providing good accessibility to people living in the north west and south east of Melbourne.

ⁱ ABS, *Weekly Payroll Jobs and Wages in Australia* (19 September 2020)

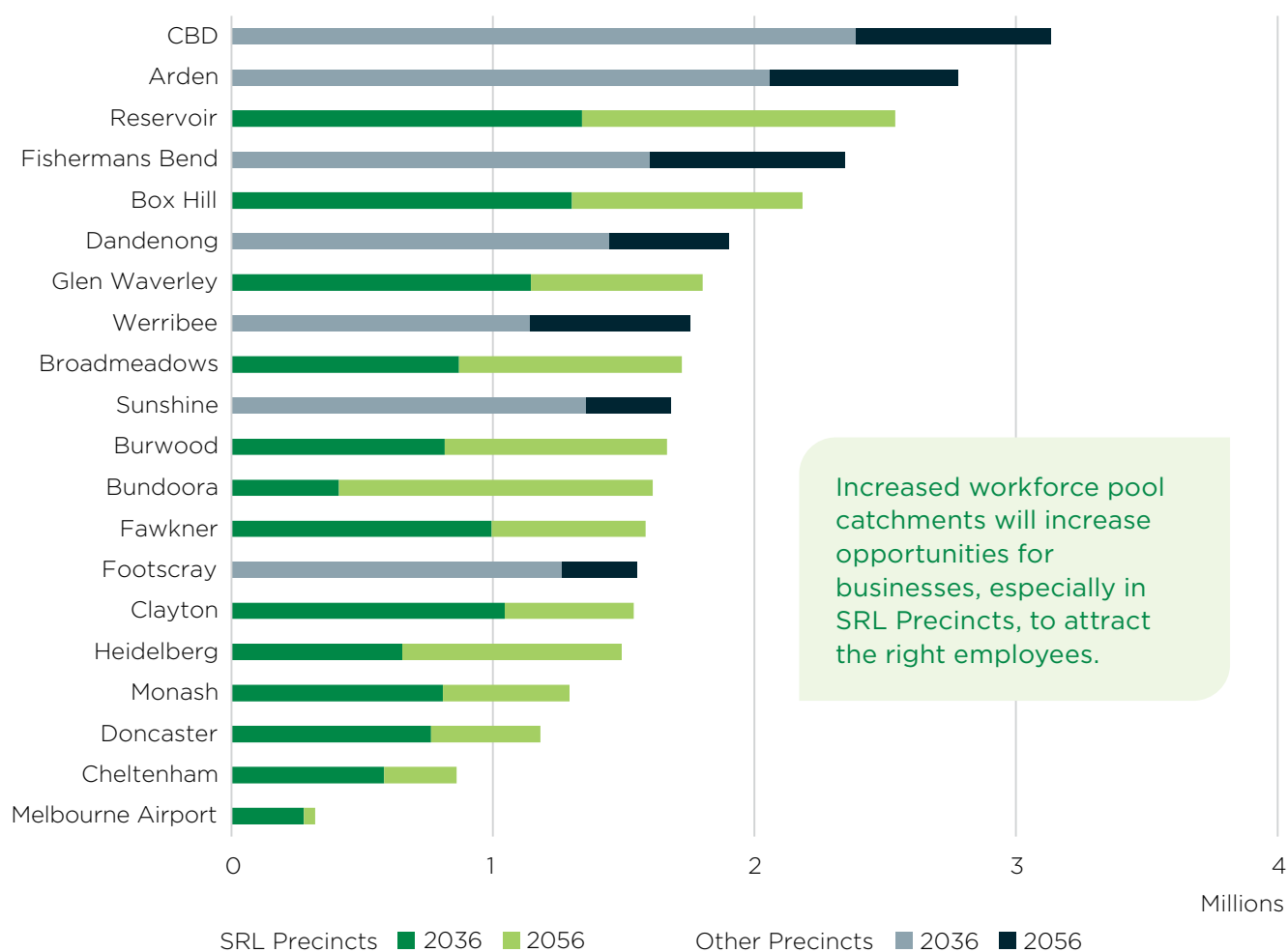
ⁱⁱ ABS, *Weekly Payroll Jobs and Wages in Australia* (19 September 2020)

7.1.3 Larger potential workforce pools

Improved job accessibility positively affects businesses, as well as workers. With improved job accessibility, businesses have access to a larger potential workforce pool meaning that they are more likely to find employees with the right skills and qualifications. Better skills matching can help drive innovation, growth and productivity. This benefits the worker, the business and the economy more broadly.

[Figure 7-2](#) shows the expected growth in potential workforce pools for SRL Precincts (as well as select key economic centres across Melbourne) between 2036 and 2056.

Figure 7-2: Potential workforce catchment pool by public transport by precinct across Melbourne, 2036 and 2056



Source: CityPlan²³⁷

The potential workforce pools available to SRL Precincts are anticipated to grow substantially due to SRL East and SRL North. The number of workers able to access Monash by public transport is projected to grow from 800,000 to 1.2 million between 2036 and 2056, and the workforce pool for Bundoora (which is located in the La Trobe NEIC) will quadruple from 400,000 to 1.6 million in the same time period. This means both SRL Precincts will have workforce catchments that are equivalent to or greater than the workforce catchment of Melbourne's CBD today.²³⁸ The potential workforce pools for Burwood, Reservoir, Heidelberg and Broadmeadows will also increase significantly as a result of SRL East and SRL North.²³⁹

Growth in potential workforce pools for all SRL Precincts can be attributed (in part) to SRL East and SRL North providing:

- New public transport connections to SRL Precincts, and therefore enhanced accessibility to workers
- Increased clustering of jobs in SRL Precincts.

²³⁷ Workforce catchment represents the number of workers that live within an 'acceptable commute' from a given precinct using public transport. It takes into account that some people are willing to travel further than others. As distance from the precinct grows, fewer people are willing to commute. It does not use a fixed travel time budget.

²³⁸ CityPlan

²³⁹ CityPlan

7.1.4 Building skills for the future

SRL will generate thousands of local job opportunities and will help train the next generation of skilled Victorian workers.

It will employ and up-skill a broad range of workers from construction, environmental science, engineering, commerce and administration. Jobs will be required in both private industry and in public sector entities.

SRL East will be delivered first, directly supporting between 6,000 to 8,000 jobs, with SRL North directly supporting 5,100 jobs.²⁴⁰ Of these jobs, a number will be apprenticeships, traineeships and cadetships supported through the Victorian Government's Major Projects Skills Guarantee.²⁴¹ A key component of the Government's Local Jobs First Policy, the guarantee program provides opportunities for apprentices, trainees and engineering cadets to work on Victoria's biggest building and construction, infrastructure and civil engineering projects.

7.2 Unlocking economic growth

As described in Chapter 3, as Melbourne's economic focus shifts towards knowledge-based jobs, the city's monocentric form (which concentrates economic activity in the CBD) is constraining the economic potential of other parts of the city. To ensure Melbourne remains competitive, attractive and accessible alternatives to the central city and inner suburbs need to be developed.

SRL will deliver city-shaping transport infrastructure that will:

- Grow the knowledge- and services-based economy in SRL Precincts
- Shift the economic geography of Melbourne to a city of multiple employment centres
- Improve connectivity between businesses across the city
- Enhance access to national and international markets for Melbourne and regional Victoria
- Catalyse cross-pollination and knowledge spillover in emerging employment centres in Melbourne's middle ring, such as Monash and Bundoora.

7.2.1 Consolidating economic activity in precincts

SRL will attract businesses to SRL Precincts through a variety of mechanisms, including:

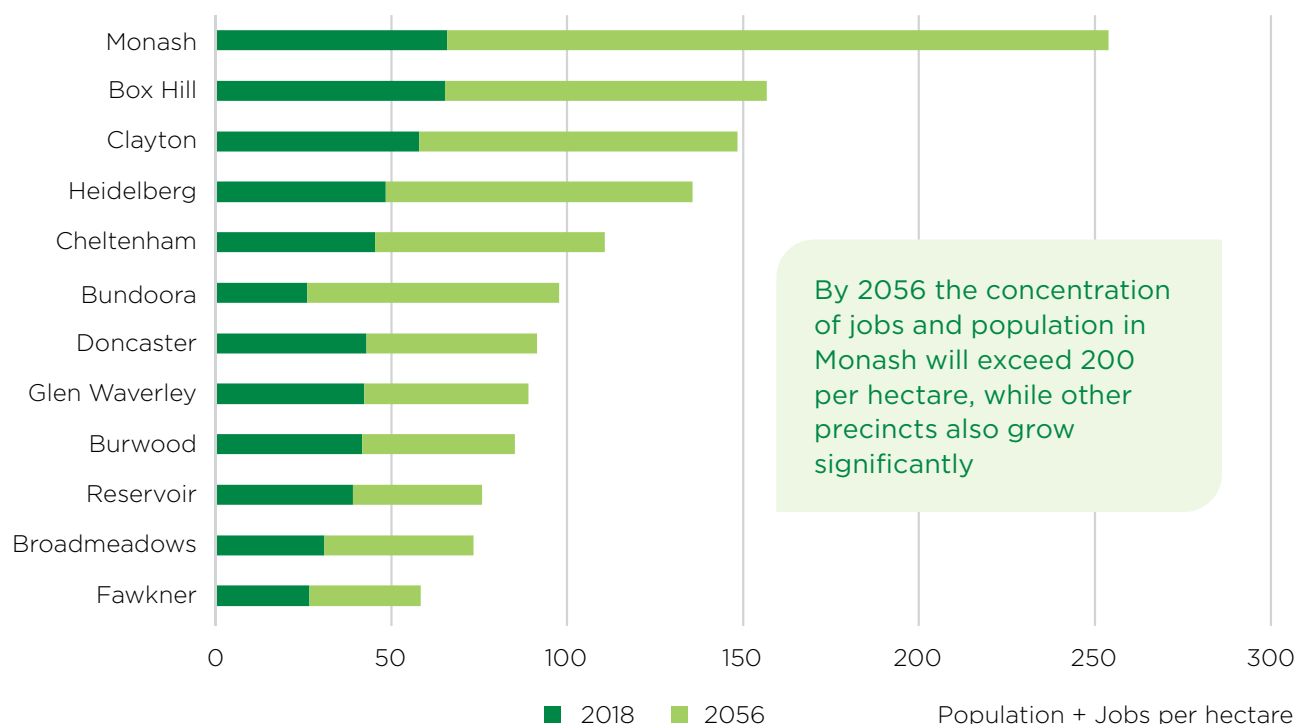
- Making the SRL Precincts more attractive to businesses through new public transport connections and enhanced services and amenities
- Undertaking property developments both over and adjacent to stations, that will draw additional opportunities in commercial, retail and other key sectors, together with targeted investment facilitation
- Facilitating new opportunities for businesses in the SRL Precincts through changes to planning and land use controls, coordinating precinct growth, supporting new mixed-use developments and leveraging existing anchor tenants.

Figure 7-3 below shows the extent of growth in activity density (jobs plus population per hectare) in SRL Precincts between 2018 and 2056.

240 SRLA Estimates

241 SRLA, *Jobs* (2020), <https://suburbanrailloop.vic.gov.au/en/Jobs>

Figure 7-3: SRL Precinct activity density, 2018 and 2056



Source: CityPlan

As shown above, there will be a significant uplift in economic activity across all SRL Precincts by 2056. For example, in 2056, Burwood's activity density will be comparable to Carlton North's activity density today, while Reservoir will be comparable to the activity density in Hawthorn today (see also [Table 6-1](#) in section 6.2.3).

The value of consolidation

The consolidation of businesses and economic activity in a precinct generates a series of economic benefits described as agglomeration benefits. For example, when businesses are clustered together:

- Knowledge is shared more easily by virtue of proximity. Workers are able to easily exchange ideas and advice.
- There may be opportunities to share facilities (for example, co-working spaces, lab facilities, and specialised manufacturing facilities), meaning the cost can be shared
- Demand generated by one business may also translate into demand for others – for example, people may choose to use a physiotherapist that is located close to their doctor to avoid multiple trips.

These types of interactions and relationships can generate a range of benefits for a business, including helping to drive innovation, growth and productivity. In turn, this makes businesses more productive and generates value.

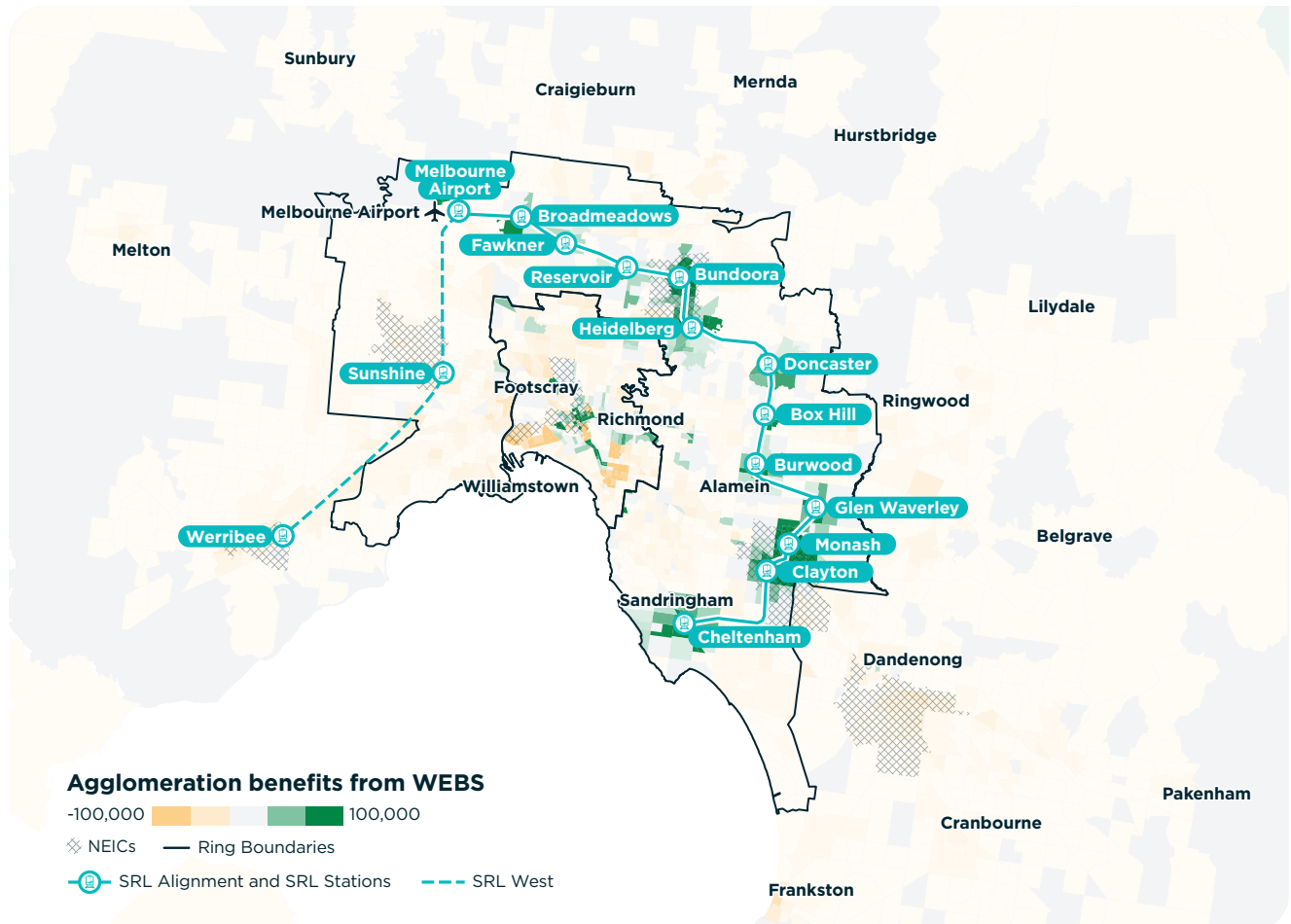
Agglomeration economies

Agglomeration economies are positive externalities that arise from increases in the density of economic activity. The existence of agglomeration economies is one of the reasons that cities exist, as inner city offices continue to attract tenants despite increasing rents and congested transport networks. High employment density leads to increased economic interactions between firms, and also between firms and customers. This leads to benefits as firms are able to enhance their productivity through input sharing, knowledge / technological spillovers and output sharing.

SRL East and SRL North will generate \$6.0 billion to \$9.7 billion in agglomeration benefits in present value terms by increasing effective job density through increased accessibility (between people and jobs and between businesses) and clustering.²⁴² Figure 7-4 below illustrates how the agglomeration benefits will spread along the SRL Alignment and across parts of Melbourne. Precincts such as Monash and Clayton, which are a part of the Monash NEIC, are expected to experience significant uplift in agglomeration economies.

SRL will unlock the economic potential of Melbourne's middle ring, particularly the NEICs and MACs. The overall agglomeration benefits will increase Victoria's productivity and generate economic growth.

Figure 7-4: Concentration of agglomeration benefits attributable to SRL East and SRL North for model year 2056



Source: KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

242 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

CASE STUDY

Ringwood

Realising agglomeration benefits in Melbourne's suburbsⁱ

In 2016, the expansion of Ringwood's Eastland Shopping Centre created more than just a leading retail destination for the region. The \$665 million Eastland development increased the size of the shopping centre by around 50 per cent, attracted Victoria's second Costco store and generated new retail floorspace and jobs in Ringwood.

The Victorian Government catalysed development with a \$66 million upgrade to the Ringwood Station and bus interchange. The Victorian Government, the developer QIC and the Maroondah City Council worked together to create a vibrant new town centre for Ringwood, incorporating the 'Realm', a hub for community interaction. Across three fully accessible levels, the Realm features a Council Service Centre, library, BizHub, ArtSpace and café, with a program of events designed to attract a diverse cross-section of the local community. The Realm aims to facilitate skills development, accelerate business growth and deliver a range of social benefits.

Isolating the direct and indirect impact of these developments is difficult; however, data from the Australian Bureau of Statistics showed a 30 per cent increase in the number of people working in the Ringwood area in 2016 following the opening of the expanded shopping centre as compared to 2011. Over the same period, Victoria's retail workforce increased by just 4 per cent, suggesting Ringwood's retail growth was significantly above trend. Industries other than retail also experienced similar growth, which may have been partly linked to the Eastland, Costco, town square and other developments.

The Eastland development shows how agglomeration benefits can be realised when jobs, industry and community activity are concentrated close to one another, and catalysed by public transport upgrades.

The Realm at Ringwood, which includes a Council Service Centre, library, BizHub, ArtSpace and café



Source: Maroondah City Council

ⁱ Maroondah City Council, *Realm* (2020), <https://www.maroondah.vic.gov.au/Explore/Council-multi-purpose-centres/Realm>; ABS Census (2016), <https://www.abs.gov.au/census>

7.2.2 Attracting knowledge-based sectors and jobs in SRL Precincts

Between 2006 and 2018, total jobs in Melbourne grew by 631,000 – 58 per cent of these new jobs were in knowledge-based services.²⁴³ When an economy experiences growth in knowledge-based industries, jobs in personal services industries (café and restaurant workers, taxi drivers, security guards etc.) also tend to grow, as knowledge-based workers are the primary consumers of many of these services.²⁴⁴

Melbourne's NEICs and MACs have been identified by the Victorian Government as key precincts outside of the CBD that can facilitate agglomeration benefits and increase productivity. Knowledge-based specialised clusters have emerged in centres such as Monash NEIC (home to the Monash Medical Centre, Monash Children's Hospital and Monash University) and La Trobe NEIC (home to the Royal Melbourne Institute of Technology (RMIT), La Trobe University and the Austin Hospital).

CASE STUDY

Sydney's innovation precincts, NSW

Successful innovation precincts encourage collaboration and drive innovation among synergistic businesses, promote sustainable economic growth and deliver a range of business and social benefits. To harness existing strengths in technology and life sciences, the NSW Government has supported the Macquarie Park Innovation District (MPID) and, more recently, the Sydney Innovation and Technology Precinct.

Macquarie Park Innovation District

The industry-led MPID initiative, created in 2015, is now home to more than 180 large life science, technology and digital corporations and 200 small businesses. With industry partners including NAB, Optus and John Holland, MPID is anchored by Macquarie University, Macquarie University Hospital and the Macquarie University Incubator. Macquarie Park itself was connected to the public transport system by the Chatswood to Epping rail link (now part of the broader Sydney Metro network) in 2009, with accompanying development including a range of retail and recreational businesses. The MPID is home to 45,000 workers and 40,000 students, and is expected to reach 85,000 workers. It is predicted to grow from \$9.5 billion in economic output to \$14 billion within 15 years. It accounts for the second-largest GDP contribution in NSW, behind the combined CBD and North Sydney.

To help spur the development of the MPID, the NSW Government awarded Macquarie University a \$1 million grant to launch the Macquarie University Business Innovation Centre to support innovative product development.

An artist's impression of the redeveloped Macquarie Park precinct



Source: Planning NSW

243 SALUP based on DELWP Projections 2018 (Unpublished)

244 E. Moretti, *The New Geography of Jobs* (2012)

Sydney Innovation and Technology Precinct

More recently, the NSW Government contributed \$48.2 million towards the Sydney Innovation and Technology Precinct in 2020. The Precinct promotes technology, innovation and creative businesses. Atlassian, an Australian software multinational, has been secured as the anchor tenant for the precinct and plans to build its new \$1 billion 40-storey headquarters across from Central station.

SRL aims to catalyse and support clusters of future employment and industry growth. The Sydney Innovation and Technology Precinct and MPID are clear examples of how long-term strategic planning, public-private partnerships, investment planning and business community participation can create innovation precincts with the kind of proximity and clustering of businesses that are conducive to effective collaboration.

Planned Atlassian Global Headquarters at the Sydney Innovation and Technology Precinct



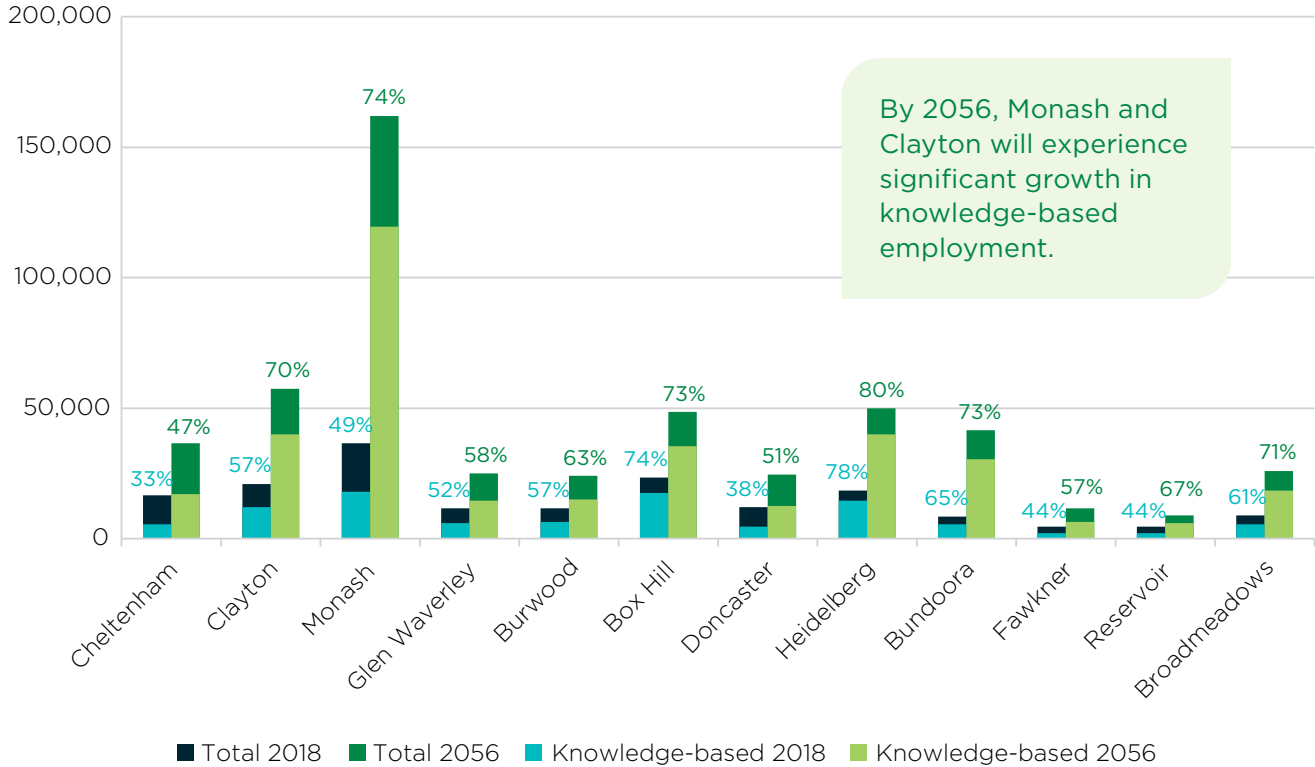
Source: Atlassian

SRL will create an environment that will make SRL Precincts more attractive to new institutions, businesses and employees, driven by the prospect of increased access to workforces, clients and supply chain inputs. Targeted precinct development initiatives as part of SRL (including potential changes to planning controls, attraction of anchor tenants and the creation of attractive, liveable spaces) will also serve to attract new businesses that support knowledge-based jobs,²⁴⁵ providing employment opportunities in sectors including finance, healthcare, education, and scientific and technical services, amongst others.

Knowledge-based jobs in the SRL Precincts are expected to increase from 102,000 in 2018 to 362,000 in 2056 as a result of SRL East and SRL North (Figure 7-5). This will represent 66 per cent of all jobs in SRL Precincts in 2056. Monash will experience particularly strong growth in knowledge-based jobs, supporting its key role as part of one of Melbourne's NEICs.

²⁴⁵ For the purpose of this analysis, knowledge-based jobs are defined as jobs in the following ANZIC industries: Financial and Insurance Services, Professional, Scientific and Technical Services, Education and Training, Healthcare and Social Assistance.

Figure 7-5: Knowledge-based versus total employment within SRL Precincts, with SRL East and SRL North, 2018-2056



Source: SALUP based on DELWP Projections 2018 (Unpublished), CityPlan

CASE STUDY

MediCity MedTech Accelerator Program, Scotland

MediCity is part of the BioCity Group, the UK's leading (and largest) life sciences and MedTech incubator. First established in Nottingham in 2003, BioCity was one of the first incubators to offer specialised bioscience laboratories alongside business support to early-stage companies. The BioCity Group brings together entrepreneurs, clinicians, developers, innovators and investors to support innovation and accelerate the development of the medical technology field.

The BioCity Group established its Scottish campus in Lanarkshire through an injection of more than £1 million (around A\$1.64 million) from the Glasgow and Clyde Valley City Deal, including funding from the UK Department of Business Innovation and Skills. MediCity delivers a range of programs, including a 12-week intensive coaching program for MedTech and Digital Health start-ups to develop a scalable business model for new products and services before raising investment. Accelerator programs have supported more than 28 new business ideas and secured a total of £2.27m (around A\$3.7 million) in investment funding to date, exceeding targets.

MediCity Scotland caters for established companies seeking to be part of the MedTech ecosystem created at MediCity, using hot desks and meeting rooms. The facility includes workshops/labs, offices, meeting rooms and individual workstations. BioCity and MediCity house more than 200 companies at their dedicated facilities. There is a 91 per cent survival rate over 12 years of tenant companies at BioCity Nottingham, with investments delivering a 6.7x return. By 2021, the facility aims to support up to 50 new MedTech businesses and 150 jobs, cultivating commercial and academic communities and showcasing investment opportunities in this growing field.

The BioCity and MediCity Model has become a global leader for entrepreneurial activity in the life sciences and healthcare sectors, demonstrating how an accelerator program can attract knowledge-based jobs and drive agglomeration benefits.

Leveraging anchor tenants

The success of some SRL Precincts will be driven by existing major anchor tenants that can attract a rich base of related firms and entrepreneurs. These anchor tenants have comparative advantages in certain sectors, which may serve as a springboard for new or expanded clusters of complementary businesses. Building on comparative advantage, including through investment attraction and facilitation, provides valuable opportunities to drive agglomeration and increase productivity.

The benefit of established anchor tenants can be seen in the anticipated growth of the Monash and Clayton SRL Precincts, located in the Monash NEIC. The Monash NEIC is recognised as the largest employment node outside the central city. Further growth of this NEIC will be underpinned by the expansion of existing activities and competitive advantage including:

- Monash University
- The technology precinct, which has developed around key institutions such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Synchrotron
- The growth of the Monash Medical Centre
- Industrial employment.²⁴⁶

Building on these existing strengths, the Clayton and Monash Precincts are expected to see the largest growth in total jobs by 2056 following the introduction of SRL East and SRL North, with around 74 per cent of jobs in Monash and 70 per cent of jobs in Clayton expected to be in knowledge-based sectors.

Similarly, the La Trobe NEIC, which includes both the Bundoora and Heidelberg SRL Precincts and supports the Austin Hospital and La Trobe University, is expected to have significant employment growth in knowledge-based and total jobs. With SRL East and SRL North, around 73 per cent of jobs in Bundoora and 80 per cent of jobs in Heidelberg will be in knowledge-based sectors in 2056.²⁴⁷

7.2.3 Bringing businesses together

With increased activity and new public transport connections as a result of SRL, businesses in Melbourne's middle corridor will have enhanced access to each other and to their customers and suppliers.

Better business-to-business accessibility

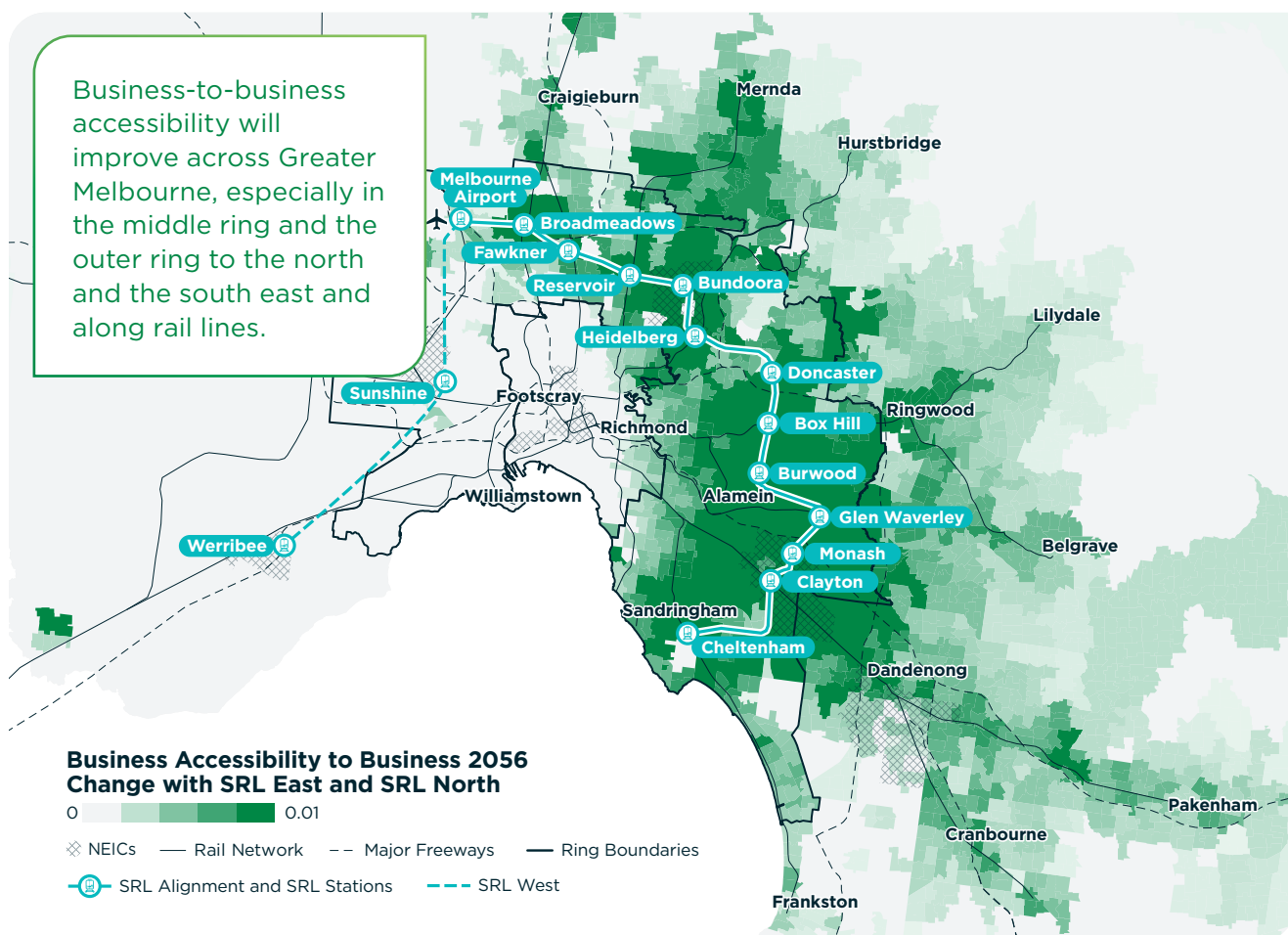
As demonstrated in [Figure 7-6](#), 73 per cent of Melbourne's middle ring will benefit from improved business-to-business accessibility due to SRL East and SRL North. Business-to-business access will also improve across the outer ring along the radial rail corridors, improving business-to-business access for 73 per cent of the outer ring.²⁴⁸

²⁴⁶ Urbis, *Monash Employment Cluster Economic and Business Intentions Report*, (2014), <https://vpa.vic.gov.au/project/monash-employment-cluster/>

²⁴⁷ CityPlan

²⁴⁸ Business-to-business improvement for the middle and outer ring is based on area. CityPlan 2056

Figure 7-6: Change in business-to-business accessibility, 2056



Source: VITM and CityPlan²⁴⁹

Enhanced business-to-business and customer connectivity can generate a range of benefits. For example:

- Broadly, it is easier, faster and more cost-effective to move staff between locations (for example, to attend meetings)
- For some industries, other businesses are their primary clients – easier access across the supply chain can generate new opportunities and growth
- For other businesses, the opportunity to access services and knowledge from other providers may create new chances to improve their offerings or generate efficiencies
- For population-serving businesses, population growth in SRL Precincts creates a larger potential customer pool, which can generate new business and growth.

Improved travel time for freight

Congestion significantly impacts a city's productivity and economic output. It reduces the timeliness and reliability of travel, as well as the efficiency of business-to-business and business-to-customer interactions. Some businesses – such as time critical freight or e-commerce businesses – are particularly affected by slow and unreliable travel. Unreliable public transport or congestion also causes productive time to be lost as employees spend more time waiting for a train or in traffic.

²⁴⁹ Accessibility is a measure on a scale of 0.0 to 1.0.

SRL East and SRL North will save the Victorian economy \$24.9 billion to \$32.1 billion in present value terms by providing public transport passengers and road users benefits such as reduced crowding, congestion and decreasing travel time.²⁵⁰ Faster and more reliable travel times on the road network will reduce costs and improve productivity for industries needing to move freight around and through Melbourne.

Further detail about the benefits of improved journeys across the transport network as a result of SRL East and SRL North is described in Chapter 8: Connectivity outcomes.

7.2.4 Better national and global connections

While SRL will connect the SRL Precincts to one another, the new orbital rail corridor will also connect them to regional Victoria and Melbourne Airport, providing improved access to regional, national and international markets.

By 2056, SRL East and SRL North are expected to carry around 31,000 passengers per day to and from Melbourne Airport.²⁵¹ Individuals travelling interstate or overseas will benefit significantly from this direct access – but so too will a range of businesses.

For example, international education is Victoria's largest single export sector.²⁵² These students are a vital source of revenue for both tertiary education institutions and related or complementary businesses. SRL Precincts are home to a number of major tertiary education campuses – and direct access to Melbourne Airport via SRL East and SRL North will be another drawcard for these institutions when construction is completed.

Similarly, a range of Melbourne's knowledge-based businesses in SRL Precincts draw on global expertise or service global markets. These businesses will be better connected with easier travel to and from the Airport to access global expertise and markets.

7.3 Driving prosperity for Victoria and Australia

The construction and delivery of SRL East will directly employ up to 8,000 people, while SRL North will directly employ an additional 5,100 people.²⁵³

It will also support SRL East and SRL North Precincts to grow from 192,000 jobs and 92,500 households currently, to 545,000 jobs and 232,000 households by 2056.²⁵⁴

7.3.1 Stimulating macroeconomic benefits for Victoria

The economy operates as an inter-related and dynamic system. For example, increases in labour participation can increase household revenue, which translates into increased household consumption. This can spur activities in other related industries (for example, hospitality and retail), which has implications for the upstream supply chain (for example, agriculture and manufacturing). Stimulus in the household and private sector will also flow through to the public sector (for example, increased tax revenue). As such, the potential increases in household income and business productivity due to SRL can act as a catalyst for the other industries both located within and outside of the SRL Precincts.

SRL East and SRL North are long-term, productivity enhancing investments. Across Victoria, this level of investment will create 3,900 net additional jobs (FTE) at the peak of construction.²⁵⁵

250 KPMG (2021) based on VITM and CityPlan modelling result and relevant guidelines and agreed assumptions

251 VITM

252 International education generated \$13.7 billion in revenue for the Victorian economy in 2019. While the sector has been severely disrupted by the closure of Australia's national border during the COVID-19 pandemic, it will resume once the border reopens. It is uncertain how long the sector will take to recover and return to normal levels; however, it is expected to continue to be a major export earner for the state over the longer term. Melbourne's liveability will be critical to attracting international students back to Australia and returning the sector to pre-pandemic levels. See Victorian State Budget 2021-22, *Budget paper No.2, Strategy and Outlook*, <https://www.budget.vic.gov.au/budget-papers>

253 SRLA estimates

254 CityPlan

255 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

The combined impact of SRL East's and SRL North's precinct-specific land use changes and productivity enhancements will lead to an increase in employment across the state, with 4,000 net additional jobs (FTE) created at the peak of the operation phase. This means that unemployment levels will decline by around 3,900 at the peak of construction and by a similar amount at the peak of the operation phase.²⁵⁶

Across the whole economy, SRL East and SRL North will support between 17,900 and 23,900 direct and indirect jobs.²⁵⁷

This level of economic activity is anticipated to increase Victoria's GSP by \$50.8 billion in present value terms using a 4 per cent discount rate (real).²⁵⁸

7.3.2 Driving a stronger national economy

The benefits realised in Victoria flow on to the national economy. A more productive and competitive Victoria may generate innovations in the other States and Territories, promoting a healthy and competitive economy Australia wide. Overall, Australia's GDP will be higher by \$49.3 billion in present value terms over the evaluation period.²⁵⁹

The increase in economic output as measured through GSP and GDP will lead to increased Victorian and Australian Government tax receipts. Over the construction and operations phase, the Victorian Government's tax receipts will be higher by \$3.2 billion in present value terms.²⁶⁰

The Australian Government's tax receipts will be substantially higher by around \$10.9 billion in present value terms.²⁶¹ Total tax receipts for the Victorian and Australian Governments will therefore be around \$14.1 billion in present value terms.

This is further discussed in Chapter 12. Appendix C.2: Suburban Rail Loop Economic Appraisal Report provides a complete description of the economy-wide effects of SRL East and SRL North.

**SRL East and SRL North
will increase Victoria's GSP
by \$50.8 billion and
Australia's GDP by
\$49.3 billion**

256 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

257 SRLA estimates based on on RPV rail project employment multiplier model

258 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

259 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

260 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

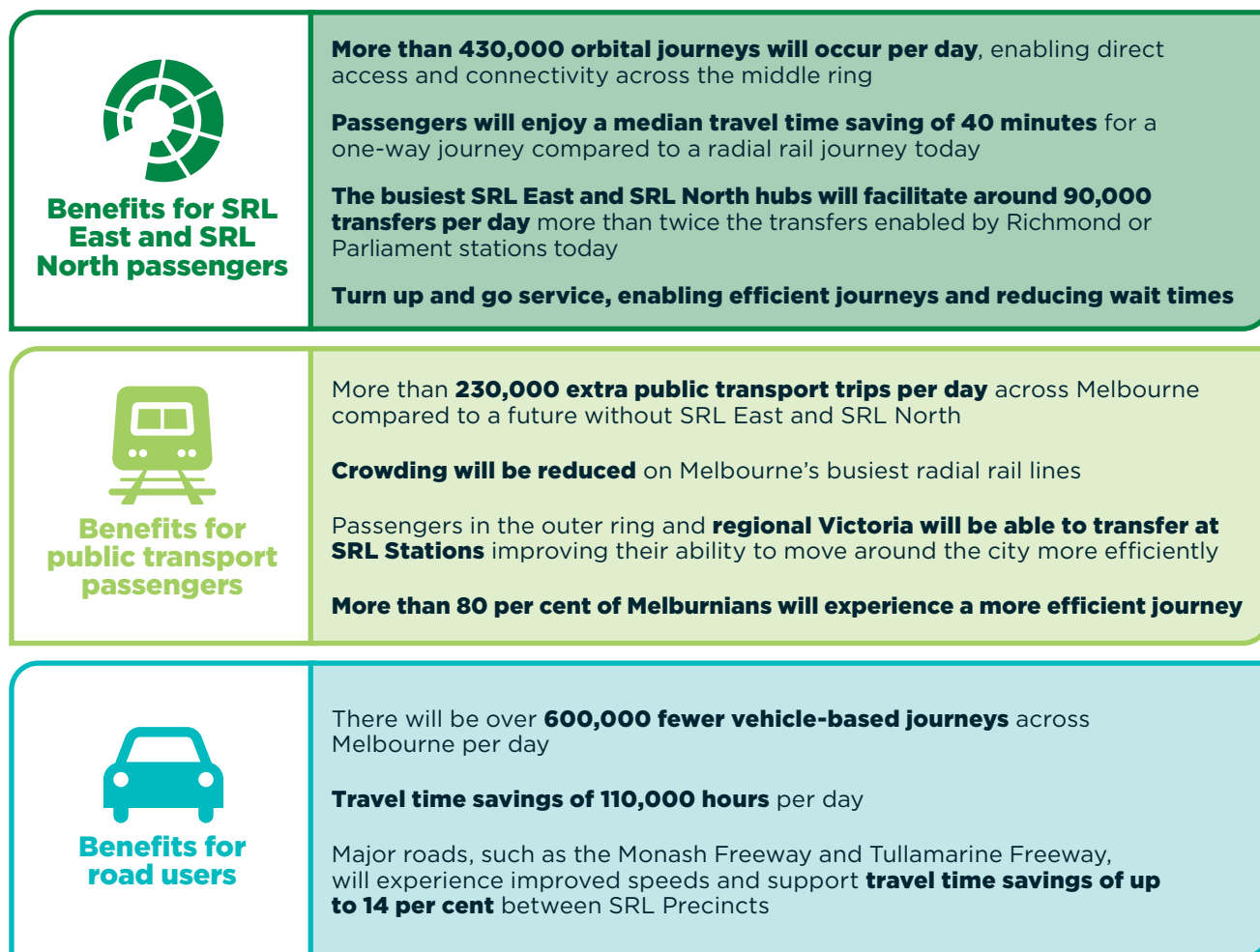
261 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

8 Connectivity outcomes

Chapter summary

- The SRL orbital rail line will connect nearly all of Melbourne’s major radial rail lines. For the first time, Melburnians will be able to travel across Melbourne by rail without having to go into the central city to transfer. SRL will create public transport capacity and alignment to facilitate Melbourne becoming a ‘city of centres’ and to support the increasing transport demand generated by projected population growth.

Figure 8-1: Transport benefits of SRL



Source: Victorian Integrated Transport Model (VITM)

- SRL will promote active transport by integrating the station design with precincts and neighbourhoods, and providing safe and secure cycle facilities at each station. By 2056, it is estimated that around 70 per cent of passengers will access the SRL Stations using active transport.
- SRL Stations will be accessible and easy to navigate. Access points will be compliant with Disability Standards for Accessible Public Transport (DSAPT), with consistent wayfinding. Stations will be integrated with neighbourhoods and other transport services, enabling passengers to undertake smooth journeys between home, work and education.
- SRL will improve the resilience of the rail network, making it easier for passengers to navigate disruptions. The orbital alignment will also improve the use of existing assets across the entire network, as more people will use the radial network to travel in the counterpeak direction.

Connectivity and SRL East and SRL North

Connectivity is one of the three Objectives of the SRL Program.

SRL is expected to improve connectivity across Victoria – better connecting people and places with a resilient and reliable transport network. Broadly, SRL aims to improve public transport connectivity across the city, especially to key strategic areas such as National Employment and Innovation Clusters (NEICs) and Metropolitan Activity Centres (MACs).

Together, SRL East and SRL North will create an integrated transport network that improves the passenger journey and network resilience.

8.1 A first for Melbourne – orbital rail travel

As highlighted in *Plan Melbourne*, Melbourne requires a transport network that not only manages the significant expected growth in the transport task, but meets the community's needs and diverse travel patterns. While the radial network provides good connectivity, there are opportunities for improvement.

The radial rail network primarily provides access to and from the central city. As outlined in Chapter 3, Melbourne's orbital travel demands are currently unmet by high capacity public transport. SRL will connect nearly all of Melbourne's major radial rail lines and create an orbital rail connection through Melbourne's middle suburbs. SRL East and SRL North will enable more than 430,000 orbital trips per day in 2056.²⁶²

There will be new interchange opportunities at eight radial rail stations (Cheltenham, Clayton, Glen Waverley, Box Hill, Heidelberg, Reservoir, Fawkner, and Broadmeadows). This will create integrated transport hubs for rail lines, as well as other public transport modes. SRL Stations will also connect to private and active transport modes. Public transport connectivity will be substantially improved across Melbourne's middle suburbs, but especially in Monash, Burwood, Doncaster and Bundoora which do not currently have rail access.

By integrating with Melbourne's existing radial lines, SRL will create public transport capacity and alignment to facilitate Melbourne becoming a polycentric city and to support the increasing transport demand generated by the city's projected population growth.

8.1.1 Quick and enjoyable journeys

The public transport user experience is at the heart of the planning and development of SRL. This will ensure the needs of all users are considered and the journeys are enjoyable. SRL will achieve greater connectivity outcomes for Victoria by:

- Delivering a city-shaping orbital network that enables frequent and reliable services, increasing capacity
- Reducing the journey time between home and places of employment, education, health services and recreation
- Reducing crowding during the weekday peak period and special events (e.g. football games)
- Investing in rolling stock that caters for a range of journey purposes and secures access for people with disabilities
- Developing stations that are intuitive, safe and protected from the elements
- Creating precincts that support employment, recreation and everyday needs.

SRL will transform how people move around Melbourne. For everyday passengers, it will mean shorter and more reliable journeys. The orbital alignment will also unlock the middle suburbs and provide connectivity to destinations that were previously considered too far or difficult to access.

Encouraging public transport trips

Currently, passengers may need to undertake a multi-leg rail trip that passes through the CBD to access Melbourne's middle suburbs. Many passengers opt to use private vehicles to reduce the travel time and complexity of multiple transfers.

SRL will transform Melbourne's public transport service provision. The new SRL network will be:

- More accessible, providing new connections across Melbourne
- Faster, reducing travel times
- Reliable, as services will arrive more frequently.

These attributes will make public transport an attractive travel option and encourage commuters to use the train to complete their orbital journeys.

SRL East and SRL North will deliver stations in four precincts that do not currently have access to rail and provide interchange opportunities at a further eight stations. This will enable diverse trip patterns across the middle suburbs that combine with other public transport services. Passengers will be able to easily commute in an orbital direction without having to transfer to radial rail lines or detour via the central city.

Saving people time

The enhanced connectivity provided by SRL will reduce public transport travel time and perceptions of distances in Melbourne's middle ring. For example, a journey between Cheltenham and Clayton is approximately 10km by road; however, it can take up to 45 minutes by train.²⁶³ With SRL East, the journey time will be reduced to less than 10 minutes.²⁶⁴

Public transport travel time improvements are anticipated to be even greater between destinations where multiple transfers or modes would be required today. A passenger travelling around 28km from Monash to Bundoora could save up to 82 minutes on the morning commute, with similar improvements in the afternoon.²⁶⁵ These significant travel time savings will enhance the quality of life for many passengers and create opportunities for people who have long and inconvenient trips as a barrier to using public transport travel or accessing employment opportunities, services and amenities within certain precincts.

SRL will have capacity for ultimate service frequency of every two minutes. Not only will this provide a genuine 'turn up and go' service, it will also improve reliability as passengers can conveniently complete transfers without the worry of missing connecting services. This means less time waiting or navigating complex transfers and more time at the destination.

Figure 8-2 illustrates the travel time savings that passengers will enjoy during the morning peak in 2056 due to SRL East and SRL North.

Connectivity highlights

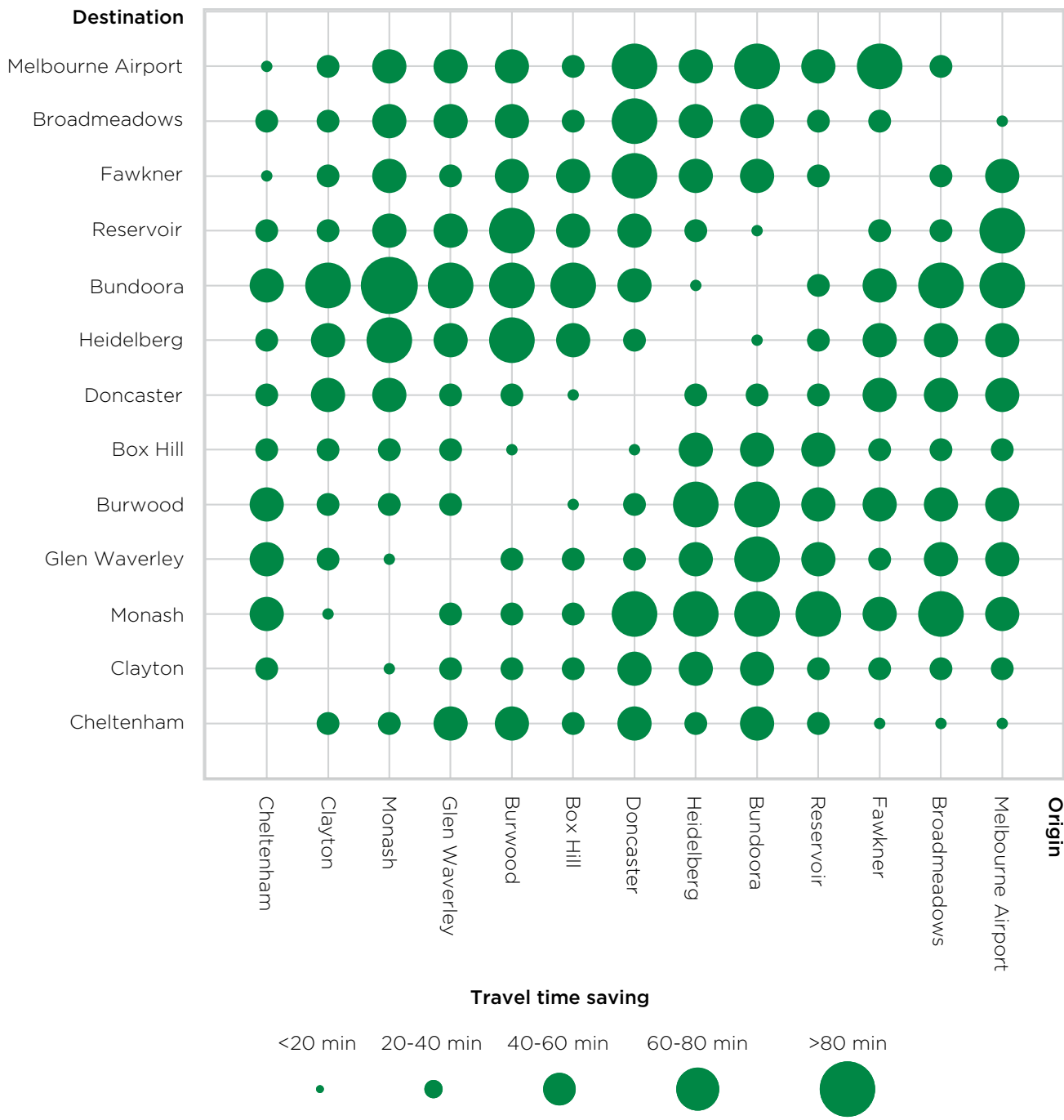
- In 2056 there will be more than 230,000 extra public transport trips per day across Greater Melbourne compared to a future without SRL East and SRL North
- More than 430,000 passengers will use the combined SRL East and SRL North per day. Nearly half of these trips will be undertaken outside peak periods – meaning the line will be well utilised throughout the day
- There will be median travel time savings across SRL East and SRL North of 40 minutes for a one-way journey compared to a public transport journey today
- There will be public transport travel time savings of up to 82 minutes between SRL Precincts (Monash to Bundoora will have the greatest savings).

263 PTV, *Journey Planner* (2020)

264 VITM 2056

265 VITM 2056

Figure 8-2: Public transport travel time savings (minutes) between SRL Precincts due to SRL East and SRL North (AM peak), 2056

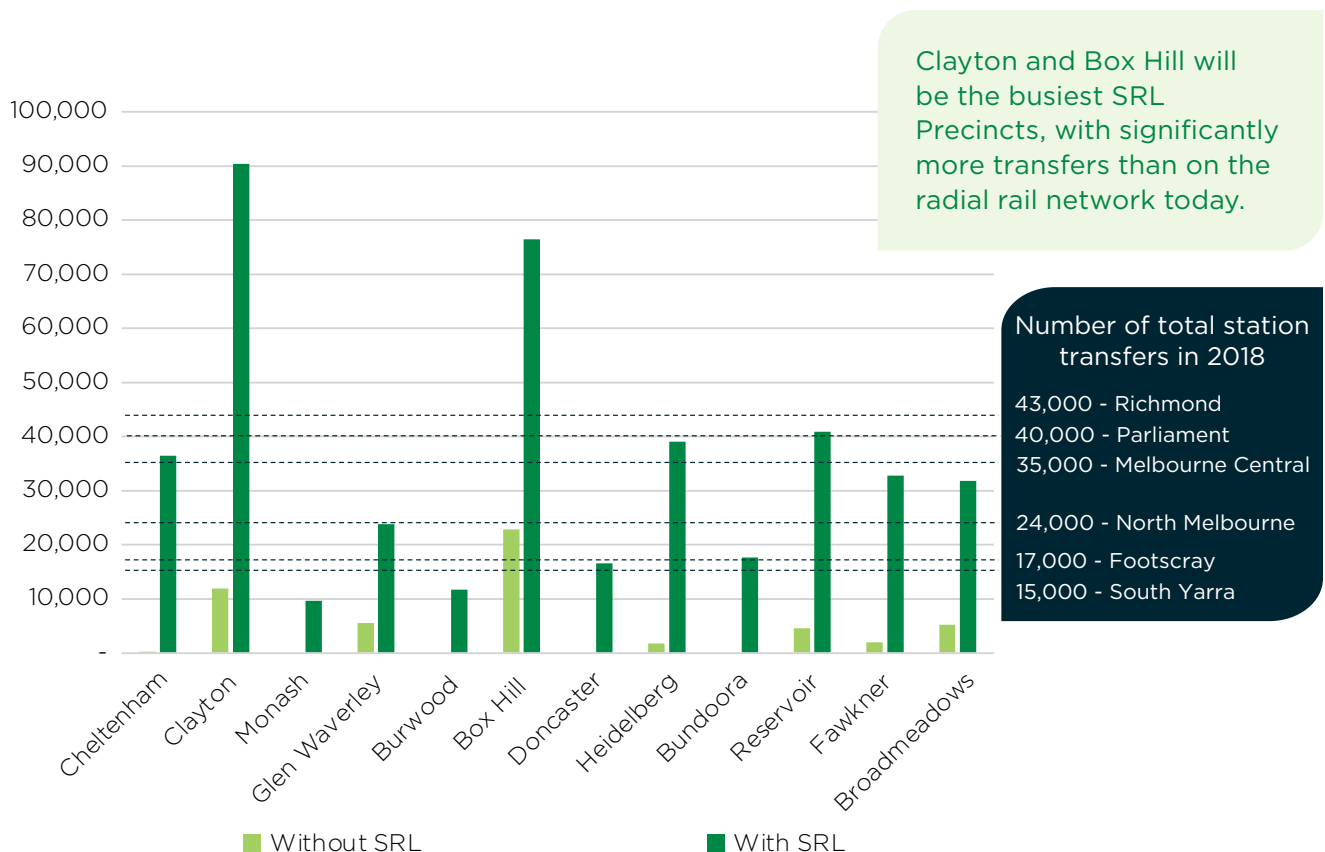


Source: VITM

The enhanced connectivity created by SRL is evidenced by the number of passenger transfers between rail and other public transport services. Many of these transfers are part of journeys that are difficult to undertake with a radial rail network and may result in people driving or foregoing the trip. Clayton, an SRL Station and transport super hub, is projected to have more than 90,000 transfers per day by 2056 – more transfers than Richmond and Parliament stations combined today (see [Figure 8-3](#)).²⁶⁶

266 VITM

Figure 8-3: Daily number of station transfers between one rail service and other public transport services, 2056



Source: VITM

Connecting strategic precincts

NEICs and MACs are strategic precincts that will contribute to Melbourne's long-term economic growth. However, to reach their potential they must be well connected by public transport. This will ensure there is direct and reliable access for employees, innovators and residents to reach the precincts.

SRL East and SRL North will connect two NEICs in Melbourne's middle ring – La Trobe and Monash – while SRL West will service Sunshine and Werribee. The Monash and La Trobe NEICs will be better connected to the CBD by public transport with SRL. Journeys between the CBD and Monash will be 61 minutes by public transport while travel between the CBD and La Trobe will be 56 minutes by public transport. Without SRL East and SRL North, these trips would take 17 and 11 minutes longer respectively.

SRL East and SRL North will also improve travel time by road between the two NEICs and the CBD, reducing driving time to the CBD in the morning peak by 14 per cent from Monash and 8 per cent from La Trobe NEIC.

On average, passengers travelling from any SRL Precinct to the La Trobe or Monash NEIC will save more than 45 minutes in the morning peak, compared to the current network.

Connectivity highlights

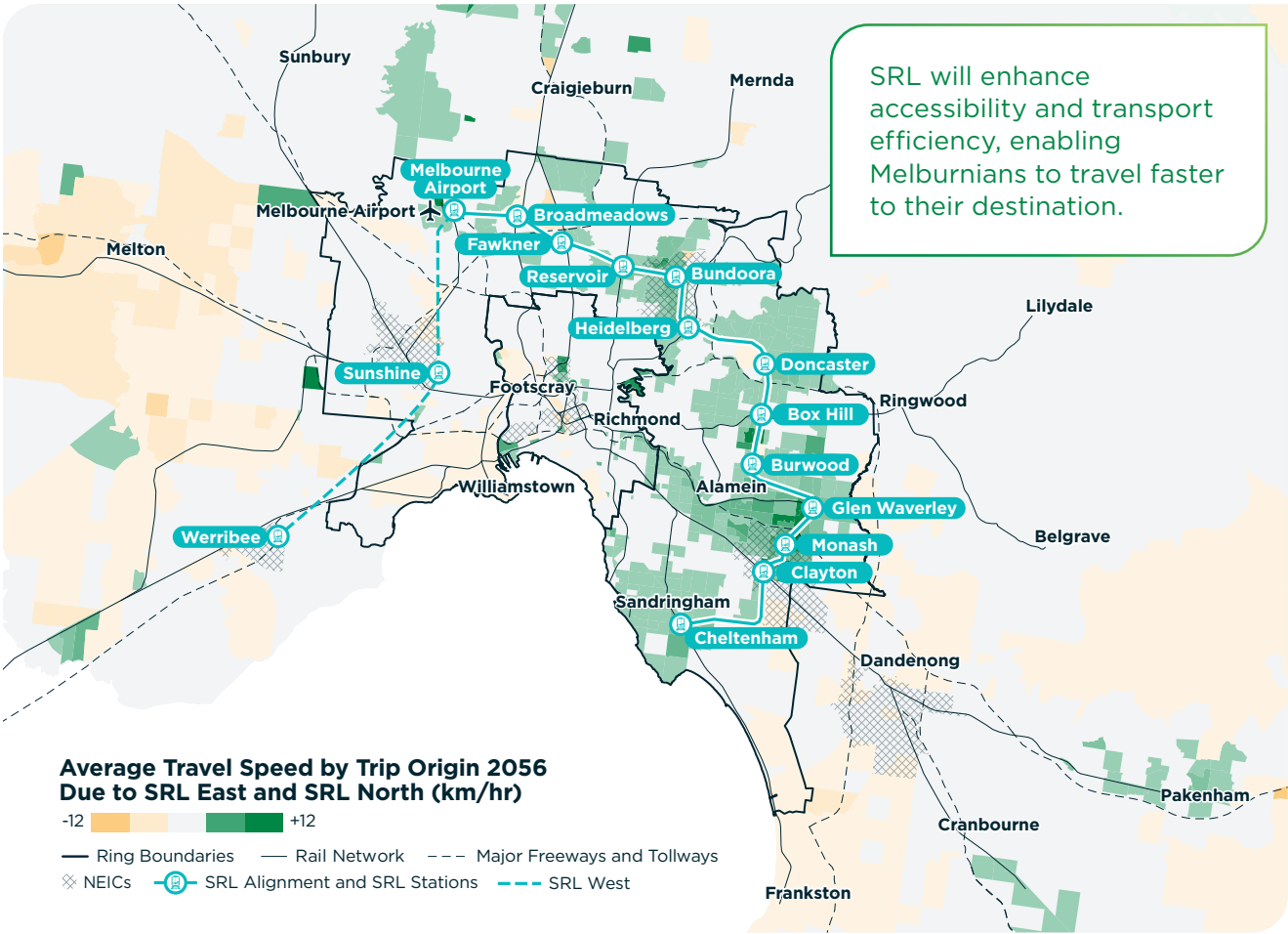
- By 2056, around 98,000 passengers will travel to the NEICs along SRL East and SRL North every day
- A passenger undertaking a return journey from Bundoora to Monash University will save almost 170 minutes per day with SRL East and SRL North
- The NEICs will be serviced by SRL East's and SRL North's 'turn up and go' services, providing much needed capacity and ensuring passengers ride in comfort.

The improved accessibility and reduction in transfers across the middle suburbs result in shorter travel times – for example, a passenger completing a return journey from Bundoora to Monash will save almost 170 minutes per day.²⁶⁷

SRL is anticipated to improve the efficiency by which Melburnians move around the city. The improvement in speed for all transport modes (i.e. faster rail journeys and fewer vehicles on the road improving network speeds) means that passengers can travel further without a significant increase in travel time. This unlocks new employment, education and recreational opportunities that may previously have been inaccessible.

Figure 8-4 illustrates the change in travel speed as a result of SRL East and SRL North. Much of the city will experience an improvement in travel speeds. Overall, it is estimated that more than 80 per cent of Melburnians will experience improved transport efficiency during peak periods.²⁶⁸ The reduction in travel speeds around Melton reflects new employment opportunities in the middle ring as a result of development in SRL Precincts and broader clustering of businesses. As a result, passengers are choosing to travel further by public transport to access these enhanced opportunities.

Figure 8-4: Change in travel speed due to SRL East and SRL North, 2056



267 VITM (2056)

268 VITM (2056)

Easing crowding on Melbourne's busiest radial rail lines

SRL East and SRL North will connect seven radial rail lines between Cheltenham and Broadmeadows. By enabling direct journeys through the middle ring, SRL will relieve crowding pressure on the busiest parts of the rail network. The diversion of some passengers to orbital travel is anticipated to provide crowding relief on the inner sections of the radial rail lines, creating a more enjoyable journey for passengers.

Radial lines that are at capacity will experience crowding relief (see [Figure 8-5](#)). The largest crowding improvements will be on inner sections of the Dandenong and Glen Waverley lines. By 2056, the peak load on these lines approaching the CBD will reduce by about 17 per cent in the morning. On average, peak loads are projected to drop by 11 per cent across all lines connected to SRL East and SRL North.²⁶⁹

SRL is forecast to stimulate demand on outer sections of the radial rail network which have the capacity for growth. For the first time, passengers can commute to an SRL Station, before transferring to an orbital service. It is estimated that passenger boardings between Mernda and Reservoir on the Mernda line will increase by 14 per cent with SRL East and SRL North.²⁷⁰ Strategic employment and education precincts along the orbital alignment will be key attractors for passengers commuting from outer and middle suburbs, supported by a well-connected network.

Attractors and connectivity across the middle ring will mean that despite an overall increase in demand for rail services, the crowded inner sections of the radial network will experience some relief. Crowding improvements across Melbourne's rail network will give passengers the flexibility to travel when they need, rather than planning their journey to avoid busy carriages or driving.

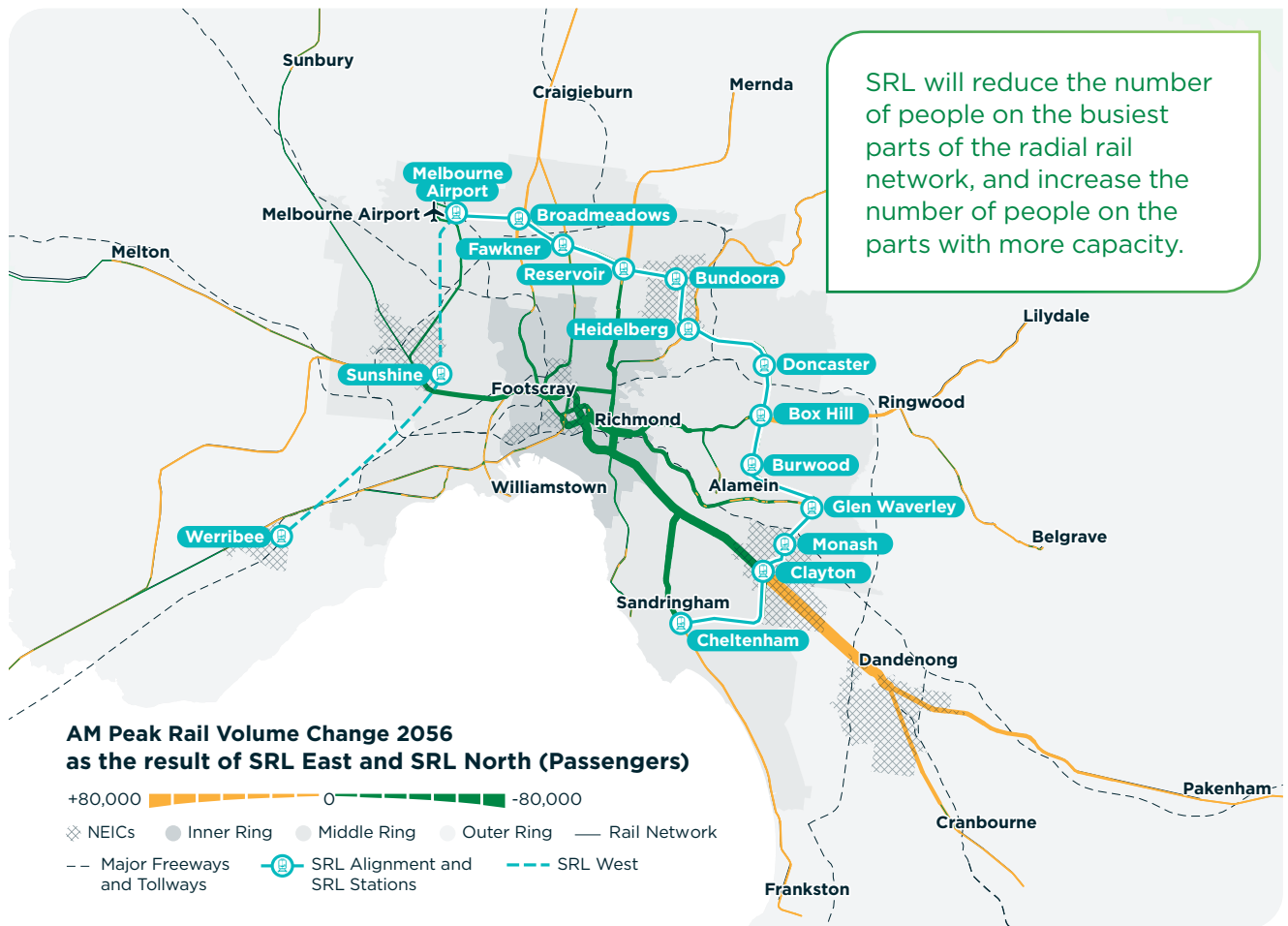
Connectivity highlights

- SRL will enable passengers to travel in an orbital direction, relieving crowding pressure on inner sections of the radial rail network that are at capacity
- The largest crowding improvements will be on inner sections of the Dandenong and Glen Waverley lines. Peak loads on these lines approaching the CBD will reduce by about 17 per cent in the morning
- There will be an increase in demand on outer sections of the radial rail network that have capacity for growth. Passengers will travel to SRL East and SRL North before transferring to destinations in the middle suburbs.

269 VITM

270 VITM (2056)

Figure 8-5: Change in rail passenger volumes across the rail network due to SRL East and SRL North (AM peak), 2056



Source: VITM

Services on SRL will be fast, more reliable and frequent

The dedicated fleet of high-tech SRL trains using state-of-the-art systems will enable fast, efficient travel. Operating independently to other rail lines, SRL will be less sensitive to performance challenges experienced on the broader public transport network, such as delays from overcrowding and disruptions.

Rolling stock will be four carriages long and have improved acceleration and braking enabling them to operate with short headways. This will provide high frequency services for everyday passengers that enhances network capacity.

Once fully operational, SRL East and SRL North trains will provide ‘turn up and go’ services. This will improve integration with high frequency radial lines, such as the Cranbourne-Pakenham and Sunbury lines, enabling passengers to easily transfer during their journeys.

SRL’s dedicated train fleet will have spaces for wheelchairs and passengers with special needs, creating a more inclusive rail network. [Figure 5-3](#) in Part B shows an indicative train carriage layout.

8.1.2 SRL Stations will be accessible and easy to navigate

Public transport users will be at the forefront of station design. Stations are the first and last point of contact for many passengers and may also serve as an interchange between other transport modes or networks. Therefore, ease of access and user-centric design requirements are essential. As discussed in section 5.2.5, SRL Stations are being designed according to a set of guiding principles that focus on making the user experience safe, welcoming, comfortable and convenient.

Concept Designs for SRL will provide for all stations to have a well-planned platform and concourse. The platforms will be shorter as a result of the four carriage train configurations. This will enhance accessibility by reducing transfer distances.

Other user-centric design features will include:

- Strategic placement of energy-efficient lighting to ensure the station is well-lit and supports passive surveillance
- Consistent wayfinding infrastructure with simple messaging to direct passengers to their destination
- Active transport infrastructure around the station including pedestrian crossings, footpaths and tactile paving.

Station design will consider the interface with other public transport modes as part of creating an integrated transport network. For example, bus drive-in access may be provided to enable the shared use of facilities at existing stations, supported by additional pick-up and drop-off facilities. The design will ensure passengers transferring between other services and SRL can conveniently access the station interchange and waiting areas. SRL will seek to minimise transfer times, enabling passengers to travel efficiently and without disruption. By 2056, it is estimated that around one third of passengers travelling on SRL East and SRL North will have transferred from the radial rail network at an SRL Station.²⁷¹

All-abilities access will be integral to the station design, creating enjoyable journeys for passengers with varying and diverse needs. All SRL Stations will be DSAPT-compliant, which will include compliant access to the station at ground level and lifts to the platform level.

Furthermore, an integrated urban design approach is being taken for the stations, combining individual features unique to the location and precinct with common line-wide features within the station area. This approach preserves the character of each neighbourhood while providing familiar features for passengers using the network.

8.2 Taking cars off the road

Fast, reliable, enjoyable and safe journeys mean more passengers will use SRL East and SRL North to complete their everyday travel.

Fewer private vehicle journeys will ease demand on Melbourne's congested road network. By 2056, it is estimated that there will be around 606,000 fewer journeys on the road per day as vehicle users shift to the rail network. Across Melbourne, this is equivalent to almost 3 million fewer passenger kilometres travelled and around 110,000 fewer passenger hours spent in vehicles per day.²⁷²

People using Melbourne's roads – including for public transport, business and freight-related trips – will have a more enjoyable journey as a result of SRL. This will be realised by:

- Less congested roads improving journey times and travel time reliability
- Fewer bus and tram services that run late
- Lower vehicle operating costs from smoother driving
- Less stop-start driving creating a more enjoyable driving experience
- Enhanced safety from fewer vehicles on the road.

271 VITM

272 VITM

SRL will improve speeds and travel times on freeways and arterial roads. [Table 8-1](#) summarises the anticipated travel time savings between strategic precincts across Melbourne. These network improvements will enhance accessibility for road users travelling to the precincts, contributing to improved productivity and innovation.

Table 8-1: Road improvements between strategic precincts (AM peak), 2056

Road corridor	From	To	Travel time savings (mins)	Travel time saving (per cent)
Monash Freeway	Monash NEIC	Fishermans Bend NEIC	11	15
Tullamarine Freeway	Parkville NEIC	Melbourne Airport	3	8
M80 Ring Road and North East Link	Sunshine NEIC	La Trobe NEIC	3	7
Eastlink and Eastern Freeway	Dandenong NEIC	Doncaster	3	4
Eastern Freeway City Exit	Box Hill	CBD	5	8

Source: VITM

Businesses and freight firms with operations in the middle ring will benefit from improvements to the road network. The reduction in vehicles on the road network will contribute to in-journey time savings, enhanced freight efficiency and lower costs. Everyday consumers will also benefit from improved timeliness and reliability of goods. Examples of travel time improvements in the 2056 morning peak include:²⁷³

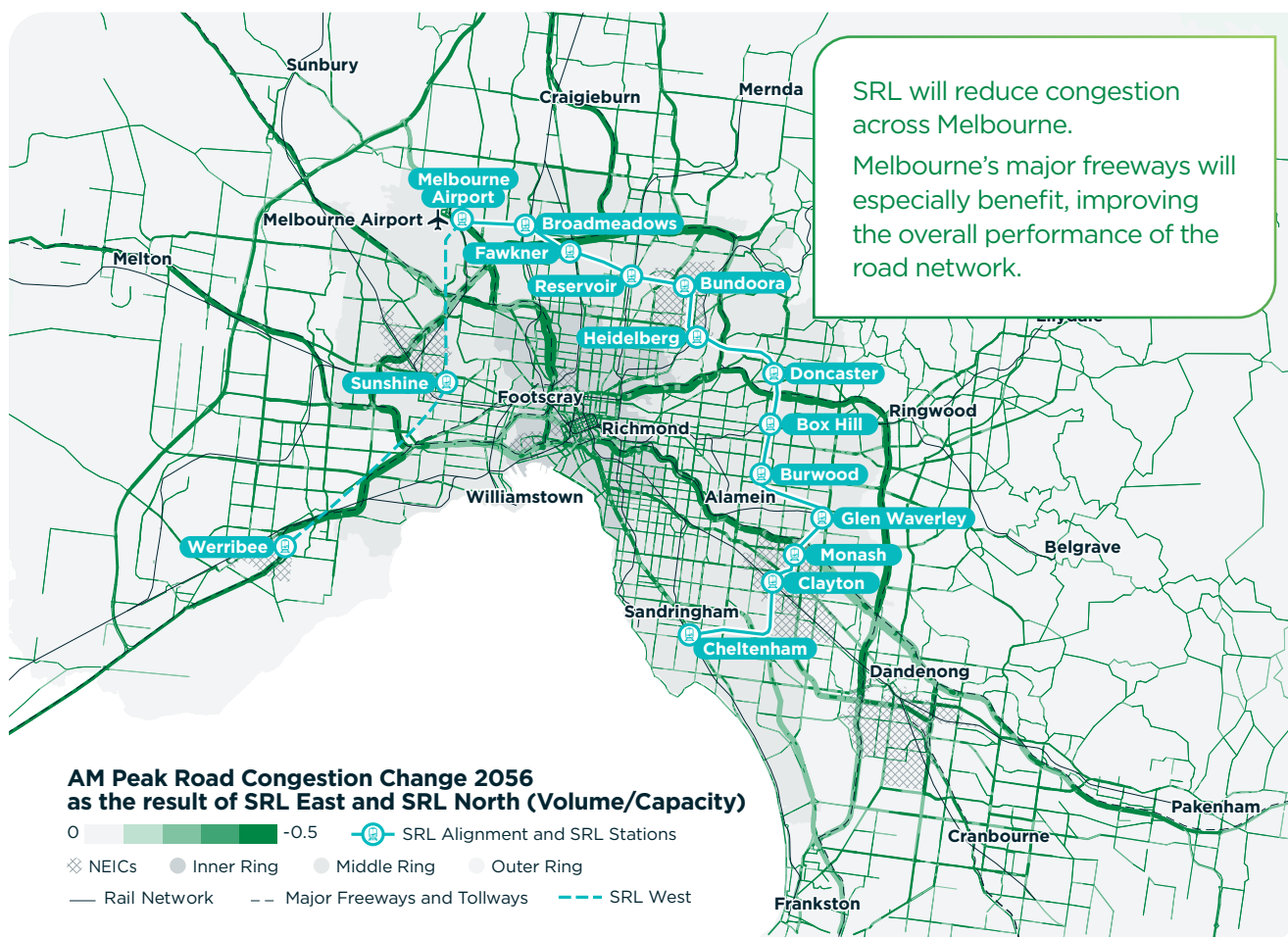
- A food truck travelling from a supermarket distribution centre in Mulgrave to a shopping centre in Malvern will save around 8 per cent, or nearly 4 minutes, on their journey time
- A courier transporting online purchases from a distribution hub in Beveridge to a home in Bellfield will save around 10 per cent, or around 5 minutes, on their journey time
- An office supplies delivery driver travelling from St Albans to Port Melbourne will save around 10 per cent, or 4.5 minutes, on their journey time.

Bus and tram passengers will also benefit from less congested roads. Services will benefit from improved running times and better connections with interfacing public transport services.

[Figure 8-6](#) illustrates the congestion relief SRL East and SRL North provide to Melbourne's road network. The majority of motorways and arterial roads have a reduction in congestion, which will improve travel time and reliability for users of these roads.

273 VITM

Figure 8-6: Change in road network congestion due to SRL East and SRL North (AM peak), 2056



Source: VITM

More people using public transport

The enhanced connectivity and mode shift means more Melburnians will catch public transport. For example, in 2056 it is predicted that without SRL East and SRL North, 6 per cent of all trips from the suburbs of Cheltenham to Glen Waverley in the morning peak will be on public transport. With SRL East and SRL North, that figure is predicted to increase to 44 per cent. Similarly, for trips from the suburb of Reservoir to Melbourne Airport, 24 per cent of trips will be on public transport in the morning peak without SRL East and SRL North. The share is expected to increase to 45 per cent with SRL East and SRL North.²⁷⁴

The uplift in public transport mode share is not limited to suburbs along the SRL Alignment. The addition of a new orbital rail line connects existing radial lines, benefiting Melburnians living within the catchment of these radial services. For example, without SRL East and SRL North only 2 per cent of all morning peak trips from the suburb of Greensborough to Dandenong is predicted to be on public transport. This will increase significantly to 8 per cent with the introduction of SRL East and SRL North. Similar public transport mode share improvements are also expected for trips from the suburb of Ringwood to Preston, increasing from 14 per cent to 17 per cent with SRL.

Overall, it is estimated there will be more than 230,000 additional public transport journeys across Greater Melbourne per day as a result of SRL East and SRL North.²⁷⁵

More than 230,000 additional public transport trips will be made each day by 2056 as a result of SRL East and SRL North

274 VITM

275 VITM (2056)

8.3 Promoting active transport and other forms of public transport

End-to-end journey planning is at the forefront of SRL. The journey extends beyond the time spent travelling on the train – it includes all components of the connection between the ultimate origin and destination. For many passengers, this is the distance between their place of residence and the station and ‘final mile’ to their place of employment, education or healthcare services. Access to SRL Stations will be prioritised for walking, cycling, disability access and other public transport connections.

SRL will promote active transport by integrating the station design with precincts and neighbourhoods. Drawing on international best practices, such as that described in the Zurich case study on the following pages, SRL will investigate opportunities for active transport infrastructure such as pedestrian crossings and cycle paths to provide a smooth journey between the station and destinations.

For example, walking and cycling will be supported by delivering a pedestrian network with wide footpaths and good walking environments, a quality cycle network and a cycle parking facility at each station. The precise scope of active transport links will be confirmed by detailed precinct structure planning processes.

Importantly, the active transport infrastructure and precinct design will be developed with the safety of families, women and disadvantaged groups in mind. Examples include well-lit cycle paths, wayfinding infrastructure, CCTV cameras and other urban features to enhance safety. This demonstrates the commitment to creating inclusive precincts and securing equal access to active transport.

High levels of cycling access are key to SRL patronage outcomes, with cycling offering a cost-effective access mode with door-to-door ease, flexibility, reach and speed that rivals, or can be even better than, cars. Cycle-train integration is an attractive proposition to challenge car trips (from a user perspective) and contributes to a sustainable and integrated urban mobility system. Cycle-train integration affects mode use and land use, with synergies with urban consolidation and place outcomes.

The provision of safe and secure cycle facilities at each station is essential for realising the active transport vision of SRL. Cycle parking will be available for 15 per cent of daily passengers when SRL East is complete.²⁷⁶ Additional parking facilities will be provided as demand grows over the following years. It is assumed that around 80 per cent of cycle parking will be available at or adjacent to the SRL Station with the remaining share allocated to the surrounding road network. Cheltenham will have approximately 400 cycle parks, while Burwood will have up to 750 cycle parks.²⁷⁷

By 2056, it is estimated that around 70 per cent of passengers will access the SRL Stations using active transport.²⁷⁸

²⁷⁶ AJM, *Concept Design – Network Development Summary Report*, (2020).

²⁷⁷ AJM, *Concept Design – Network Development Summary Report*, (2020).

²⁷⁸ VITM note access analysis excludes rail transfers from the radial line.

Placemaking amenity improvements – cyclist experience

Improving cycling experience

'Cycling experience' captures the improved level of enjoyment, wayfinding and safety associated with the use of cycle routes, relative to the lack of cycle routes or cycling with mixed traffic.

By providing dedicated cycle routes as well as other supporting cycling facilities, the precinct initiatives undertaken as part of SRL are expected to improve the journey quality for cyclists and thus generate economic benefits accrued from the enhanced pleasantness, ease and perceived safety of cycling trips.

The improved cyclist experience will encourage more people to choose to cycle to and from the SRL Precincts.

Indicative cyclist ambience benefit in the SRL Precincts

SRL East and SRL North are expected to enhance the experience of people cycling in SRL Precincts by an additional \$20 million to \$23 million, captured through cyclist experience benefits.ⁱ

Indicative benefits of enhanced cyclist amenity for each SRL Precinct are outlined below. Note that the table below contains the indicative benefits accrued to cyclist amenities alone; other benefits are expected from broader precinct initiatives in the SRL Precincts (such as improved green spaces and station plazas). This case study focuses on the benefit of cyclists' requirements being better met; other benefits such as improved health and reduced road congestion are captured through the conventional benefits discussed in the economic appraisal of SRL East and SRL North (see Chapter 12).

SRL Precinct	Estimated quantified benefit of enhanced experience ⁱⁱ	SRL Precinct	Estimated quantified benefit of enhanced experience ⁱⁱ
Cheltenham	\$1.3m to \$1.5m	Heidelberg	\$1.5m to \$1.8m
Clayton	\$1.2m to \$1.5m	Bundoora	\$1.4m to \$1.7m
Monash	\$3.4m to \$4.0m	Reservoir	\$1.6m to \$1.9m
Glen Waverley	\$2.0m to \$2.4m	Fawkner	\$0.45m to \$0.55m
Burwood	\$2.3m to \$2.7m	Broadmeadows	\$0.36m to \$0.43m
Box Hill	\$2.9m to \$3.5m	Melbourne Airport	\$0.08m to \$0.10m
Doncaster	\$1.1m to \$1.3m		

About the method

The indicative quantification of the cyclist experience benefit was undertaken at precinct level, for an evaluation period of 50 years, using a 4 per cent discount rate. The quantification considers the following key assumptions and inputs:

- The methodology and parameters adopt those suggested by the Draft Placemaking Guidelines issued by Transport for New South Wales (TfNSW)ⁱⁱⁱ
- The kilometres of cycle routes under the Program Case and Base Case for each of the SRL East Precincts were provided by SRLA, based on research undertaken to date
- The kilometres of cycle routes were provided in ranges, taking into account potential variations in the number of cyclists in the places
- The kilometres of cycle routes for SRL North were estimated as the average of the SRL North Precincts

- The other necessary parameters required for quantification as per the TfNSW guidelines, such as the number of cyclists and time spent in the SRL Precincts per cyclist, are obtained from the Melbourne Activity Based Model (MABM). These were estimated for SRL East and SRL North.

Note: this method allows the quantification of indicative benefits provided by SRL East and SRL North cyclist-related precinct initiatives at a high level.

-
- i SRL Precinct cyclist amenity improvements have been estimated on the basis of the kilometres of cycle path under the Base Case and Project Case provided by SRLA. The period of benefit evaluation is 50 years from 2035 when SRL East is open. Amenity benefit is discounted at 4 per cent.
 - ii Benefits estimated by applying the Draft Placemaking Guidelines issued by TfNSW: Movement and Place Evaluation: Estimating placemaking impacts of transport projects in business cases. There is no Victorian equivalent currently available
 - iii Transport for New South Wales, *Movement and Place Evaluation: Estimating placemaking impacts of transport projects in business cases*
-

CASE STUDY

Glattalbahn and Wallisellen Development Area, Zurich

The Middle Glattal area in Zurich was a historic area experiencing increasing car congestion. The area needed an integrated transport and spatial planning outcome to connect to the Zurich CBD and the airport, as well as to accommodate an increasing population and employment growth.

The new Glattalbahn light rail system connects areas, including Wallisellen, in a 'Network City Glattal', with interchange between trains, trams, buses and air transport. The Masterplan Bahnhof Wallisellen integrated the Glattalbahn Line 12 into a new development area and the station hub.¹ The transport hub design evolved to minimise transfer between the Glattalbahn, S-bahn and bus stops, with pedestrian connections between stops and an additional underpass.

The station interchange and precinct experience has been transformed with a new station building and canopy spanning the road, providing shelter to the bus transfer area and shops. Car parking was consolidated to minimise its impact on the new development, transport hub public realm and active travel.

Cycle routes are well signed with ample cycle parking, providing 130 places on Schwarzackerstrasse and 170 places at the Richtistrasse pedestrian underpass. Bahnhof Wallisellen also has carsharing for four vehicles, railtaxi and paid car parking.

Richti development from the southern side of Wallisellen transport hub. Bicycle routes are well-signed



Photo: SRLA

The new Richti Wallisellen development is mixed use, with businesses, retail and residences replacing the low value industrial use south of the station.ⁱⁱ Buildings integrate secure cycle parking with childcare facilities, so public and active transport is more convenient for everyday commuting, contributing to a more equitable and inclusive community. Pedestrian permeability is now increased via arcades and paths through the publicly accessible courtyard parks. Safety and comfort are also improved with wide footpaths and 30km/h speed limits, as well as one-way and limited general traffic access streets.

Glattalbahn has exceeded patronage forecasts and been successful in stimulating mixed-use, medium density developments around stations, with an extension now being considered.ⁱⁱⁱ The transport and land use outcomes delivered by the Glattalbahn are an example of urban regeneration without increasing levels of car use. The redesign of key streets, relocation of car parking and new development interface to Wallisellen transport hub has created a more walkable and vibrant station precinct.

i With 960 people/hour per direction capacity as per *The Glattalbahn Transport for a Vibrant Network City*, (2009), http://vbg.ch/images/stories/pdf/glattalbahn/glattalbahn_broschuere_englisch.pdf

ii Richti, Rent Space (no date), <http://www.richti.ch/flaechen-mieten>

iii Glattalbahn-Verlängerung Kloten, Glattalbahn (2020), <http://glattalbahn.ch/glattalbahn/>

Reconfiguring the bus network to service the SRL Stations will also promote opportunities for active transport and discourage the use of cars to access the stations. There will be opportunities to realign the bus network by emphasising key feeder routes to each SRL Station and reviewing, reducing or shortening routes that would otherwise provide similar (albeit much less reliable) connectivity. This is one of the most effective and efficient ways to boost patronage and extend the benefits of SRL to a wider catchment. It will also help get cars off the road, and improve connectivity to, from and within the SRL Precincts. Buses will be a priority mode of access to each station, with new high quality bus interchanges provided where required. SRL passengers will be able to combine walking with bus services – for a fast, efficient and healthy commute.

By 2056, it is estimated that around 15 per cent of passengers per day travelling on SRL East and SRL North will use a bus or tram to access an SRL Station.²⁷⁹ Those SRL Stations not connected to the radial rail network, such as Doncaster and Bundoora, rely more heavily on the bus and tram network to connect people to SRL Stations, with over 20 per cent of passengers forecast to use a bus or tram to access these stations.²⁸⁰

High levels of active and public transport will:

- Improve public health through physical activity – for example, active transport investment in the UK has shown increases in physical activity of 12.5 minutes per week²⁸¹
- Improve social interaction – studies from Ireland and the United States show higher social capital in walkable neighbourhoods²⁸²
- Reduce congestion and increase the capacity of the transport network – the Victorian Cycling Strategy (2018-28) notes that cycling can help reduce congestion and is also very efficient, with a high quality cycle link accommodating almost 2.5 times the amount of people than a wider traffic lane
- Activate high streets – evidence from Lygon Street, Melbourne demonstrates that cycle parking attracts over three-times higher levels of spending by customers per square metre of parking space compared to cars.²⁸³

279 VITM

280 VITM

281 Goodman, A., Sahlqvist, S. and Ogilvie, D., *New Walking and Cycling Routes and Increased Physical Activity: One and Two Year Findings From the UK iConnect Study* (2014), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4151955/>

282 Leyden, K., *Social Capital and the Built Environment: The Importance of Walkable Neighbourhoods*, (2003), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448008>

283 Lee, A. and March, A., *Recognising the Economic Role of Bikes: Sharing Parking in Lygon Street Carlton*, (2010), <https://www.tandfonline.com/doi/pdf/10.1080/07293681003767785>

CASE STUDY

Castle Hill Station, Sydney

Sydney Metro Northwest

Sydney Metro is a program of 31 metro stations and more than 66km of new rail. The first metro line, the Metro Northwest, opened in 2019, and aims to address north west Sydney's lack of high quality public transport options and high reliance on cars.

The business case identified that the Sydney Metro project would address four key issues:

- Maintaining Sydney's economic growth
- Accommodating increasing population while maintaining the city's status as a world-class city
- Improving transport access to, from and within the north west corridor, and
- Making Sydney a more sustainable city.

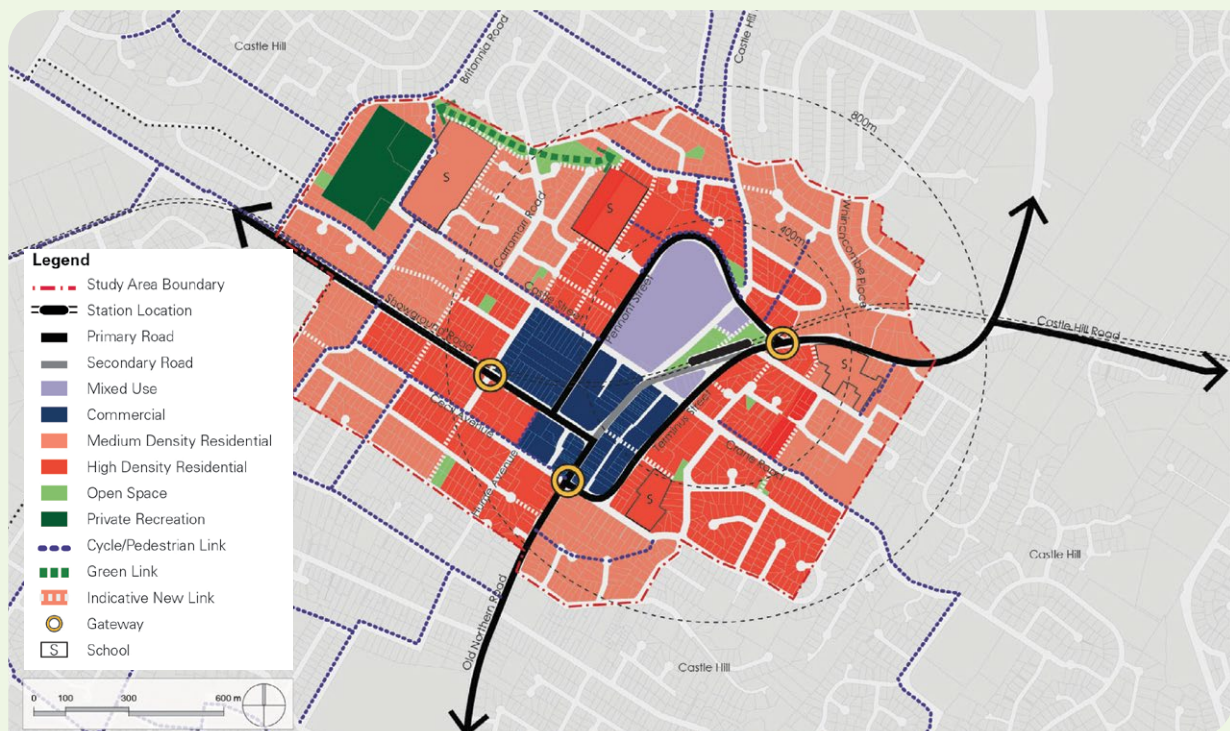
The new 23km rail line includes eight new stations, connecting the north west area to Chatswood (and Sydney CBD) with a high capacity, high frequency train service. The line also connects new catchments to Macquarie University.

Castle Hill Station

Castle Hill is 30km north west of the Sydney CBD and the station is adjacent to the Castle Towers Shopping Centre. While the north west region of Sydney has high levels of car ownership per household, some stations have no additional station car parking and provide quality bike parking and interchange facilities. With substantial transit-oriented development outcomes sought, Castle Hill is one of those stations.

The Castle Hill Structure Plan has identified Castle Hill as a major centre in the Sydney north west region and significant public transport interchange to cater for growth in the area. Mixed-use, commercial and medium-high density residential developments are planned around the station, to create a concentration of development within a walkable station catchment.

Castle Hill Structure Plan



Source: Planning NSW (2013)

As set out in the Castle Hill Precinct Plan, the design of the precinct aims for integration of the station into the wider precinct, and an intuitive experience for users with 'seamless interchange' between cycle, bus, taxi and pick-up and drop-off areas.ⁱ Convenient pedestrian access is provided between the station concourse level and the Castle Towers Shopping Centre via an underground pedestrian link. Around Castle Hill Station, new pedestrian crossings provide additional safe connections, including a bus-only road to the interchange for both pedestrian safety and bus priority. Nine taxi spaces and seven pick-up and drop-off spaces are located on the opposite side of the station, while boulevard trees provide shade along paths and contribute to the area's identity.

Concept Design of Castle Hill Station



Source: Department of Planning, Industry and Environment

Cycle parking has been located in prominent locations, close to the gatelines. Provision was made for 45 cycle spaces at the opening of the station and further space has been allocated for future expansion.ⁱⁱ Metro Northwest has installed high capacity cycle cages using dual-tier systems, which have not been used at stations in Victoria yet. Canopies or other station structures over cycle hoops provide weather protection to users.

Castle Hill Station has been successfully integrated with the reinstated public park and town centre precinct, albeit with some dominant surrounding roads. Seamless, safe connections to the station have been provided and stimulated redevelopment of that part of the shopping centre.

As is the aim for SRL East and SRL North, the Castle Hill design seeks integration of the station into the surrounding area, with a focus on developing the walkable catchment for higher density, mixed-use development, for greater accessibility. Stations such as Castle Hill have been delivered with a focus on an active and public transport interchange, providing a simple, vibrant and attractive station, with excellent wayfinding, bike storage and bus connections.

i Sydney Metro, *03 Precinct Plans Castle Hill Station and Precinct*, (no date), <https://www.sydneymetro.info/sites/default/files/document-library/10.SM-NW-UDCLP-Precinct-Plan-Castle-Hill.pdf>

ii Sydney Metro, *Sydney Metro Northwest Pedestrian-Cycle Network & Facilities Strategy*, (2013), <https://www.sydneymetro.info/sites/default/files/Syd-Met-NW-Ped-Cycle-Strategy.pdf%3Fext%3D.pdf>.

8.4 Enhanced network resilience and asset use

SRL will increase the redundancy of Melbourne's rail network, meaning that Melburnians will be able to more easily navigate disruptions to services. For example, an unplanned disruption on the Frankston line currently requires stand-in bus services and a significantly longer commute. SRL East and SRL North will provide flexibility to connect with alternative radial rail lines and ensure passengers arrive at their destination with minimal disruption.

The orbital alignment also provides opportunities to improve the use of existing assets across the entire rail network. It is estimated that SRL East and SRL North will be well used with around a 50:50 split in passengers travelling east to west in the morning peak.²⁸⁴ The counterpeak demand is anticipated to increase by 15 per cent on the lines connected by SRL East and SRL North, as SRL Precincts and neighbourhoods become more accessible.²⁸⁵

8.4.1 Improving access for regional Victorians to health and education precincts

As discussed in Chapter 6, two transport super hubs on SRL East and SRL North, Clayton and Broadmeadows, will improve direct access to parts of regional Victoria, and vice versa. For example, it is estimated that SRL East and SRL North will enable a passenger from Wallan to travel to Deakin University in 73 minutes, saving around 45 minutes compared to the same journey on public transport today.²⁸⁶

As the new line connects health and education precincts, regional rail passengers will be able to interchange at transport super hubs and access key health and education precincts connected by SRL. Health institutions such as Monash Medical Centre and Austin Hospital, and education institutions such as Monash University and La Trobe University will be accessible to regional Victorians via rail.

8.5 Improving access to Melbourne Airport

Together, SRL East and SRL North will enhance connectivity with Melbourne Airport, an employment hub and transit gateway. The orbital alignment will enable passengers to travel directly between suburbs or interchanges in the middle ring to Melbourne Airport, complementing the Melbourne Airport Rail project which is expected to be delivered by 2029. Currently, commuters must detour via the central city or drive.

Direct access to Melbourne Airport using SRL East and SRL North will:

- Increase the number of transport options and attractiveness of using the train to access Melbourne Airport
- Improve travel times and connectivity for Melbourne residents and visitors
- Provide interstate and international business visitors with direct access to key knowledge hubs and NEICs, such as Monash University
- Reduce the travel time and number of interchanges for visitors to regional Victoria, enabling passengers to spend more time at their destination.

By 2056, it is estimated that about 31,000 passengers will use SRL East and SRL North to travel to and from Melbourne Airport per day.²⁸⁷

Direct rail access to Melbourne Airport will contribute to fewer vehicles on the road network performing drop offs and pickups. This will ease congestion around the Airport and improve access for road freight vehicles to nearby distribution centres.

284 VITM

285 VITM

286 VITM

287 VITM

9 Liveability outcomes

Chapter summary

- The liveability outcomes highlighted in this chapter reflect the benefits that people experience from locating in a particular area, supported by the essential features and design of that location.
- Melbourne's current urban form is making living unaffordable for many, and there is a risk that Melbourne will become further separated by areas of concentrated disadvantage. By enhancing public transport accessibility, SRL East and SRL North will deliver a significant improvement in living affordability for households in proximity to the SRL Alignment and in Melbourne's outer northern and south eastern suburbs.
- SRL will create lifelong homes for diverse communities – providing more housing choice to meet the needs of different household types and lifestyles, and supporting and improving community interaction, wellbeing and safety in SRL Precincts.
- SRL Precincts will encourage more people to use active transport through initiatives such as enhanced cycling and walking paths connected to SRL Stations, increasing levels of physical activity in communities. The expected health benefit generated by SRL East and SRL North amounts to \$1.6 and \$1.7 billion in present value terms for the Victorian economy.
- SRL Precincts will be attractive and vibrant places for people to live and businesses to grow. SRL Precincts will be walkable suburbs, where everything residents and workers need is close by. SRL Precincts will also be viable alternatives to the central city – instead of travelling all the way into the central city, people in Melbourne's outer ring and regional Victoria will be able to access jobs, services and amenities in an SRL Precinct.
- SRL Precincts will be designed to be quality and inclusive spaces for everyone. This includes engaging with local Aboriginal communities to identify and protect Aboriginal cultural heritage places and values, ensuring physical access for all and increasing public green open spaces.
- SRL will also help to reduce Melbourne's environmental impact by building sustainability into design and implementation – including through tree planting for canopy cover and investigating green infrastructure solutions.
- SRL will result in greater population and employment density in Greater Melbourne's established urban area, reducing the need for further urban development and population-serving local infrastructure in outer metropolitan and/or peri-urban areas. By 2056, SRL East and SRL North will have reduced urban expansion by more than 16,000 households – equivalent to the population of Shepparton today.
- The reduction in private vehicle transport demand due to SRL East and SRL North will result in a reduction in greenhouse gas emissions, as well as other environmental impacts (such as noise, air and water pollution), saving the Victorian economy approximately \$0.5 billion in present value terms.

Liveability and SRL East and SRL North

Liveability is one of the three Objectives of the SRL Project. It will improve Melbourne's liveability and support more liveable and thriving communities. SRL will enhance liveability through a range of mechanisms and initiatives, including by harnessing urban renewal opportunities, facilitating access to population-serving infrastructure (including green open spaces) and promoting inclusive precinct design solutions. It will also contribute to 20-minute neighbourhoods that support people to live locally. Key outcomes in relation to liveability are described in the following sections.

9.1 A more equitable Melbourne

Melbourne's urban form is making living unaffordable for many households in the bottom 40 per cent by equivalised household income (as discussed in section 3.4). It is particularly affecting households in Melbourne's eastern middle ring and the entire outer ring. Areas such as Monash, Manningham, Casey, Knox and Whittlesea are unaffordable for many households with lower incomes due to high levels of car dependence and the associated costs.

Melbourne risks becoming a city separated by areas of concentrated disadvantage. People living in the middle and the outer rings will continue to experience poorer living affordability compared to people living in the inner ring.

9.1.1 Making Melbourne more affordable

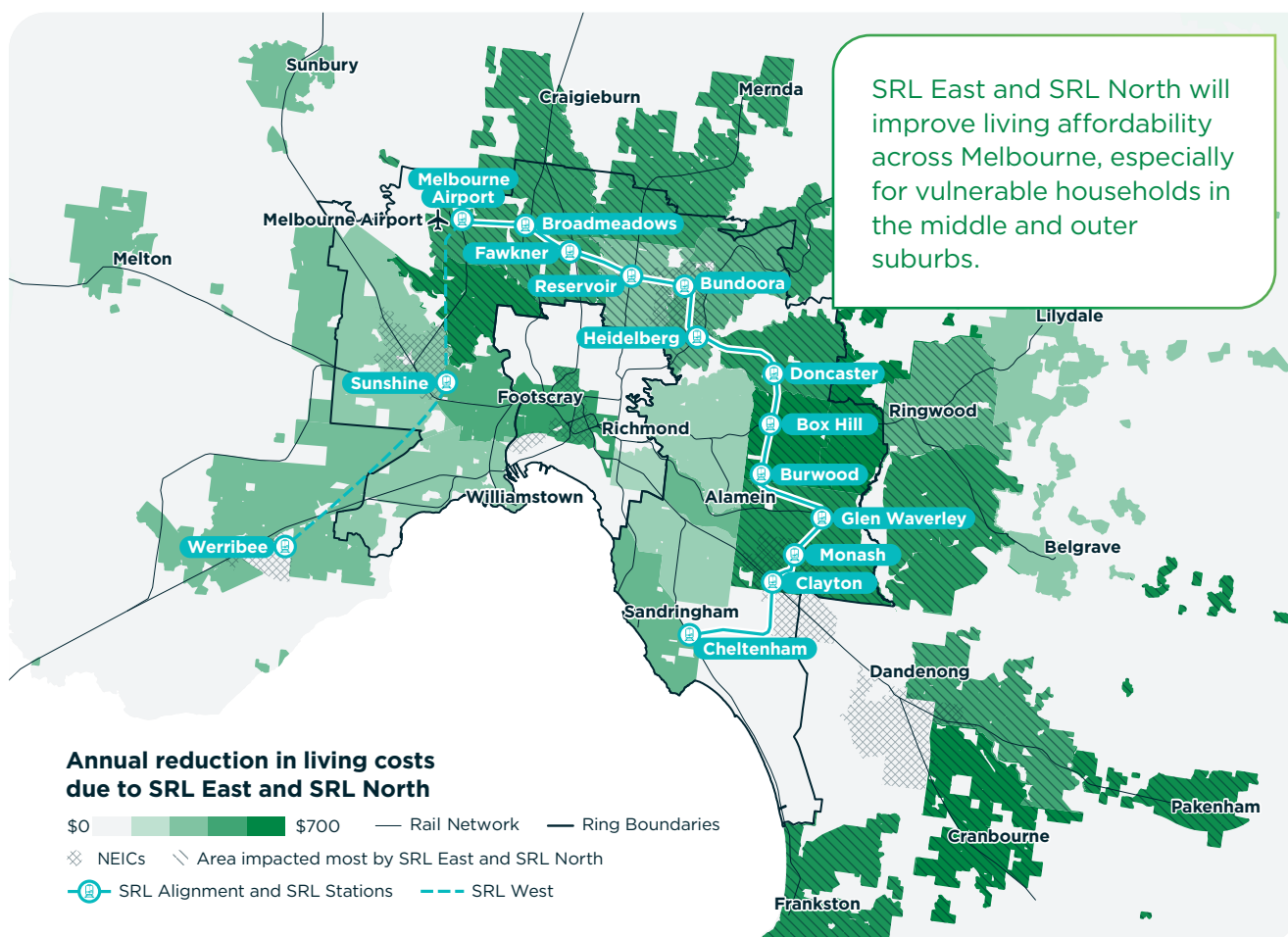
According to the ABS 2016 Census, there were about 750,000 households in Greater Melbourne in the bottom 40 per cent of equivalised household income. This is projected to grow to 1.1 million and 1.5 million by 2036 and 2056 respectively.²⁸⁸

Figure 9-1 shows the projected improvement in living affordability due to SRL East and SRL North in 2056. Households in proximity to the SRL East and SRL North corridor and in Melbourne's outer northern and south eastern suburbs will see the greatest reductions in cost of living due to SRL East and SRL North. This will benefit the estimated 1.5 million people – or 630,000 households – projected to live in these areas by 2056. As this accounts for 43 per cent of Melbourne's total households in the bottom 40 per cent of equivalised household income, this significant improvement in living affordability will reduce the cost of living pressures for some of the city's most vulnerable residents.²⁸⁹

288 CityPlan

289 CityPlan

Figure 9-1: Change in Affordable Living Index with SRL East and SRL North, 2056



Source: KPMG analysis based on ABS and MABM²⁹⁰

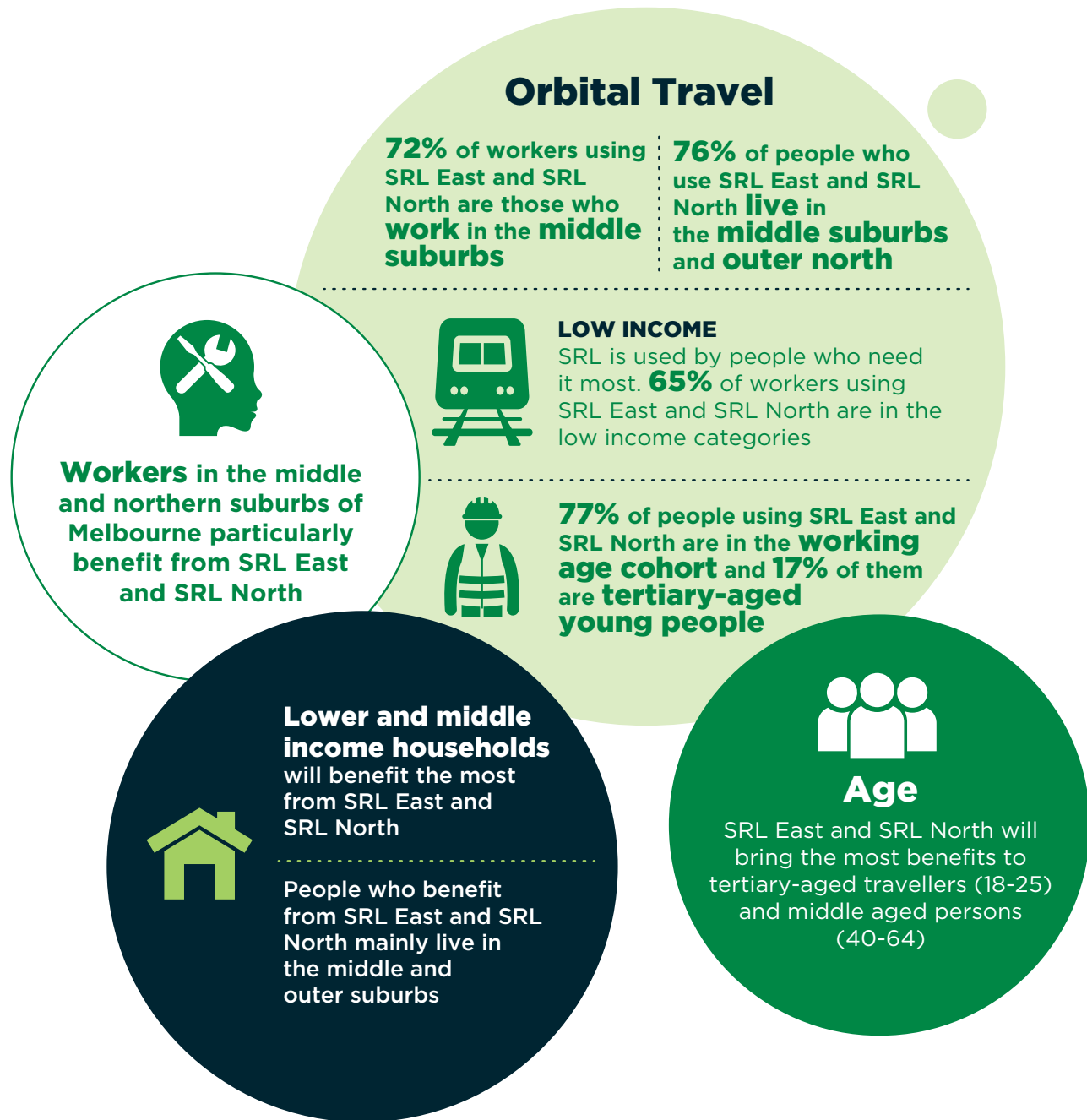
SRL will improve living affordability by improving public transport accessibility. Improved public transport accessibility will help reduce the reliance on cars and may mitigate the phenomenon of forced car ownership and associated cost burden. Shorter trips to work will also reduce travel times and travel costs (as discussed in Chapter 8).

SRL East and SRL North will support lower income workers and tertiary students in particular. Figure 9-2 indicates that people using SRL East and SRL North in 2056 are more likely to be in lower income categories compared to people using the broader rail network to get to work.²⁹¹ Figure 9-2 also highlights key beneficiaries of SRL East and SRL North: low and medium income workers and tertiary students. Identifying beneficiaries is based on estimating how much time someone is able to spend at a preferred activity (rather than being caught in traffic or on crowded public transport services) and how much they spend on transport services.

²⁹⁰ Modelling illustrated in the figure only takes into account the impact of SRL East and SRL North (Cheltenham to Melbourne Airport); therefore, changes to affordable living in western Melbourne are not expected.

²⁹¹ MABM

Figure 9-2: SRL East and SRL North users and beneficiaries, 2056



Source: MABM

Improved living affordability will help to prevent Melbourne from becoming a city where how well you live is determined by where you live.

9.1.2 Improving quality of life

Financial or household stress can increase stress levels and affect people's wellbeing.²⁹² By improving living affordability, SRL will reduce levels of financial stress and help to improve wellbeing.

Improved living affordability will also grow the amount of household income that people have available to spend on items such as fresh food, education and health. This provides households with new opportunities and the ability to best support their health and education outcomes.

²⁹² Robinson, E. & Adams, R., *Housing stress and the mental health and wellbeing of families* (12 June 2018), <https://aifs.gov.au/cfca/publications/housing-stress-and-mental-health-and-wellbeing-families>

For example, a typical household in Cranbourne in the bottom 40 per cent of equivalised household income is expected to save around \$700 per year from their family budget due to SRL East and SRL North (see [Figure 9-1](#)). This could cover a child's participation in team sport for a year or nearly \$60 per month on groceries. A typical household in Box Hill in the bottom 40 per cent of equivalised household income is expected to save around \$500 per year from their family budget due to SRL East and SRL North.

SRL will also increase access to higher paying jobs and healthcare for low income households. Over the longer term, the resulting higher income and lower health expenditure could further ease financial pressure on lower income households.

Better living affordability will also help make households more resilient. Households will be able to save more and establish a financial buffer in the event of a sudden economic downturn or difficulties.

9.1.3 Supporting socially-excluded Victorians

Seven per cent of Melbourne's population are socially-excluded – based on household income and employment status, and one of three other dimensions including social support and community participation.²⁹³

Forty five per cent of socially-excluded people in Melbourne live in an area through which SRL East and SRL North will pass.²⁹⁴ Connectivity will improve in these areas, providing more opportunities for socially-excluded Victorians to participate and engage in the community. This generates a range of benefits for individuals, but also for the community. The economic benefits of this outcome are discussed in more detail in Chapter 12: Overall Evaluation: SRL East and SRL North.

9.2 Creating lifelong homes for diverse communities

As discussed in Chapter 6: Realising *Plan Melbourne*, SRL Precincts will experience significant population growth. SRL East and SRL North will support a 151 per cent increase in households in SRL Precincts by 2056.²⁹⁵ A range of precinct initiatives that improve precinct liveability will be critical to achieving this level of growth.

The composition of Melbourne's households will also change in coming decades. Although families with children will continue to make up the greatest proportion of households, the proportion of couples without children will significantly increase by 2056.²⁹⁶ This change in household composition reflects broader trends in the community, including families delaying having children²⁹⁷ and an ageing population (refer to Chapter 1).

9.2.1 Building diverse communities

SRL Precincts will attract a broad range of households. [Figure 9-3](#) shows the household types that will be present in SRL Precincts in 2056. SRL Precincts will have similar housing composition to areas in the inner ring, except that SRL Precincts will have more families with children (couple and one parent), as well as slightly fewer group households.

293 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

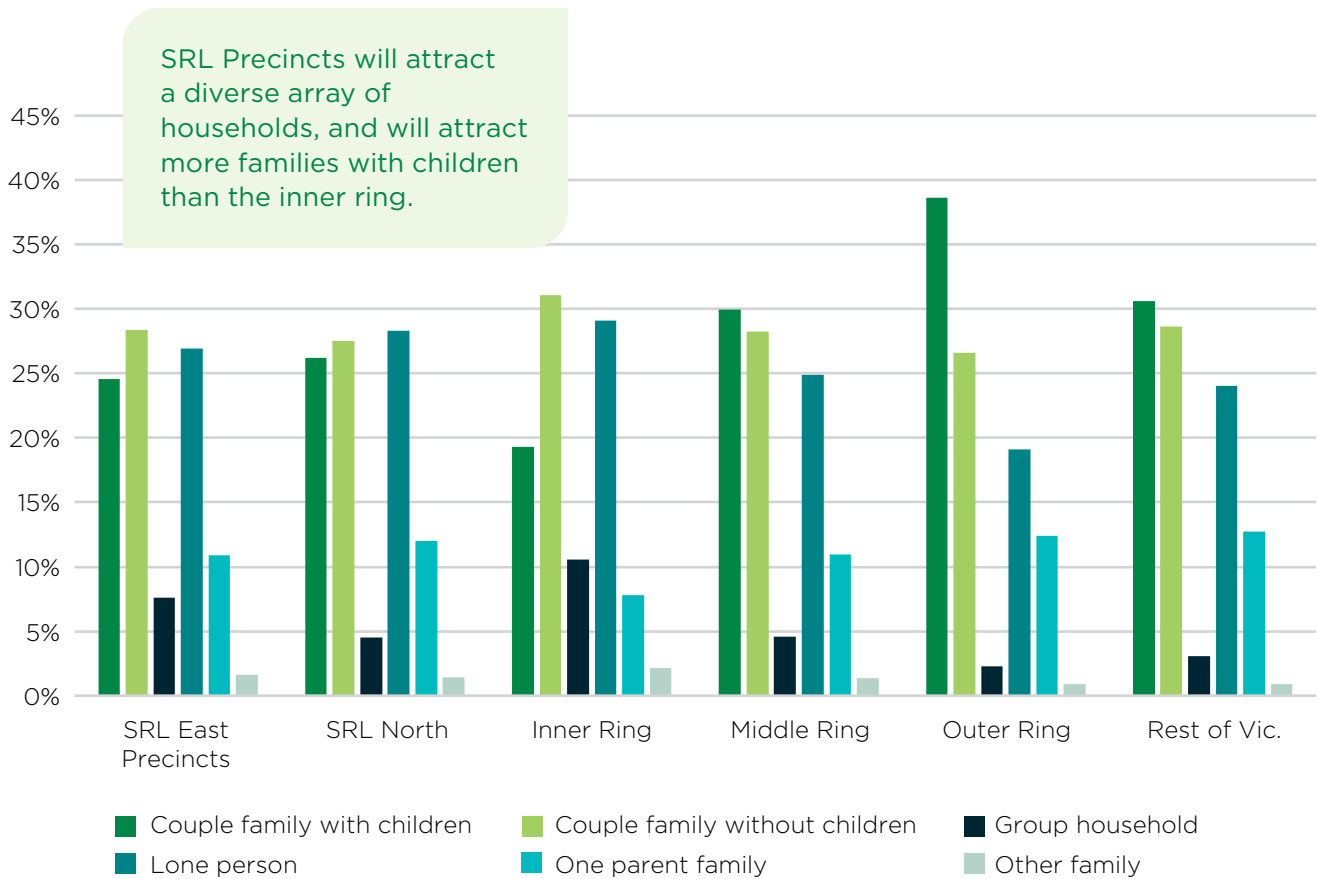
294 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

295 CityPlan

296 Victoria in Future (VIF), Change in household type in Melbourne, 2006-2056

297 ABS, *People less likely to live in couple families with kids* (14 March 2019), <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3236.0Mediaper cent20Release12016per cent20to per cent202041?opendocument&tabname=Summary&prodno=3236.0&issue=2016per cent20to per cent202041&num=&view=>

Figure 9-3: Projected household composition across Greater Melbourne, 2056



Source: CityPlan

As new transport connections facilitate urban renewal in SRL Precincts, there is an opportunity to support more diverse housing that meets the needs of different household types and lifestyles.²⁹⁸ SRL East and SRL North will contribute to housing diversity by accommodating an estimated 47,500 additional households by 2056.²⁹⁹

More broadly, SRL will investigate line-wide and targeted precinct initiatives that will support further housing diversity and increased choice in SRL Precincts. For example, precinct initiatives may involve changes to planning controls that will create opportunities in the market to develop new and diverse housing options, including smaller dwellings, dwellings that are better suited to families and new housing models that may be suited to key workers or older residents.

²⁹⁸ CityPlan

²⁹⁹ CityPlan

CASE STUDY

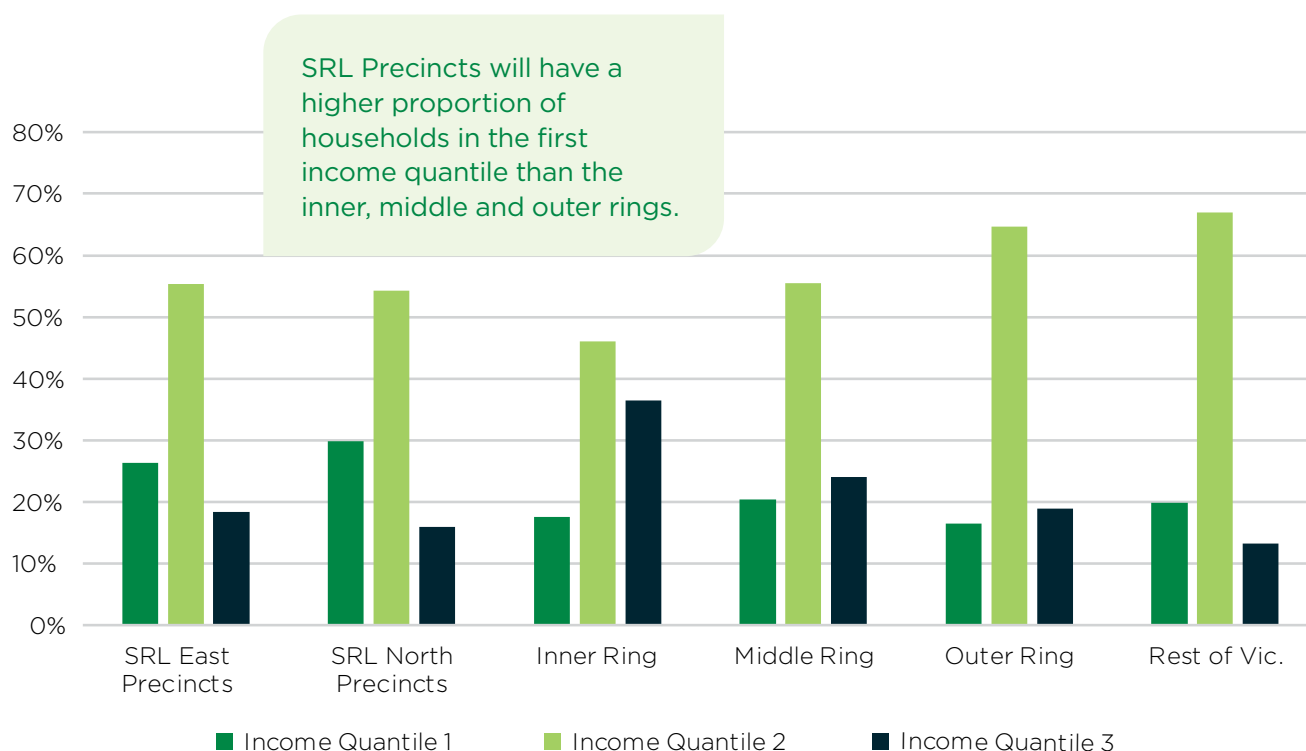
Supporting older Melburnians to 'age in place'

The decision for an older Australian to sell the family home is not so much about the money – for around two-thirds of older Australians, the desire to 'age in place' is the most important reason to not sell their home. They also often struggle to find suitable housing within their local area.ⁱ One reason for this is because many older Australians live in established suburbs where there are relatively fewer smaller housing units.ⁱⁱ By increasing housing diversity, SRL East and SRL North will support more Melburnians to 'age in place'. By 2056, around 17 per cent of SRL Precinct residents will be over 65 years of age.ⁱⁱⁱ

- i Daley, J. & Coates, B., *Why older Australians don't downsize and the limits to what the government can do about it* (5 May 2017), Grattan Institute, <https://grattan.edu.au/news/why-older-australians-dont-downsize-and-the-limits-to-what-the-government-can-do-about-it/>
- ii Daley, J. & Coates, B., *Why older Australians don't downsize and the limits to what the government can do about it* (5 May 2017), Grattan Institute, <https://grattan.edu.au/news/why-older-australians-dont-downsize-and-the-limits-to-what-the-government-can-do-about-it/>
- iii CityPlan

More housing choice and supply will help to build diverse communities in SRL Precincts. As illustrated in Figure 9-4, by 2056 SRL Precincts will have a greater proportion of households with lower incomes than other areas across Melbourne. This shows that, by investing in SRL East and SRL North, the Government will be helping some of the more vulnerable members of our community by providing greater housing choice, as well as better access to population-serving infrastructure and public transport.

Figure 9-4: Projected distribution of households by income across Greater Melbourne, 2056



Source: CityPlan³⁰⁰

300 A quantile is where a sample is divided into equal-sized, adjacent subgroups. In this context, generally, quantile 1 represents lower income households, 2 middle income households and 3 higher income households.

SRL Precincts will help to build diverse communities by being inviting, inclusive and accessible spaces (further discussed in section 9.3). Different household types with different backgrounds will have more opportunities to live locally in vibrant and thriving communities with good access to jobs, population-serving infrastructure, services and amenities.

Diverse communities support the development of strong and positive relationships between people from different backgrounds, which is critical to fostering social cohesion³⁰¹ and also plays an important role in overall community wellbeing.

9.2.2 Enhancing community wellbeing

Facilitating community connection

Quality public realms and social infrastructure, such as cycling and walking paths and public green open spaces, create opportunities for people to meet and interact.³⁰² Social interaction helps create a 'sense of place', which – in turn – helps generate a sense of community pride and cohesion.

Residents of Cheltenham, Clayton, Glen Waverley and Burwood view improving transport connections and increasing or improving open space and public realm as key opportunities to improve community connection in their precincts. Residents in Burwood and Clayton, in particular, feel that improving transport connections would improve community connection, including upgrading walking and cycling infrastructure.³⁰³

Inclusive public places play an important role in bringing people together. SRL Precincts will be designed to be high quality and inclusive spaces, as discussed in section 9.3.

301 Scanlon Foundation, *Community Discussion Paper*, p. 6, <https://scanlonfoundation.org.au/wp-content/uploads/2018/12/Scanlon-Community-Discussion-Paper.pdf>

302 Planning Practice No, *Open Space Strategies* (June 2015)

303 SRLA, *Suburban Rail Loop Stage one: Cheltenham to Box Hill. Engage Victoria key findings report (interim version 2)* (2020)

CASE STUDY

Perth City Link and Yagan Square

The Perth City Link redevelopment began with a 13.5-hectare area of disused railway yards that was creating a barrier between Perth's CBD and the popular Northbridge entertainment area, and curtailing development in the inner city's north. Reclaiming the area involved sinking the rail line and moving the bus station underground.ⁱ

The new precinct, which is being redeveloped in stages, includes 244,000 square metres of new office and retail space for 13,500 workers and space for shops, cafes and bars. The redevelopment also provides space for new apartments, student housing, a hotel and short-stay accommodation. Around one-third of the total space – four hectares – is reserved for public open space. A 15,000-seat sporting arena sits at one end of the redevelopment and Yagan Square at the other.ⁱⁱ

Yagan Square is the cultural heart of the precinct, a hub with day and night entertainment, restaurants and shopping. It provides a pedestrian connection between the CBD and Northbridge, linking these previously inaccessible precincts. It has links to the underground train and bus stations, connecting residential and commercial users to the rest of the city.

Public spaces include a children's play area, market hall showcasing local produce, gardens that feature Western Australian wildflowers and trees and an upper level amphitheatre. Aboriginal art and cultural references are interwoven in Yagan Square, providing a 'window into Noongar culture'. A strong Aboriginal narrative runs through the square, with the name coming from Noongar leader Yagan, and canopies and tracks throughout the site harkening back to the lakes and hunting and gathering tracks that originally traversed the area.ⁱⁱⁱ

Perth City Link has created both a new inner-city precinct and a connection to Northbridge. Yagan Square provides a new centre of gravity for the precinct, with services and amenities that act as a focal point for community and business activity. The inclusion of the children's play area reinforces the precinct's inclusivity, with a thoughtful integration of Aboriginal cultural heritage aspects that reflect local community values.

Image of children playing in Yagan Square



Source: DevelopmentWA

i Development Western Australia, Overview: *Reconnecting Perth*, <https://developmentwa.com.au/projects/redevelopment/perth-city-link/overview>.

ii Metropolitan Redevelopment Authority, *Annual Report 2017-18*, [https://www.parliament.wa.gov.au/publications/tailedpapers.nsf/displaypaper/4011726ae82fcb68c66989d84825830d00163db5/\\$file/1726.pdf](https://www.parliament.wa.gov.au/publications/tailedpapers.nsf/displaypaper/4011726ae82fcb68c66989d84825830d00163db5/$file/1726.pdf)

iii Yagan Square, About, <https://yagansquare.com.au/ys/about>

Improving health outcomes

Along with facilitating community connections, SRL will support better access to healthcare – an important factor in health and wellbeing.³⁰⁴ It will improve public transport connectivity to several major healthcare precincts in Melbourne.

For example, with SRL East and SRL North, around 2.75 million people will be able to access each of Broadmeadows Hospital and Monash Medical Centre by public transport.³⁰⁵ The transport super hubs will also significantly improve access to these precincts for regional Victorians. Easier access will support improved health and wellbeing across the community.

As discussed in section 8.3, SRL Precincts will also encourage more people to use public and active transport through investigating opportunities to enhance cycling and walking paths connected to SRL Stations, which will increase levels of physical activity in communities. When precincts support people to 'live locally' they are more likely to turn to cycling and walking than cars.³⁰⁶

By 2056, it is estimated that around 70 per cent of passengers will access the SRL Stations using active transport.³⁰⁷ More broadly, Melburnians are expected to take about 2.4 million additional trips by walking or cycling per day in 2056 compared to 2018, leading to increased levels of ancillary physical activity.³⁰⁸

Increased physical activity will help reduce the burden of disease on the state – it is expected that the health benefit generated by SRL East and SRL North will amount to \$1.6 and \$1.7 billion in present value terms for the Victorian economy.³⁰⁹ In 2017, the Australian Institute of Health and Welfare found that if people walk only 15 minutes, five days a week, it will reduce the burden of disease from physical inactivity by 13 per cent.³¹⁰ If this increases to 30 minutes per day, the burden reduces by 26 per cent. Just small incremental increases in physical activity can prevent disease and improve the health of individuals and the wider community.

**SRL East and SRL North
will generate a health
benefit of \$1.6 and \$1.7
billion for the Victorian
economy**

Enhancing community safety

SRL will consider opportunities to create a sense of safety in SRL Precincts by using urban design and streetscape features, such as improved lighting and greenery.³¹¹ Perceived and actual safety will also be improved through increased levels of activity. Passive surveillance will increase with more residents and businesses, well-patronised public transport connections and activated streets and mixed-use spaces.

SRL will also investigate ways to improve safety for people moving around SRL Precincts. Opportunities to upgrade cycling and walking paths connecting to SRL Stations will focus on making these activities safer, and therefore more attractive.

By taking cars off the road, SRL will also improve overall road safety in Melbourne. As discussed in section 8.2, it is estimated there will be around 606,000 fewer journeys on the road per day by 2056,³¹² helping to reduce the likelihood of crashes.

304 Australian Institute of Health and Welfare, *Australia's Health* (2016), p. 280

305 CityPlan

306 Victorian Government, *20-minute Neighbourhoods: Creating a more Liveable Melbourne*, p. 23

307 VITM, note access analysis excludes rail transfers from the radial line.

308 MABM

309 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2). Note: the estimated benefit is in present value terms at a 4 per cent discount rate.

310 Australian Institute of Health and Welfare, *Impact of physical inactivity as a risk factor for chronic conditions: Australian Burden of Disease* (2017), p. vii

311 This will be guided by DELWP's *Trees for Cooler and Greener Streetscapes Guidelines for Streetscape Planning and Design*.

312 VITM

9.3 Vibrant, inclusive and sustainable precincts

People and businesses are attracted to precincts with good access to services and amenities. Easy access to amenities including restaurants and cafés, gyms, personal services (such as physiotherapists, hairdressers or dry cleaners) and recreational and cultural activities are increasingly important for households and businesses alike.³¹³ Green open spaces are also highly valued by the community, providing a place for leisure, exercise and gathering. Access to services including early education, schools and healthcare are also critical attractors.

Precincts with features like these appeal to households and businesses and consequently become thriving and vibrant places.

CASE STUDY

Kendall Square, Massachusetts

World leading innovation district

Kendall Square is a world leading innovation district located in Cambridge, Massachusetts.

Development commenced in 1965 by the Cambridge Redevelopment Authority (CRA) and the City of Cambridge, who used the Kendall Square Urban Renewal Plan (KSURP) to develop land with the goal of generating jobs and tax revenue, preserving historic buildings and managing traffic flow in the precinct.ⁱ

Today, Kendall Square houses anchor tenants, including the Massachusetts Institute of Technology (MIT), Google, Facebook and Bayer Pharmaceuticals, and accommodates approximately 64,000 jobs, almost 37,000 residents and 11,500 MIT students.ⁱⁱ Kendall Square is also renowned for rich and highly varied amenities including hospitality, retail, active transit, public transport and residential accommodation.

Kendall Square's success has been achieved by strong central governance, private development, institutional partnerships and strong stakeholder engagement. The CRA delivered Kendall Square by engaging a private developer (Boston Properties)ⁱⁱⁱ and entering into an effective collaboration with MIT, a major landholder and anchor institution. MIT contributed to planning and zoning and provided significant capital investment to facilitate the development of retail, business and residential amenities within the innovation district.^{iv} In 2018, Kendall Square adopted a central governing body that brought together stakeholders with a focus on precinct placemaking, collaboration and creating new assets and programs to enhance the precinct.^v

The quality of the urban realm and provision of 24-hour amenities and infrastructure has played a vital role in Kendall Square's development as an innovation ecosystem and attractor of diverse industry clusters and residents. A sense of community has been created through strategic planning of mixed-use buildings of five to seven storeys, with small street widths and block sizes.^{vi}

i Cambridge Redevelopment Authority, *Kendall Square Overview*. <https://www.cambridgeredevelopment.org/kendall-square-overview>

ii The Anne T. and Robert M. Bass Initiative on Innovation and Placemaking, *Connect to Compete: How the University City-Center City innovation district can help Philadelphia excel globally and serve locally* (2017), https://www.brookings.edu/wp-content/uploads/2017/05/csi_20170511_philadelphia_innovationdistrict_report1.pdf; City of Cambridge, Market Profile: Kendall Square, Cambridge, MA 2018, https://www.cambridgema.gov/-/media/Files/CDD/EconDev/Districts/KendallSq/ed_profile_KendallSq_2018.pdf

iii Warrick, A. M., *Development of Kendall square a quantum leap for Cambridge*, *New England Business*, vol. 9, no. 15 (1987), p. 53, <https://search-proquest-com.ezproxy.newcastle.edu.au/docview/226927136?accountid=10499>; Boston Properties, Boston Properties Announces Long-Term Lease with Google for Kendall Square Redevelopment (14 February 2019) <https://www.businesswire.com/news/home/20190214005906/en/Boston-Properties-Announces-Long-Term-Lease-Google-Kendall>

iv Fisher, K., *The Translational Design of Universities: An Evidence-Based Approach* (2019)

v Kendall Square Association, *Collaboratively, vividly, and visibly: Placemaking in Kendall Square* (5 March 2019), <https://medium.com/@kendallnow/boldly-vividly-and-visibly-placemaking-in-kendall-square-ec469e421b90>

vi Zigurat Global Institute of Technology, *What Makes an Innovation District Flourish?* (28 November 2019), <https://www.e-zigurat.com/blog/en/keys-innovation-district-flourish/>

313 Department of Environment, Land, Water and Planning, *Unlocking Enterprise in a Changing Economy* (2018), p. 19, https://www.planning.vic.gov.au/_data/assets/pdf_file/0030/354594/DELWP-Unlocking-Enterprise-in-a-Changing-Economy.pdf

Design and planning of Kendall Square has also delivered access to a rapid mass transit station, mixed income housing, high quality retail and hospitality spaces, and cultural amenities. Recently, the MIT museum announced that it will take up residence in the precinct, providing a new home for MIT's historical collections as well as galleries, classrooms and state-of-the-art program and performance spaces.^{vii}

The precinct has attracted international capital and talent through an international student population. The share of international students at MIT increased from 33 per cent in 1998 to approximately 43 per cent today. This rise in international students has accounted for most of the growth in MIT's graduate population between 1998 and 2016.^{viii} MIT alumni have cited Kendall Square's provision of open space, good transportation and rich amenities as influencing their choice of location.^{ix}

Kendall Square has produced concentrated job opportunities and knowledge-intensive and wealth-generating jobs. In 2016, it was reported that the MIT community generates annual revenues of US\$2.9 trillion.^x

The most recent proposed developments within Kendall Square are being undertaken through US\$1.7 billion of private funding. This includes a significant portion of funding from MIT.^{xi} MIT's willingness to continually contribute major funds to the development of Kendall Square demonstrates both the economic benefits obtained from these developments and the expected future return of such investments.

The Kendall Square innovation district is a great example of how attractive mixed-use developments that support a range of services and amenities can entice business to locate and invest, while also providing access to daily needs and supporting local living for the community. Some relevant lessons suggest the importance of proactive planning and strategic zoning to encourage mixed-use developments for a variety of uses, as well as early and strong engagement with anchor institutions and private developers to curate development.

vii MIT Museum, *MIT Museum at Kendall*, <https://mitmuseum.mit.edu/mit-museum-kendall>

viii MIT, *A global strategy for MIT: How MIT engages with the world today* (2017), <http://web.mit.edu/globalstrategy/today.html>

ix Kim, M., *Spatial qualities of innovation districts: How Third Places are changing the innovation ecosystem of Kendall Square* (2013), <https://dspace.mit.edu/handle/1721.1/81653>

x Matheson, R., *New report outlines MIT's global entrepreneurial impact* (9 December 2015), <https://news.mit.edu/2015/report-entrepreneurial-impact-1209>

xi Henken, S., *Here's What MIT's \$1.2B Kendall Square Development Plan Looks Like [Renderings]* (30 July 2015), <https://www.americaninno.com/boston/kendall-square-development-mit-plans-1-2-billion-investment/>

9.3.1 Supporting people to live locally

Living locally is essential to realising *Plan Melbourne's* vision of a compact and consolidated city made up of 20-minute neighbourhoods. Targeted changes to land use planning settings will support SRL Precincts to become areas that successfully support a mix of complementary uses. SRL will consider opportunities to facilitate development of new commercial spaces in SRL Precincts – both office and retail. This will provide opportunities for a range of businesses and services, including those discussed earlier, to locate and grow in SRL Precincts. By supporting more jobs (as discussed in Chapter 7), SRL Precincts will help people to live closer to where they work.

SRL will also encourage more diverse housing choices and attract more households to live in and around SRL Precincts (see section 9.2).

Enhancing access to services throughout Melbourne's middle corridor will support more people to live locally across Melbourne. People will be able to access their daily needs within a short walk, cycle or public transport journey, encouraging Melburnians to make fewer motorised trips.³¹⁴ By 2056, SRL East and SRL North will save around 370,000 motorised trips each day³¹⁵ and, by boosting Melbourne's public transport connectivity, more places will be accessible within a 20-minute journey for more Melburnians.

SRL East and SRL North will remove around 370,000 motorised trips per day – as more people walk, cycle and live locally

Compared to 2018, by 2056 SRL East and SRL North will facilitate around 28,000 more trips for daily needs (excluding higher order trips such as work and tertiary education trips) being taken within a five kilometre journey, almost all of which are in the middle ring.³¹⁶ This outcome is critical for realising the 20-minute neighbourhood aspiration outlined in *Plan Melbourne*.

Providing attractive alternatives to the central city

SRL Precincts will also function as viable alternatives to the central city, providing easily accessible services, amenities and facilities. Instead of travelling all the way into the central city, people in Melbourne's outer ring and regional Victoria can travel to an SRL Precinct to meet their needs.

9.3.2 Designing quality and inclusive spaces

Good urban design improves people's living conditions, health and wellbeing.³¹⁷ It is crucial to creating attractive and liveable spaces. SRL Precincts will be distinctive, quality environments and will be developed to enhance their existing features so they retain their own unique character. SRL Precincts will have vibrant streetscapes with a variety of building types. Public spaces, including SRL Stations, will generate community pride while also feeling secure and inviting.

Engaging local Aboriginal communities

Respect for Country and places of cultural significance will be important to ensure that SRL Precincts are inclusive spaces for Indigenous Australians.³¹⁸ SRL Precincts will be developed in consultation with local Aboriginal communities. This includes engaging with Aboriginal communities to identify and protect Aboriginal cultural heritage places and values within SRL Precincts. The participation of Aboriginal communities in the urban design process creates opportunities for Indigenous knowledge, practices and customs to be built into urban design.³¹⁹ This approach to urban design produces better outcomes for both Indigenous and non-Indigenous communities.³²⁰ To create inclusive spaces, Aboriginal art will be incorporated into permanent works and opportunities will be investigated to incorporate Aboriginal art into other aspects, initiatives and features of SRL.

314 Motorised trips means a trip that does not use a private vehicle or public transport.

315 VITM

316 MABM

317 Office of the Victorian Government Architect, *The Case for Good Design: A guide for government* (2019), <https://www.ovga.vic.gov.au/case-good-design-guide-government>; Monash Sustainability Institute, *Caring for Country: An urban application*, p. 16

318 Monash Sustainability Institute, *Caring for Country: An urban application*, p. 16

319 Libby Porter and Lauren Arabena, *Flipping the Table toward an indigenous-led research agenda*, p. 5

320 Louise Johnson and David Jones, *Incorporating Indigenous Australian Knowledge and Perspectives into Planning Practice Past, present and future*, *Proceedings from 12th conference of Australian Urban History/Panning History*, p. 344, <https://apo.org.au/sites/default/files/resource-files/2014-04/apo-nid213516.pdf>

Supporting access for all

SRL Precincts will also strive to be highly accessible for all. As discussed in section 8.1.2, all abilities access will be integral to the station design, creating enjoyable journeys for passengers with varying and diverse needs. Opportunities to enhance and upgrade cycling and walking paths around SRL Precincts that provide connections to SRL Stations will be investigated to ensure they are easy to navigate for all community members.

Enhancing local infrastructure

SRL Precincts are located in Melbourne's middle suburbs. These established suburbs have good levels of population-serving infrastructure, including community facilities and public open spaces. However, in some instances, this existing infrastructure is ageing, fixed or single use.

SRL will investigate opportunities such as partnering with local government, business and community groups to leverage existing population-serving infrastructure so that it is better used to support the growing communities in SRL Precincts. For example, community facilities can be reconfigured or upgraded to become more adaptive, flexible spaces that can be used for a range of purposes and activities.

In some SRL Precincts, such as Box Hill, SRL may partner with council and other stakeholders to enhance, upgrade, connect and supplement existing amenities and community serving infrastructure. In other SRL Precincts, such as Monash, master planning will be undertaken to create new community serving infrastructure, amenities and services.

Parks and open spaces to enjoy

Open spaces can be used for personal and social recreation and can include children's playgrounds, formal gardens and also support biodiversity and fauna conservation.³²¹ COVID-19 public health restrictions have reinforced the importance of green open spaces across the city, and increased Melburnians' appreciation for their local parks. Around 135,000 homes or 340,000 people in Greater Melbourne have little to no access to parkland within a 5km radius.³²²

Residents of Cheltenham, Burwood and Monash view natural environment and open space as an important feature of their precincts.³²³ SRL will investigate opportunities to increase the amount of public green open spaces across the middle corridor, including through planning and coordinating activities with local councils and private developers.

321 Government Architect New South Wales, *Draft Greener Places Design Guide* (2020), https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/000/Greener+Place+/Draft+Design+Guide+GP_ACCESS.pdf

322 Lakhani, A., Wollersheim, D., Kendall, E. & Korah, P., *340,000 Melburnians have little or no parkland within 5km of their home* (12 August 2020), <https://theconversation.com/340-000-melburnians-have-little-or-no-parkland-within-5km-of-their-home-144069>

323 SRLA, (2020) *Suburban Rail Loop Stage One: Cheltenham to Box Hill. Engage Victoria key findings report (interim version 2)*

Placemaking amenity improvements – pedestrian amenity

Improving the attractiveness of our places

SRL Precincts will seek to foster community outcomes and continue to support the attractiveness of the greater Melbourne area through a range of targeted precinct initiatives.

These interventions will enhance amenity, which is important for creating a liveable neighbourhood or precinct.ⁱ Amenity improvements may relate to the overall aesthetic of a place (delivered through quality in design) and/or more considered functions such as safety and convenience. Specific initiatives will include more public green open spaces, increased tree canopy, enhanced walking and cycle routes, and improved lighting.

It is expected these amenity enhancements will directly contribute to attracting more people and businesses to the SRL Precincts and – in turn – support the strengthening of Melbourne's urban form as a city of centres.

Indicative pedestrian amenity benefit in the SRL Precincts

Precinct initiatives will seek to enhance the experience for individuals who live, work and visit SRL Precincts. With opportunities to create convenient connections, clear and easy to understand spaces, safe spaces, open comfortable areas, a sense of place with the right detail, and active and passive public space, SRL East and SRL North Precincts are expected to contribute between \$258 million to \$410 million in pedestrian amenity.ⁱⁱ

Indicative pedestrian amenity for each SRL Precinct is outlined below. Note that this case study focuses on pedestrian amenity benefits only (level of service for people walking and dwelling in the space); other benefits such as improved health and reduced road congestion are captured through the conventional benefits discussed in the SRL East and SRL North economic appraisal (see Chapter 12).

SRL Precinct	Estimated quantified benefit of enhanced amenity ⁱⁱⁱ	SRL Precinct	Estimated quantified benefit of enhanced amenity ⁱⁱⁱ
Cheltenham	\$24m to \$40m	Heidelberg	\$22m to \$35m
Clayton	\$29m to \$47m	Bundoora	\$15m to \$24m
Monash	\$38m to \$61m	Reservoir	\$15m to \$25m
Glen Waverley	\$15m to \$25m	Fawkner	\$6m to \$10m
Burwood	\$21m to \$34m	Broadmeadows	\$8m to \$13m
Box Hill	\$46m to \$67m	Melbourne Airport	\$4m to \$7m
Doncaster	\$14m to \$22m		

About the method

The indicative quantification of the pedestrian amenity benefit was undertaken at precinct level, for an evaluation period of 50 years. The quantification considers the following key assumptions and inputs:

- The methodology and parameters adopt those suggested by the Draft Placemaking Guidelines issued by Transport for New South Wales (TfNSW)^{iv}

i Melanie Lowe et al, Planning healthy, liveable and sustainable cities: How can indicators inform policy?, Urban Policy and Research (2014)

ii SRL Precinct pedestrian amenity improvements have been estimated on the basis of the scoring of precinct factors provided by the SRLA. The period of benefit evaluation is 50 years from 2035 when SRL East is open. Amenity benefit is discounted at 4 per cent.

iii Benefits estimated by applying the Draft Placemaking Guidelines issued by TfNSW: Movement and Place Evaluation: Estimating placemaking impacts of transport projects in business cases. There is no Victorian equivalent currently available.

iv Transport for New South Wales, *Movement and Place Evaluation: Estimating placemaking impacts of transport projects in business cases*

- The amenity levels / scores under the Program Case and Base Case for each of the SRL East Precincts were assessed by SRLA, based on research undertaken to date
- The amenity levels / scores were provided as a range, taking into account the potential variations in the amenity assessment of the places
- The amenity levels for SRL North were estimated as the average of the SRL East Precincts
- The other necessary parameters required for quantification as per the TfNSW guidelines, such as the number of pedestrians and time spent in the SRL Precincts per pedestrian, are obtained from the Melbourne Activity Based Model (MABM). These were estimated for SRL East and SRL North.

Note: this method allows the quantification of indicative benefits provided by the SRL East and SRL North pedestrian-related precinct initiatives at a high level.

9.3.3 Helping to reduce Melbourne's environmental impact

SRL will help to reduce Melbourne's environmental impact by:

- Embedding sustainability principles in design and development
- Conserving Melbourne's non-urban land
- Changing the way Melburnians travel.

Embedding sustainability in design and development

SRL will provide opportunities to reduce the environmental impact of SRL Precincts through smart and innovative urban design, such as ensuring new developments are climate resilient. Further detail on the urban design principles are provided in Appendix B.4: Urban Design Framework.

Trees will be planted in all SRL Precincts to provide canopy cover for people as they move about the area, provide shading in key areas and generally make spaces more attractive. Greening will be important for making SRL Precincts resilient to climate change impacts. It will also help mitigate urban heat island (UHI) effects, enhance storm water management and improve air quality through tree planting. These initiatives will make SRL Precincts cooler and greener.

SRL will investigate innovative solutions for improving biodiversity and green infrastructure outcomes. Initiatives may include blue-green infrastructure (passive irrigation), green roofs and walls, establishing a minimum solar reflective index in SRL Precincts and increasing the reflectivity of pavements and rooftops.

The Victorian Government's Recycled First initiative will apply to the development of SRL. This will ensure optimised use of sustainable and recycled materials in construction, such as glass, plastic, timber, steel and reclaimed asphalt pavement, instead of new materials.³²⁴

Sustainability initiatives in the design and development of SRL will support various Victorian Government environmental strategies and goals, such as *Protecting Victoria's Environment – Biodiversity 2037*, *Recycling Victoria: A New Economy* and *Victoria's Climate Change Adaptation Plan 2017-2020*.

Further detail on value creation across SRL East and SRL North through sustainability and the environment is provided in Chapter 11.

³²⁴ Victorian Government, *Projects get a sustainability boost with Recycled First* (30 June 2020), <https://bigbuild.vic.gov.au/newsfeed/projects-get-a-sustainability-boost-with-recycled-first>

Slowing urban expansion

SRL will result in greater population and employment density within the established urban area in Greater Melbourne, and within the SRL Precincts across the middle ring suburbs in particular. Each dwelling created in the established urban area rather than the outer metropolitan or peri-urban areas enables land that would otherwise be consumed by urban development to be retained for other uses – including agriculture, horticulture, biodiversity protection or climate regulation. This will reduce the need for further urban development in outer metropolitan and/or peri-urban areas of Greater Melbourne.

By slowing Melbourne's urban expansion, SRL will help prevent the further urbanisation of existing farmland or wildlife habitat and reduce the pressure on Melbourne's urban growth boundary. By 2056, SRL East and SRL North will have reduced urban expansion by around 1.5%, or equal to around the same size as the City of Shepparton.³²⁵ This will reduce the environmental impacts of urbanisation, contributing to a more sustainable city in the longer term.

SRL East and SRL North will reduce urban expansion by around the same number of households as the City of Shepparton, Victoria's fifth largest regional centre.

Changing the way Melburnians travel

As discussed in section 8.2, SRL will contribute to a reduction in private vehicle transport demand. By 2056, it is estimated that there will be around 606,000 fewer journeys on the road per day as vehicle users shift to the rail network. Across Melbourne, this is equivalent to almost 3 million fewer passenger kilometres travelled and around 110,000 fewer passenger hours spent in vehicles per day.³²⁶ It is estimated that the reduction in greenhouse gas emissions, as well as other environmental impacts (such as reduced noise, air and water pollution), generated by SRL East and SRL North will save the Victorian economy approximately \$0.5 billion in present value terms.³²⁷ Reducing air pollution, even by a small amount, can lead to a range of health benefits.³²⁸ Fewer cars will also help to reduce noise pollution, which can disturb people's sleep and lead to other adverse health impacts.³²⁹

In helping to reduce Melbourne's environmental impact, SRL will support long-term liveability outcomes for generations of Melburnians and Victorians to come.

325 CityPlan

326 VITM 2056

327 KPMG (2021) Suburban Rail Loop Economic Appraisal Report (provided at Appendix C.2)

328 Broome, R., Fann, N., Cristina, T., Fulcher, C., Duc, H. & Morgan, G., *The health benefits of reducing air pollution in Sydney, Australia*, *Environmental Research*, vol. 143, (2015), pp. 19-25

329 Commonwealth of Australia as represented by the Department of Health, *The health effects of environmental noise* (2018), [https://www1.health.gov.au/internet/main/publishing.nsf/Content/A12B57E41EC9F326CA257BF0001F9E7D/\\$File/health-effects-Environmental-Noise-2018.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/A12B57E41EC9F326CA257BF0001F9E7D/$File/health-effects-Environmental-Noise-2018.pdf)

10 Value uplift

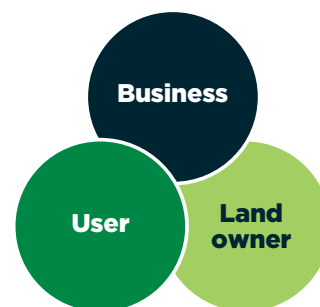
Chapter summary

- The previous chapters demonstrated the productivity, connectivity and liveability outcomes delivered by SRL East and SRL North. These outcomes are extensive and wide ranging, delivering significant economic value to Victoria.
- This chapter presents an overview of how these outcomes translate into financial gain for business, landowners and users of the transport system. It sets out the potential for value uplift accruing to these different beneficiary groups, outlining how that value is realised by different beneficiaries.
- Together, SRL East's and SRL North's productivity, connectivity and liveability outcomes are expected to be capitalised in various forms:
 - Users of the road and rail networks will benefit from improved connectivity, time savings and reduced transport costs.
 - Businesses will benefit from productivity gains, improving returns or capacity to expand and employ more or higher skilled people.
 - As businesses and residents relocate to the SRL East Precincts, seeking to take advantage of the productivity, liveability and connectivity benefits, land and property values are expected to attract a premium in line with the increased demand and willingness to pay. Additional value is also likely to be realised from land sales to developers responding to increased opportunities and demand in the SRL Precincts, with associated planning and density changes enabling higher value developable land.

10.1 Value uplift and SRL East and SRL North

SRL East and SRL North will deliver significant significant benefits to SRL precincts. As described in Chapters 7, 8 and 9, the outcomes are extensive and wide ranging, with network users, business, developers, health and education providers, households, residents and visitors all benefiting. These outcomes will benefit all Victorians. However, these benefits are not equally shared: certain benefits are more concentrated in the SRL Precincts and offer the potential for some beneficiary groups to realise material financial gains from the investment.

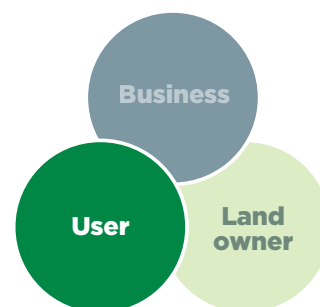
This chapter provides an overview of the potential value uplift accruing to different beneficiaries. The value uplift is considered across three main beneficiary groups: users, business and landowners.



10.2 User benefits

As outlined in Chapter 8, transport users experience improved transport services, with increased transport capacity, better public transport accessibility and new connections across the public transport network. Road users also benefit from reduced congestion with fewer cars on the road.

Whether a road user, a passenger on the broader public transport network or a user of the SRL East and SRL North line, SRL delivers value to users through improved service levels, reduced travel times and reduced transport costs.



10.2.1 Value uplift for users – reduced transport time and costs

Chapter 8 outlined the extent of the connectivity outcomes and benefits to users (road users, SRL users and other public transport passengers). These included the benefits of:

- **Quick and enjoyable journeys** – encouraging public transport trips, saving people time, connecting strategic precincts, easing crowding, improving reliability and enhancing the attractiveness and pleasure of using public transport
- **Taking cars off the road** – fewer road journeys easing congestion, improving reliability of bus and tram journeys, and a more enjoyable driving experience that contributes to business productivity and road user wellbeing
- **Promoting active transport** – a focus on the end-to-end journey, and active transport infrastructure.

Commuters accessing jobs in SRL Precincts might also want to live in an adjacent precinct, benefiting from the travel time savings and connectivity delivered by SRL East and SRL North. This will expand the job pool catchment, as well as the amenity and neighbourhood benefits provided in the SRL Precincts.

Faster and easier access to work, together with lower transport costs, will make it more affordable for people to relocate:

- For example, a businessperson chooses to relocate to Bundoora knowing the travel time to Burwood where they work has been reduced by some 77 minutes
- A nurse living in Frankston and working at Monash Children's Hospital by moving to Glen Waverley would save some seven hours a week and \$2,300 a year on commute time and costs with more recreational time to enjoy the local neighbourhood spend with loved ones
- Or similarly, health workers relocate to Cheltenham to access the improved journey time to Clayton, which is some 25 minutes less than the current travel time between the two precincts. The travel time and cost savings can be diverted to housing and other living costs
- A university student previously constrained to on-campus living would have much wider housing options and choice about where they live. This might enable them to save on rent as the geography of housing options broadens. It also provides more flexibility and a wider range of options to access jobs and work while they study, without the existing constraints of prohibitive transport time or costs.

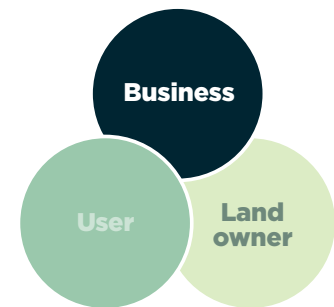
As discussed in Section 8.1.1, with over 230,000 additional public transport trips estimated by 2056 with the delivery of SRL East and SRL North, road users also benefit from the anticipated reduction in congestion, and time and cost savings:

- Freight and logistics companies benefit from a more efficient road network, saving on travel times, vehicle wear and tear and associated transport costs (as set out in section 8.2).
- Other road users would be encouraged to make the transition from a more costly road journey (in terms of finances and time) to a fast and efficient public transport option, benefiting from reduced road transport costs. This value will be expressed through a higher propensity to use public transport, some of which is captured by public transport fares.

The extent of benefits for different users varies. While not always directly translated to an individual financial gain, the reduced travel time and costs represent an uplift in value for different users who will realise this value in several ways.

10.3 Business benefits

Productivity improvements will accrue to businesses located in or choosing to relocate to the SRL Precincts. Businesses benefit from improved access to labour, customer and supplier markets, and the agglomeration effects of sharing knowledge and technology and improved proximity to other businesses and suppliers. Increased economic activity and productivity creates capacity for improved employment conditions, wages and more and/or higher value jobs, and generates higher turnover and profit for business.



10.3.1 Value uplift for businesses – productivity impacts

SRL East and SRL North provide an opportunity to stimulate economic development, create jobs and guide where people live and work, establishing activity zones along the corridor and driving the development of NEICs and MACs. Productivity benefits delivered as a result of SRL are outlined in Chapter 7 and include:

- **Boosting access to jobs** – people having better access to employment and access to more productive jobs, and businesses having access to larger workforce pools
- **Unlocking economic growth** – consolidating existing and creating new economic activity in precincts
- **Attracting new businesses** – including knowledge-based and hi-tech industries, as connectivity is enhanced between education and NEICs and clusters of symbiotic businesses occur
- **High value jobs** – attracting high-value knowledge-based jobs and leveraging key anchor tenants and businesses already located in precincts such as in the Monash NEIC
- **Agglomeration benefits** – through greater job density, improved accessibility between people, jobs and businesses, the benefits of clustering and cross pollination of ideas, and even shared facilities.

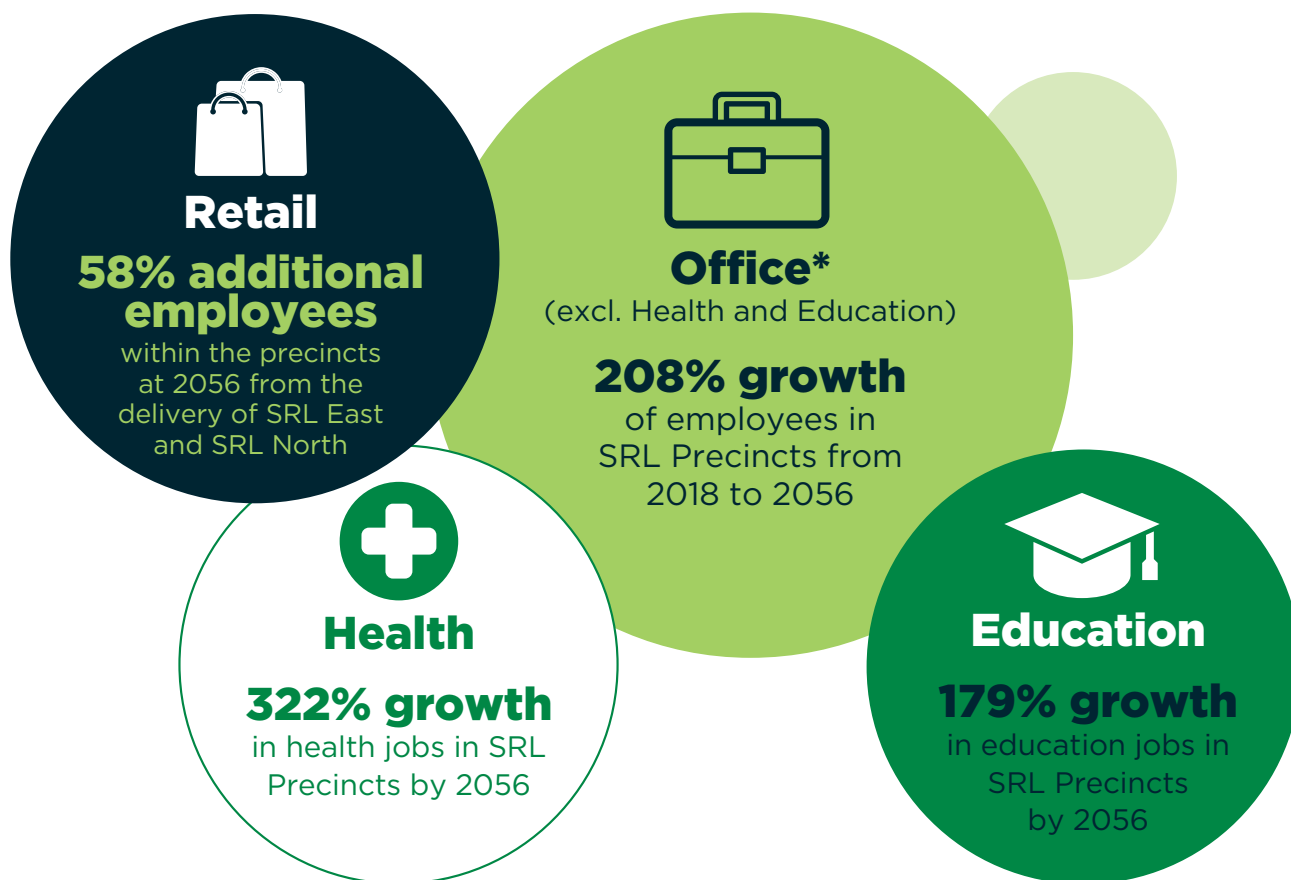
This increased economic activity and productivity enables business to further invest, innovate and deliver efficiencies, benefiting from increased capacity to improve employment conditions and wages, as well as generating higher turnover and profit.

These productivity benefits will generate demand from business to relocate to SRL Precincts, resulting in an increased willingness to pay that translates into higher property values. This suggests a portion of the value realised for businesses will be capitalised to property prices (see section 10.4 for further discussion of the landowner value uplift). The extent of value retained by businesses relative to that transferred to landowners through property prices will depend on the nature of value accruing to them as a result of being located within the SRL Precincts.

In considering the benefits to business it is useful to think about the impact to particular sectors and the key industries expected to benefit from SRL East and SRL North.

The nature of businesses expected to be established in the SRL Precincts is illustrated through the mix of jobs. As set out in Chapter 7, by 2056, knowledge-based jobs in the SRL Precincts are expected to increase from 102,500 in 2018 to 362,000 in 2056 as a result of SRL East and SRL North (Figure 7-5). The projected redistribution of jobs due to SRL East and SRL North is illustrated in the figure below.

Figure 10-1: Redistribution of jobs in SRL East and SRL North Precincts



** Health and Education job volumes have been excluded from Office volumes for value uplift analysis
Source: CityPlan*

Commercial and 'office jobs'

As shown in Figure 10-1, an expected 208 per cent growth in 'office jobs' (excluding health and education) from 2018 to 2056 in SRL Precincts is expected as a result of SRL East and SRL North. That equates to 41,500 more office workers in, and accessing the services and amenity of, the SRL Precincts than would have been projected to occur without SRL East and SRL North.

This increasing volume of office workers will also lead to more productive and efficient use of land and office space through a greater concentration of people in the area. As an example, an industrial facility accommodating 13 employees in a building of 1,000 square metres on a land footprint of 1,800 square metres could be redeveloped to a new four-level office building. On this same site, that new building would now have a potential gross lettable area of 5,000 square metres accommodating some 230 employees.

More people working higher value jobs with more money to spend in the SRL Precincts will also generate activity and amenity, further contributing to vibrant SRL Precincts. These productivity benefits are expected to generate returns to businesses through:

- **Better access to skilled workers** – improving productivity, reducing recruitment and turnover costs and enabling investment. For example, a small to medium tier law firm might relocate from the CBD, reducing occupancy costs without compromising its ability to attract and retain talent
- **A more productive workforce** – access to a larger worker pool and more skilled workers (attracted by improved local services and amenity) and a more productive and efficient workforce will contribute to improved returns for business. For example, an office worker would no longer have to drive to get lunch or leave early to get to the physiotherapist or head into the city to go shopping.

Retail

Retail business vary significantly in scale and type across Melbourne. Small strip retail through to larger retail centres are expected to benefit from the increasing amenity and demand from more people living and working in the SRL Precincts. The shift to higher value jobs should also see a shift to higher value retail and services.

Some 23,000 more retail jobs are expected in the SRL Precincts as a result of SRL East and SRL North. While there will be an initial cost to retail businesses of relocating to the SRL Precincts as businesses choose to invest in the precincts (with retail landowners and/or developers benefiting from this increased demand and willingness to pay by those businesses) businesses will experience benefit from additional turnover and improved returns.

Health

The agglomeration benefits highlighted in Chapter 7 are particularly evident for health and research providers and enterprises. SRL East and SRL North will allow a larger pool of skilled workers to easily access jobs in the SRL Precincts. With improvements to local amenity, and the ability to work in an active precinct with co-located health and research services, public and private health providers will be able to grow their workforces and services and invest in the sector.

SRL East and SRL North are expected to generate 322 per cent growth in 'health jobs' in SRL Precincts. In the Monash Precinct alone, this means some 56,000 health workers will be working in and accessing the precinct. This clustering and co-location of specialist health researchers and providers in SRL Precincts will continue to attract the best employees to the area. Private providers are expected to relocate to the precinct, benefiting from improved accessibility, investment in new facilities and services in the area and leveraging a broader service base.

Education

SRL East and SRL North will help Victoria to continue its position as a leading centre for higher education, including attracting international students and supporting the international education sector to return to pre-pandemic levels. SRL East and SRL North will enable Monash, Deakin and La Trobe universities to grow and expand, increasing student numbers and providing more choice for students.

CityPlan data shows some 7,000 more education workers will be based at the three university precincts as a result of SRL East and SRL North (in addition to other commercial and office jobs relocating to those precincts).

A combined 70,500 more knowledge-based employees, including commercial, health and education, will be working in the Monash Precinct in 2056. This increase in knowledge-based workers and activity will generate greater opportunities for collaborative projects, foster higher levels of innovation and drive the commercialisation of research.

With this growth comes the opportunity to offer expanded programs, and to attract and retain more teaching and research talent. This will lead, in turn, to an expanded student fee base and opportunity to attract higher levels of research and other funding.

10.3.2 Value uplift for businesses – high value jobs and amenity

As employment shifts to knowledge-based jobs, the average wage in the SRL Precinct is expected to increase. Average weekly wages are \$1289.30 for retail, \$1555.90 for manufacturing and \$2001.40 for employees in professional, scientific and technical services (as at November 2020).³³⁰

Knowledge-based jobs also tend to be in higher capacity offices, meaning more workers concentrated in the SRL Precincts. This combined effect of more workers earning higher average wages will see an increase in the capacity and appetite of the local workforce to spend in the SRL Precincts. The flow on increasing demand for services such as retail and hospitality will improve amenity in the precincts, which will, in turn, encourage even more local expenditure in the precincts.

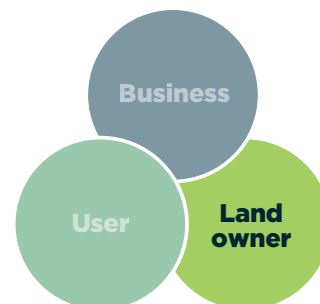
The benefit to businesses of increasing capacity to spend is highlighted as part of business productivity benefits. An increasing demand to live in SRL Precincts will also see an increasing demand for, and supply of, residential property. People seeking to move into the SRL Precincts will be prepared to pay more than current prices resulting in an uplift to property values (refer section 10.4 below for further discussion on landowner value uplift), with people benefiting from more housing choices and the value of improved accessibility and amenity.

330 ABS (2019), 6302.0 Average Weekly Earnings, Australia, November 2020

10.4 Landowner benefits

Across all the SRL Precincts, the property market is expected to capitalise the improvements in liveability, productivity and connectivity due to SRL. As a result, landowners in the SRL Precincts, and to some extent in the adjacent corridor, will benefit from increased demand for property and land as well as buyers being willing to pay a higher price to relocate to the SRL Precincts. This benefit accrues in two ways: higher property values reflective of improved amenity, accessibility and associated demand for property; and land value uplifts driven by planning changes that allow increased density and new development opportunities in the SRL Precincts for developers.

The extent and nature of these benefits will depend upon the role and function identified for each precinct within the SRL Structure Plans.³³¹ These plans will outline land uses and desired development outcomes for the precinct.



10.4.1 Value uplift from increased demand for land and property

The appetite of businesses to locate, and of people to live and work in the SRL Precincts, is reflected in a forecast increase in demand for residential and non-residential property in the precincts.

Enabled by improved connectivity, businesses will seek to relocate to access productivity, workforce and agglomeration benefits. Residents will seek to access jobs and the suite of liveability and amenity improvements in the SRL Precincts. This will see a higher willingness to pay from businesses seeking to be located in SRL precincts.

Liveability benefits in the SRL Precincts have been set out in Chapter 9 and include:

- **Housing diversity and choice** – demand for residential property enables increased housing diversity and choice
- **Community wellbeing** – facilitating community connection, improved access to healthcare, improved active modes and walkable neighbourhoods, and enhanced safety and security
- **Vibrant and inclusive precincts** – provision of services and amenities, underpinned by strong demand and income from some existing and new knowledge-based jobs
- **Living local** – with businesses clustering, higher density residential and commercial space, and proximity to more jobs and more services
- **Connectivity** – a reliable public transport network running with a ‘turn up and go’ timetable.

Together, the connectivity, productivity and liveability benefits of SRL will see more households and businesses relocate to the SRL Precincts. The projected redistribution of property demand due to SRL East and SRL North is shown in [Figure 10-2](#).

331 SRL Structure Plans are described in Chapter 14.

**Figure 10-2: Redistribution of property demand to SRL Precincts
(SRL East and SRL North Option A versus base case)**

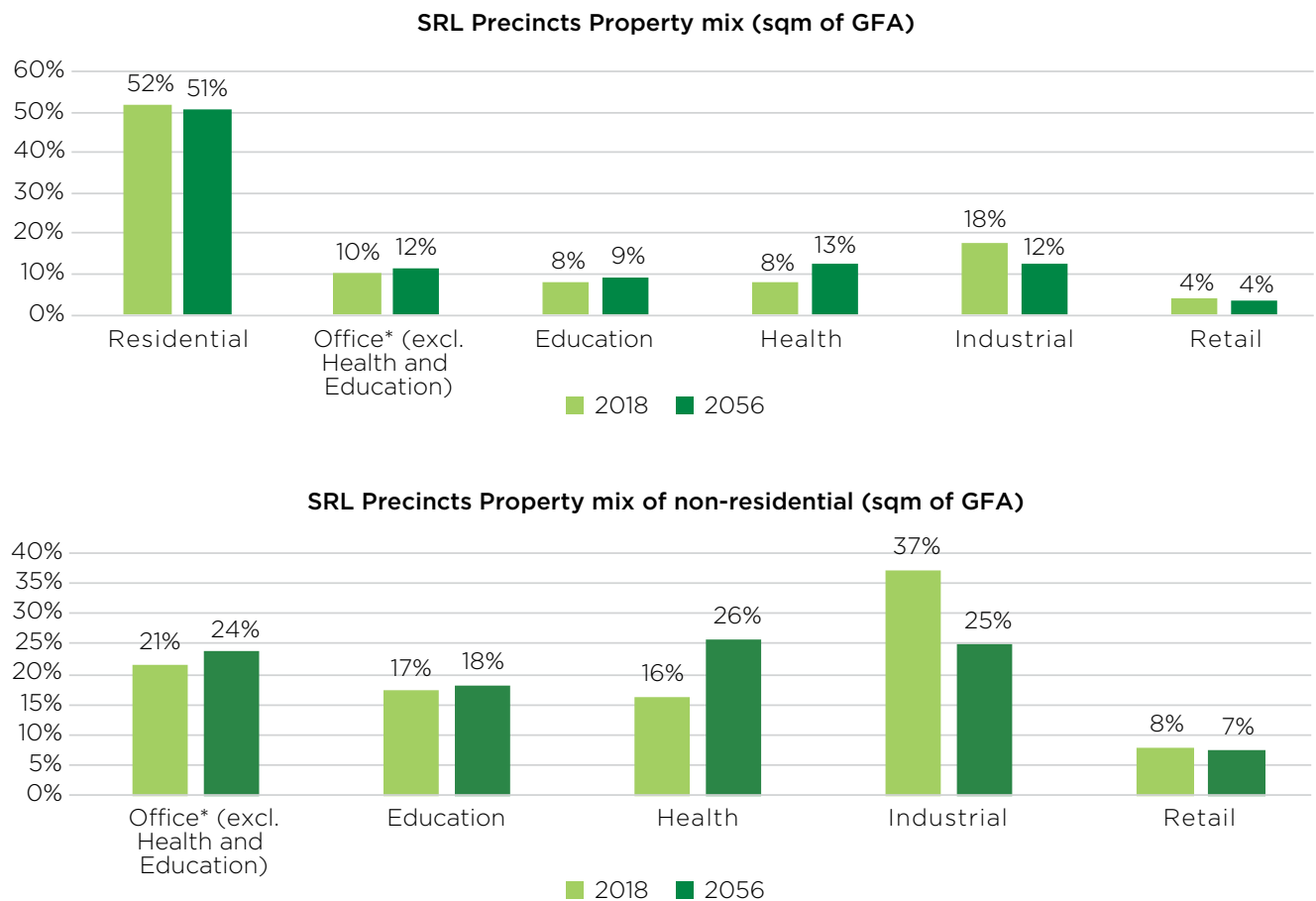


* Health and Education property volumes have been excluded from Office for value uplift analysis

Source: PwC analysis, CityPlan

The increased demand will increase the value of existing properties and also increase opportunities to redevelop properties as demand grows for more diverse and higher density residential offerings, including a shift into more mixed-use and non-residential property types throughout the SRL Precincts. The increase in housing diversity will provide people with more housing choice and new opportunities to live in SRL Precincts.

Figure 10-3: Change in property mix over time by gross floor area in square metres for SRL Precincts



* Health and Education are reported separately from Office for value uplift analysis

Source: PwC analysis, CityPlan

This value uplift associated with increasing demand is considered from two perspectives in the following sections: the value of increased development activity in the SRL Precincts and the higher property values created through the new population distribution increased demand.

10.4.2 Landowner benefit – development activity

Improved amenity and accessibility driven by SRL will increase local market demand for both residential and commercial property in SRL Precincts. Potential changes in planning policy will enable developers to leverage increased demand and develop at higher densities to achieve higher sales values and volumes.

For example, SRL East and SRL North precinct initiatives will increase and expand housing diversity across the SRL Precincts, with more options suitable for families. As discussed in Chapter 9, the SRL Precincts are expected to attract a broad range of household types by 2056, including accommodating an estimated 47,500 additional households.³³² Although property and land value uplifts are likely to occur, the projected increase in medium and higher density dwellings will increase housing diversity, creating more housing choices and reducing barriers to entry for households in the SRL Precincts.

As discussed in Chapter 7 and above in section 10.3, the SRL Precincts will attract more 'office' and retail businesses. These types of businesses require access to office space or shop fronts, driving demand for mixed-use or commercial development in SRL Precincts. Again, potential precinct initiatives that allow height, density or land use changes will also create commercial development opportunities to meet this demand, generating benefits for landowners.

Increased and accelerated demand in SRL Precincts relative to other suburban areas will be considered by the development industry prior to forming a view on the respective feasibility of any new project. This confidence will translate into scenarios where developers are prepared to pay a higher market price for development sites.

Anticipated increases in the gross realisable value of a development (volume and/or price) and/or reductions in costs (for example, holding costs reduced through truncated planning approval process) and other risks (such as planning risks) should increase the residual land value paid by a potential developer to existing landowners.

While speculative land investment will always occur, as the market normalises and competes for developable land, the incremental value of development typically results in an uplift to the landowners. There are many examples of major transport investments, when implemented with planning changes, resulting in significant landowners' values accruing in response to higher demand and development activity.

The inner west light rail extension in Sydney added 5.6 kilometres to the light rail network, running along the former Rozelle freight rail corridor with nine new stations. It is estimated that as a direct result of the improved accessibility, initial growth in land values for properties within 400 metres of the new stations was some 7 per cent (from 2000 – 2014). This increased accessibility also enabled land to be rezoned from industrial to business use, seeing values increase by 63 per cent. Changes to permitted floor space ratios from 0.65 to 4 saw land values increase 80 per cent.

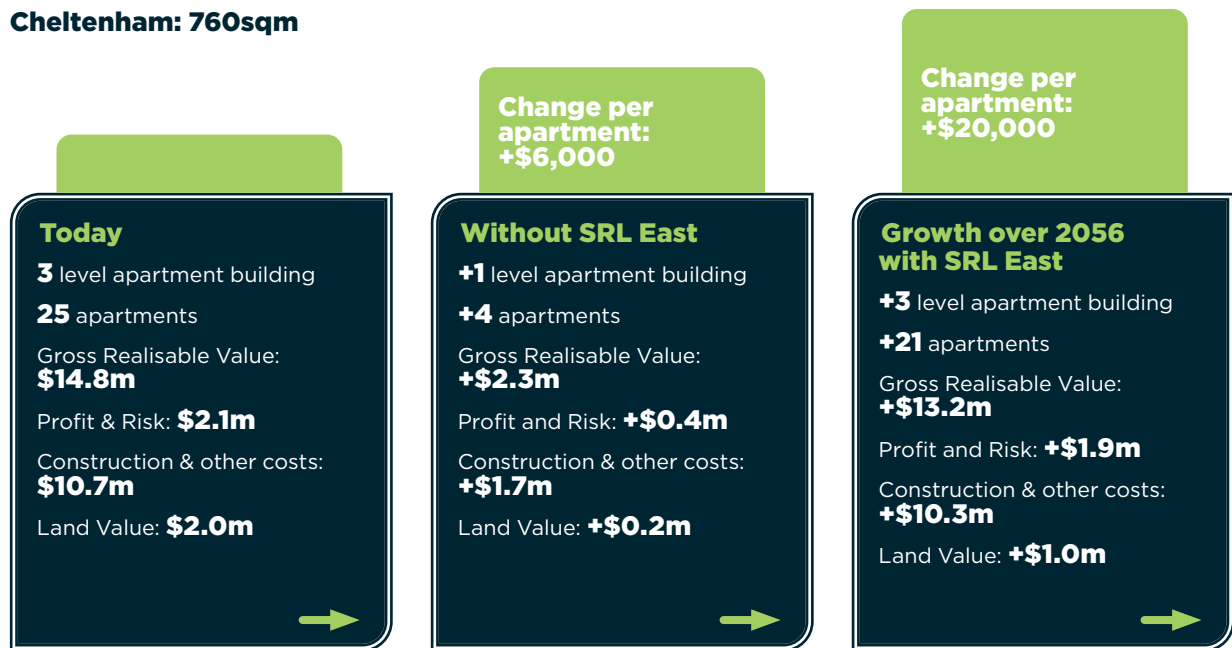
Source: LUTI Consulting 2016, Transit and Urban Renewal Value Creation (Hedonic Price Modelling Assessment of Sydney's Key Transit and Transit-Oriented Urban Renewal Investments (2000–2014))

One hypothetical development scenario in Cheltenham (outlined in [Figure 10.4](#)) can be used to demonstrate the potential windfall gains to existing landowners in 2056 as a result of SRL East.

In the scenario, under current planning scheme and feasibility parameters, a residential zoned 760 square metre site might today allow for the development of 25 apartments, or 29 apartments without SRL East. With SRL East precinct initiatives (including potential planning changes), the site potential could allow for a building containing 50 one-to-three bedroom apartments. This increase in land value can increase the price that a developer may be willing to pay for the land (after costs, profit and risks). In the hypothetical scenario, the increase in land value is estimated at \$1 million – or approximately a 50 per cent increase to the landowner as a result of SRL East.

The illustrative scenario assumes the real price per apartment does not increase without SRL East, but there is an increased demand for dwellings over time even without the construction of SRL East and associated planning changes. Higher demand, price increases and faster selling rates occur with SRL East. Uplift in property prices is considered in section [10.4.3](#).

Figure 10-4: Illustrative development scenario

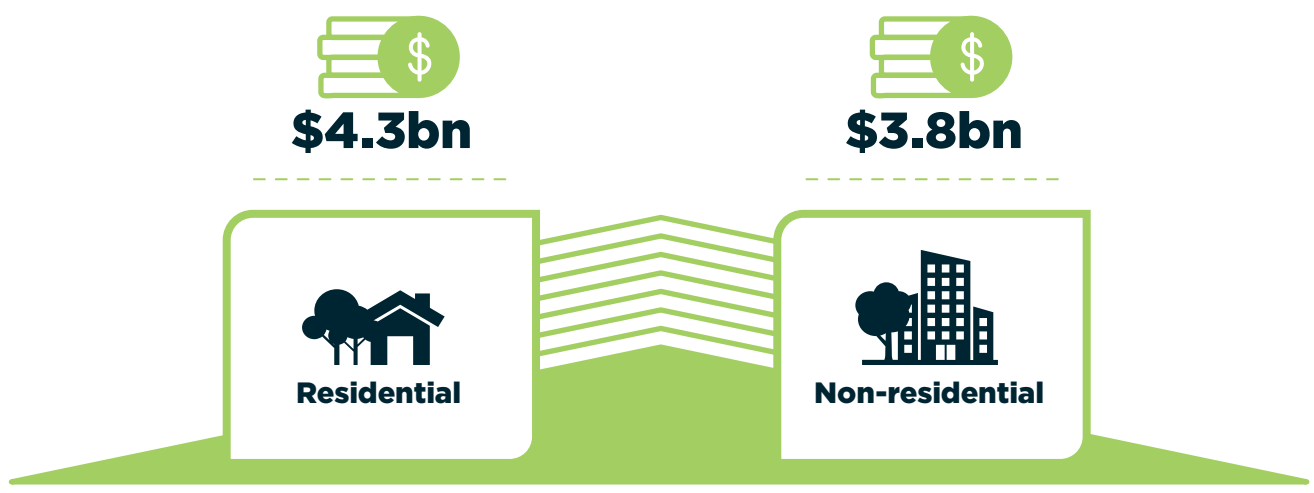


Note: This is a hypothetical development example only to illustrate impact of increased density development and should not be construed as planning advice or a value uplift amount. A broad range of development scenarios will occur throughout the Cheltenham precinct.

Source: PwC analysis

Adopting a similar development value uplift approach across all SRL East Precincts, based on potential changes in land use required to accommodate projected dwellings and commercial floorspace, the additional and changing type of demand and density for these precincts is expected to generate a significant land value uplift for SRL East, as illustrated in [Figure 10-5](#) below.

Figure 10-5: Value to land owners in SRL East Precincts from development from 2018 to 2056 due to SRL East and SRL North (not including value to surrounding areas)



Source: PwC analysis, based on CityPlan

10.4.3 Landowner benefit – liveability and amenity

In addition to increased land value for development purposes, SRL East and SRL North will support an increase in property values resulting from improved accessibility and proximity to jobs, services and other economic and social assets. The combined improvements to productivity, connectivity and liveability in SRL Precincts will make them more attractive for businesses and households alike.

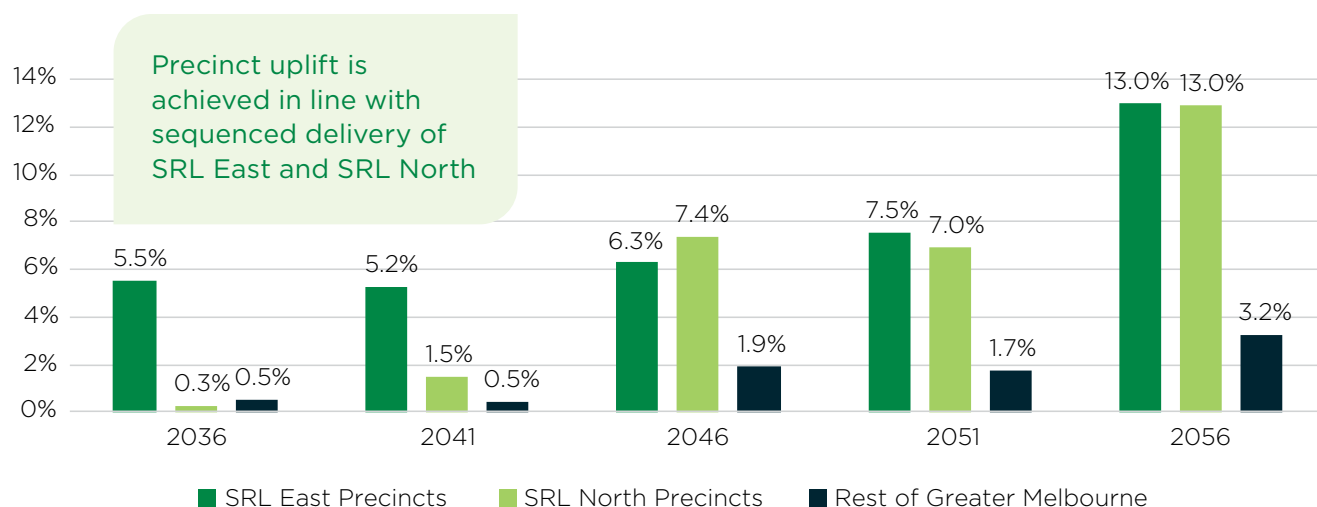
Gains will be realised broadly across landowner groups. Residential landowners will benefit from increased amenity and future increased sales value from higher prices paid by buyers, and residential and commercial landlords (and commercial landowners) will benefit from the ability to charge higher rents and / or the increased prospect of future capital growth (and relative amenity and business value as a commercial owner-occupier).

As noted earlier, although increased property values are expected, corresponding increases in household diversity in SRL Precincts will provide more housing choices for Victorians, helping to improve access to affordable housing in Melbourne's middle suburbs.

CityPlan modelling estimates the impact of demand and amenity improvement due to SRL East and SRL North. The modelling generates a residential property value amenity uplift comparing value without SRL East and SRL North against value with SRL East and SRL North over time, applied to unimproved land values forecasts. It suggests land values in SRL Precincts will be as much as 13 per cent higher under the project case when compared to the base case. This compares to an average uplift of 3 per cent across Greater Melbourne, demonstrating that while there is a broad distribution of SRL benefits, the biggest impacts on value are for those properties close to SRL stations, with buyers prepared to pay more to be part of the SRL Precincts.

Figure 10-6 illustrates the transfer of value with SRL East and SRL North in five-year increments to 2056.

Figure 10-6: Percentage of land value uplift driven by accessibility and amenity improvements as a result of SRL East and SRL North with sequenced delivery vs. without SRL East and SRL North ³³³



Source: PwC analysis, CityPlan

³³³ For the purposes of the diagram, the definition of Greater Melbourne per the State Revenue Office is used. The chart indicates the differential of land value with and without SRL East and SRL North at each given year. This is not reflective of the overall property value within these areas over time.

10.4.4 Landowner benefit – unique landowners

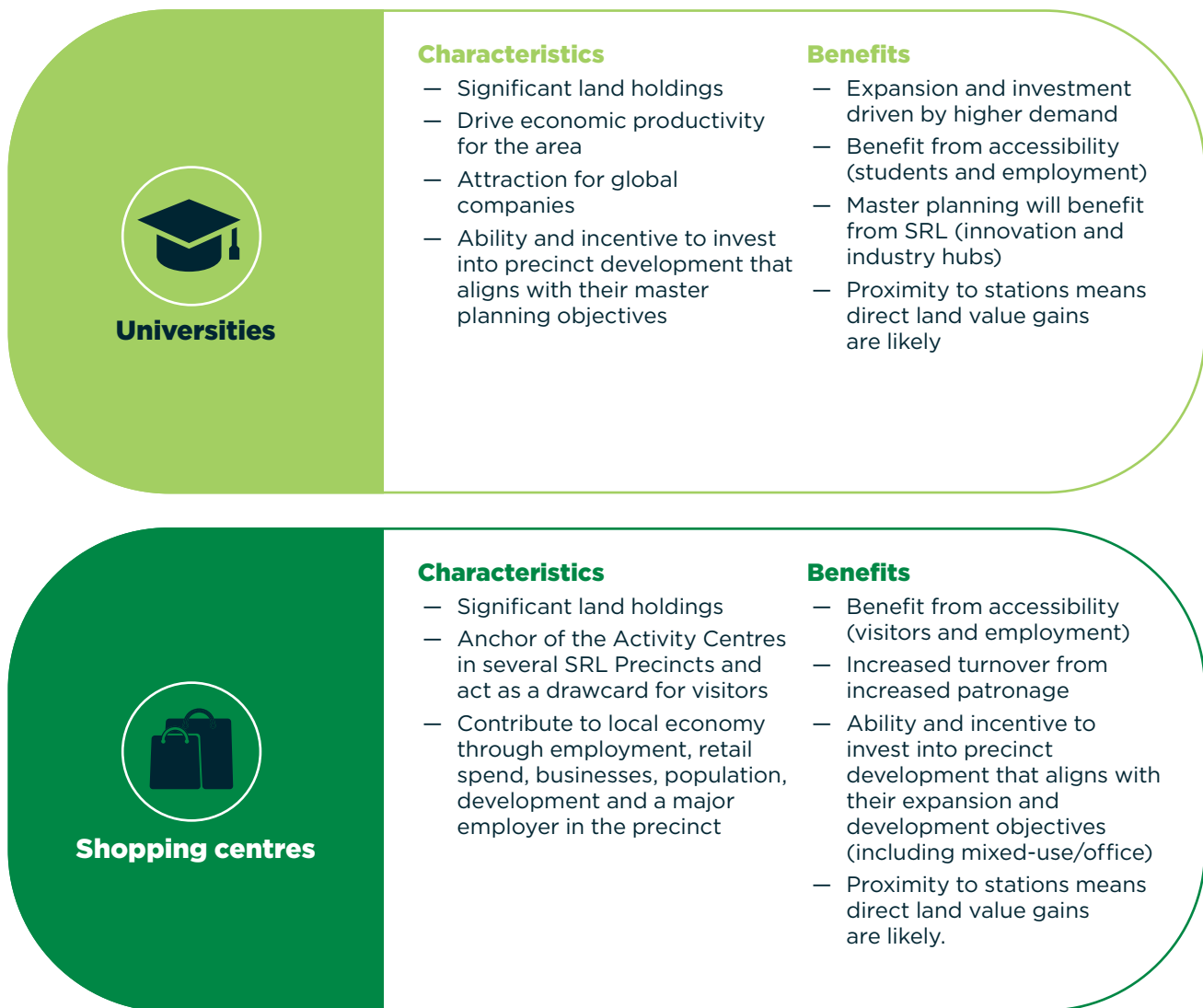
A range of unique and significant landowners located within the SRL Precincts will directly benefit from SRL East and SRL North. They include large existing retail centres, universities and large private education providers, together with a number of public and private health providers.

These unique landowners are by their nature important members of SRL Precincts. Some have been identified as anchor tenants and are important to enhancing the productivity benefits of SRL East and SRL North (as discussed in Chapter 7).

Universities are one of the largest landholders in several SRL Precincts and stand to significantly benefit from the increased accessibility of their campuses as a result of SRL East. This is projected to improve their competitiveness in attracting both domestic and international students, creating a direct financial benefit (refer Section 10.3). Like other landholders, increased accessibility will also lead to uplift in property value and will increase development potential as increased demand for housing and commercial floorspace grows in SRL Precincts.

Shopping centres are another prominent land holder in several SRL Precincts. Due to their prominence in the SRL Precincts, these established centres look to gain the greatest value from the increase in activity and footfall. This attraction towards the centres, creates an opportunity to increase rent. SRL East will enable these centres to expand their size and diversity of uses from the demand driven by the accessibility from residents and workers both within and outside of the SRL Precincts.

Figure 10-7: Potential unique landowners



10.4.5 Landowner benefit – government as a landowner

The Victorian Government is a large land holder in the SRL Precincts. This land will include the Government's current portfolio of holdings as well as future acquisitions, including those associated with the delivery of the rail line and associated infrastructure. As the vision for SRL Precincts develops, these land holdings will be an important element in realising the objectives of the future SRL Structure Plans.

The Government has a range of options to consider in relation to these land holdings, which may include:

- Sale of surplus land, which will generate short-term returns for the Government
- Catalytic development in the precincts – for example, provision of public open space and 'activation' investment to support innovation hubs and other initiatives that increase economic activity in the precincts, as well as the delivery of social infrastructure investments to foster activity in the precinct
- Joint ventures with developers on existing government interests (which could include 'air rights') that can contribute to funding part of SRL East and SRL North. Other development options include over-station developments (OSD) and adjacent-to-station developments (ASD) that deliver precinct benefits. This could be achieved through existing land holdings or strategic land acquisitions and development activity opportunities, taking advantage of the density and amenity benefits delivered by SRL East and SRL North
- Reserving land for future uses including social infrastructure such as schools or libraries.

There is also an opportunity for government land to be leveraged to support the Victorian Government's Big Housing Build.

CASE STUDY

Examples of government-enabled development



Docklands – Victoria, Australia

Property development (precinct)

Commercial terms: The land is held in ownership by government and Development Agreements (DAs) are made with the private sector over large tracts of land.

Once developers satisfy conditions, land is handed over to the developers and payment is made.

Agreement structures can be staged, have obligations on the developer and can be in the form of a revenue share.

Level Crossing Removal Project – Victoria, Australia

Over-station and adjacent-to-station development

Commercial terms: Government took control of land that became surplus due to the new underground station.

Private developers were awarded the rights for over-station development, to be delivered alongside VicTrack as landowner and rail authority through a partnership and joint venture structure.



Kings Cross – London, United Kingdom

Establishment of development entity

Commercial terms: Landowner partnered with private developers to develop the precinct, which will provide close to 800,000 square metre of floorspace.

The Department for Transport granted development rights around the station until 2086 and receives a 50 per cent share of landowner's profit after development scheme costs.

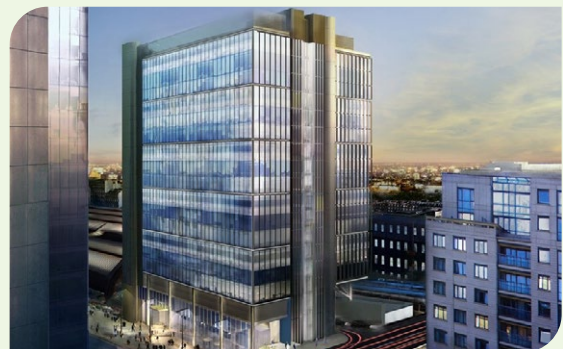
Crossrail collaboration deals – London, United Kingdom

Development agreements

Commercial terms: Collaboration deals with site owners whose land was being acquired.

Developers were given first right of refusal to buy land back at its redeveloped value.

The developers' design, planning, construction interface and other costs were covered, up to a certain value.



10.4.6 The timing of benefits accruing

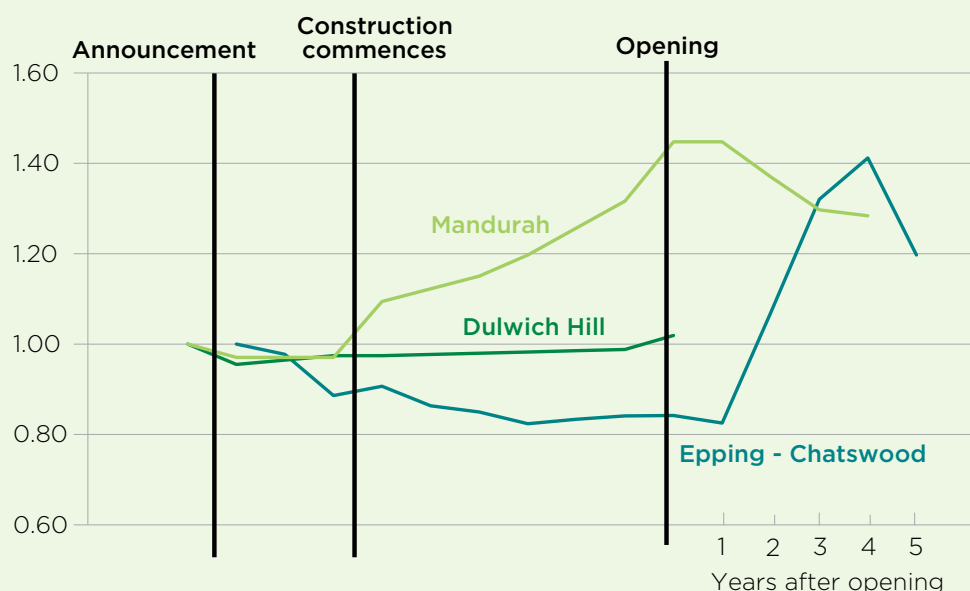
The points at which value is created and subsequently accrues to beneficiary groups are not always aligned. For example, some landowner gains are expected to have already occurred from speculation about the Victorian Government committing to SRL East. Further gains will continue to accrue during construction, once services are operating and as productivity and liveability in SRL Precincts continues to grow over time.

CASE STUDY

When does land value uplift occur?

In its 2017 report *What price value capture?*, the Grattan Institute highlights three Australian transport projects where the timing of value gains differed significantly: the Epping to Chatswood railway line in Sydney, the Dulwich Hill light rail extension, also in Sydney, and the new railway line between Perth and Mandurah. Variations in the timing of value gains to property within 400 metres of stops or stations are illustrated in the figure below.

Figure 10-8: Observed changes in value during key project stages



Source: Grattan Institute (2017)

These example projects highlight the variability in timing for value accruing to land and property a result of a major transport investment. They also highlight the need to understand the other drivers of value associated with a project – for example, the timing and nature of planning changes and other development activity or urban realm improvements. A number of other factors can also impact the value of property at any given time, such as property speculation and underlying market conditions.

The timing and scale of value change for SRL East and SRL North will also be affected by the sequenced approach to development. For example, while the extent of growth and demand for SRL East Precincts will be extensive, this demand is also expected to further increase following the development of SRL North. The associated timing for planning changes and SRL East development relative to SRL North will need to be considered in defining the extent of the value uplift for SRL East beneficiary groups.

10.5 Value uplift application

As outlined in this chapter, the investment in SRL East and SRL North enables material benefits and value uplift for various beneficiaries.

The proposed Funding and Financing Strategy (F&F Strategy) considered a range of factors including the value uplift created as a result of the project and incentives for precinct activation. The F&F Strategy is set out in Chapter [17](#).

11 Value creation

Chapter summary

- As SRL involves a multi-generational, transformative, city-shaping program of works, a bespoke approach to compliance with Victoria's Value Creation and Capture (VCC) Framework has been adopted. This approach recognises that SRL is much more than a transport project: it will drive substantial changes in land use and create significant additional value.
- SRL will generate a range of potential value creation opportunities. Value creation principles are embedded in all aspects of SRL development, delivery and ongoing service provision. Specific, bespoke value creation opportunities have been identified for a number of components of SRL East and SRL North that together will drive enduring value and create a lasting legacy over the lifetime of the investment.
- Value capture opportunities have been identified in relation to:
 - **Enhanced surface transport, intermodal connectivity and accessibility** – SRL will improve integration between transport modes along the corridor, promote active transport and increase access to jobs and services for a larger catchment
 - **Sustainability and environment** – SRL will support precincts that are distinctive, sustainable and resilient in the face of climate change, including renewable energy generation initiatives, integrated water management and circular economy opportunities
 - **Diversity of economic development** – SRL East and SRL North will foster an expansion in technology capability and help to attract businesses in priority industry sectors to the Monash and La Trobe National Employment and Innovation Clusters (NEICs) and the SRL Precincts
 - **Community facilities and services** – SRL East and SRL North will consider the provision of mixed, multi-use community facilities as part of its Reference Design, engaging communities in designing facilities that support their needs and supporting increased social connections and improved social cohesion
 - **Supply and diversity of housing** – SRL will facilitate the delivery of diverse, affordable and social housing in the SRL Precincts and contribute to well-designed residential developments that entice people and investment, and support the liveability, connectivity and productivity of the precincts.
- SRLA will explore and develop those opportunities that are within its remit as the program progresses. Other opportunities may be facilitated by relevant Victorian Government agencies or SRL program partners.

11.1 Enhancing public value

11.1.1 What is value creation?

Victoria's Value Creation and Capture Framework (VCC Framework) focuses on getting better value for Victorian taxpayers from all infrastructure projects. Value creation and value capture are the two primary mechanisms identified for this purpose in the VCC Framework. This chapter focuses on value creation mechanisms. Value capture mechanisms in respect of SRL East and SRL North are discussed in Chapter 17.

The VCC Framework describes value creation as 'delivering enhanced public value, in terms of economic, social and environmental outcomes'. It requires project sponsors to identify and develop potential public value opportunities that are above and beyond what would ordinarily be achieved as a direct consequence of the relevant government investment.

When developing value creation mechanisms, a project sponsor must apply specific principles documented in the VCC Framework. The principles are designed to ensure that there is a balance between efficiency and fairness, and that optimal outcomes are delivered. Principles that should be applied include:

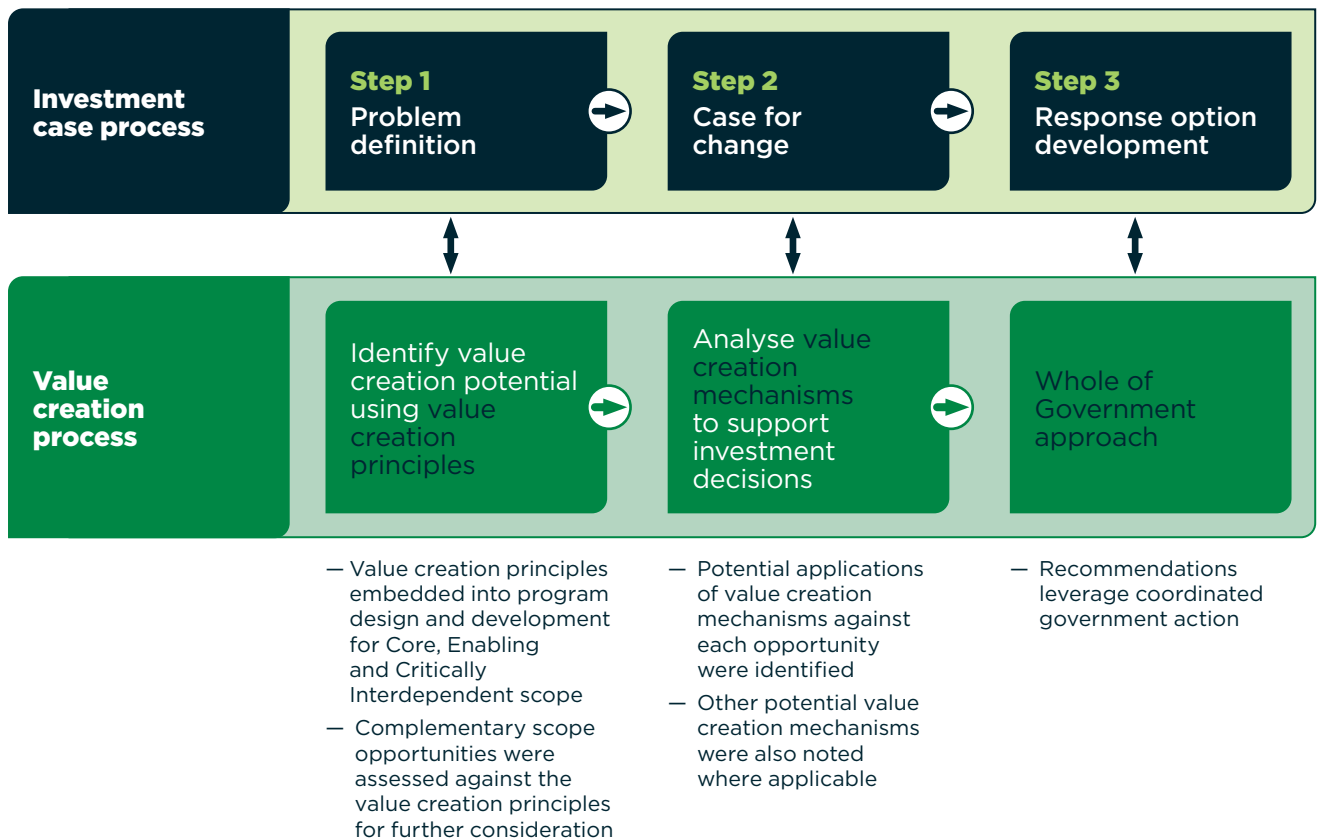
- Responding to identified need
- Taking a broader approach to precinct and place that considers the objectives of other portfolios
- Considering wider economic, social and environmental objectives – including objectives of other agencies as they may relate to a precinct or project under consideration.

11.1.2 Approach to value creation for SRL

SRL will embed value creation principles in all aspects of SRL development, delivery and ongoing service provision. [Figure 11-1](#) outlines how Victoria's value creation principles have been embedded in this Business and Investment Case, including:

- Chapters 4 and 5: defining the scope of the recommended program of investments
- Chapter 17: the approach to funding and financing, and value capture initiatives.

Figure 11-1: Embedding value creation within SRL



SRL will generate a range of potential value creation opportunities. Value creation is instilled in a number of components of SRL East and SRL North that will combine to drive enduring value and legacy over the lifetime of the investment. For example:

- **Transport enhancements** – SRL will improve integration between transport modes along the corridor and increase access to jobs and services for a larger catchment
- **Precinct development** – SRL will enhance the public and commercial value of land and assets within precincts and activate a range of opportunities that build value and improve the wellbeing of communities
- **Design processes** – SRL will deliver enhanced amenity and aesthetic outcomes as well as community skills, jobs and participation opportunities
- **Delivery and operations** – SRL will improve cost efficiency and provide skills and employment opportunities through innovative and social procurement methods.

Many of the capital and precinct development works would each trigger individual consideration under the VCC Framework – however, in reality they are integrated initiatives as part of SRL and should be treated as such. Considering the unique approach and features of SRL East and SRL North, a bespoke approach to VCC has been developed. This approach allows the optimisation of value creation mechanisms and provides the ability to identify additional opportunities that could be developed and progressed as the SRL Program matures.

11.2 Identifying value creation opportunities

11.2.1 Process undertaken

The following analysis was undertaken to identify value creation opportunities for SRL:

- Analysis of relevant policy frameworks, including *Plan Melbourne* and the VCC Framework
- Feedback from key discipline leads across SRLA, which incorporates stakeholder feedback from relevant potential partners (including universities, local governments and other Victorian Government departments and agencies)
- SRL East and SRL North planning, scoping and design processes – with opportunities assessed against SRLA's target precinct outcomes and station design principles, where applicable
- Lessons learned from local and international experience of the benefits, costs, risks and implementation pathways.

An assessment of potential value creation opportunities was undertaken. Further refinement and assessment of these opportunities and the recommendations proposed in this chapter will be undertaken through the lifecycle of SRL development to consider whether they should be taken up, including the Reference Design and procurement phases and through the development of SRL Structure Plans. This could lead to further value creation opportunities being identified and others not being taken forward. (For more details see section 11.4 'Next steps').

11.2.2 Value creation themes

Five value creation themes have been identified for SRL:

- Enhanced surface transport, intermodal connectivity and accessibility
- Sustainability and environment
- Diversity of economic development
- Community facilities and services
- Supply and diversity of housing.

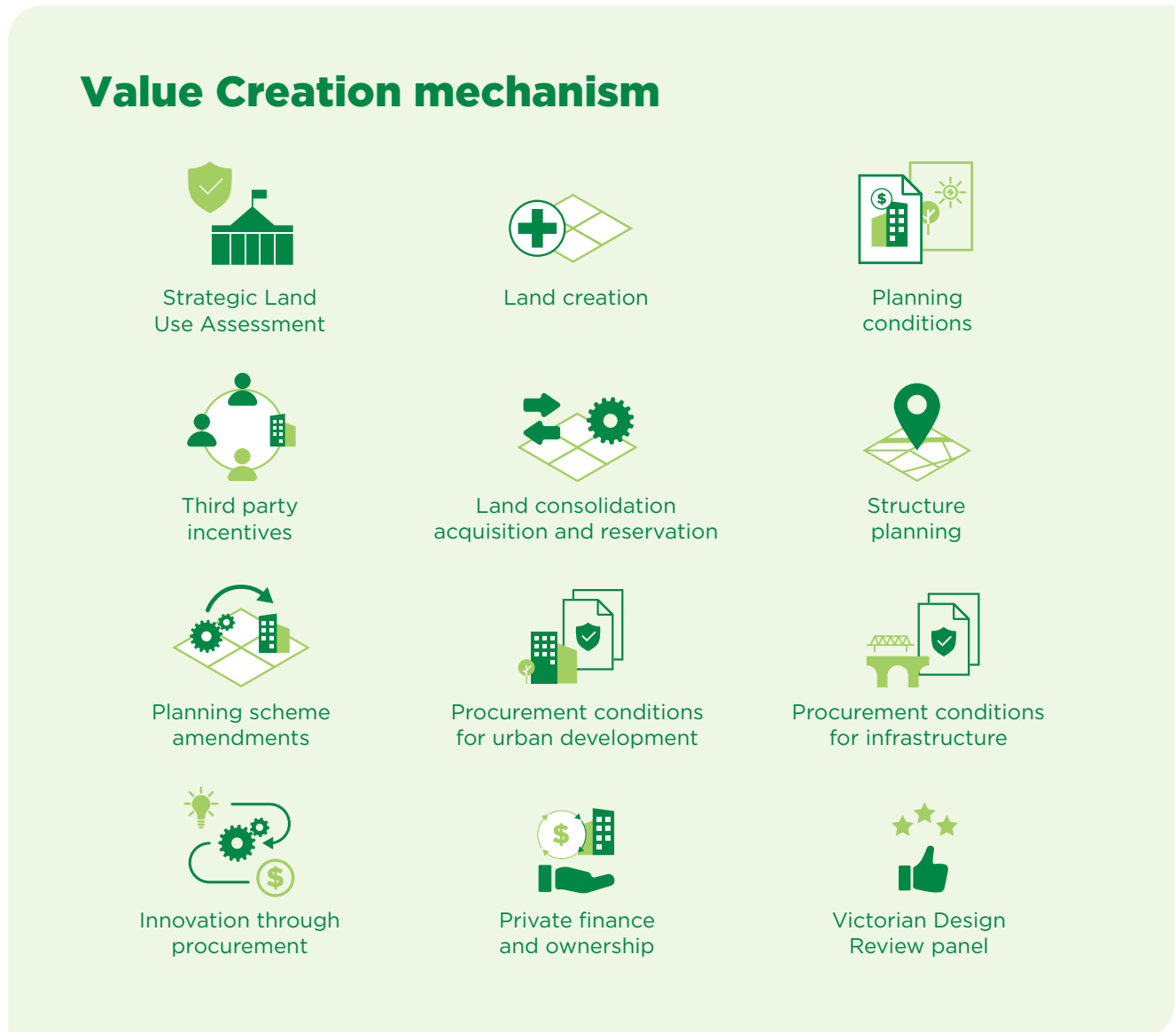
Specific value creation opportunities have been identified for each theme.

11.3 SRL value creation mechanisms

This section:

- Outlines the rationale for each value creation theme by explaining how it contributes to *Plan Melbourne* or other government policies
- Describes each of the value creation opportunities identified in a theme
- Classifies each value creation opportunity against the 12 value creation mechanisms identified in the VCC Framework (see [Figure 11-2](#))
- Provides recommendations for implementing each of the value creation opportunities.

Figure 11-2: Categories of value creation mechanisms



11.3.1 Enhanced surface transport, intermodal connectivity and accessibility

Relevant Plan Melbourne outcome

Outcome 3: Melbourne has an integrated transport system that connects people to jobs and services and goods to market

Outcome 3 of Plan Melbourne identifies the need for Melbourne to have ‘one reliable, connected transport network where services are regular and easy to use, timetables are integrated, and major interchanges work better’. Under the TIA and Movement and Place Framework 2019,³³⁴ transport network performance must be integrated and sustainable, putting transport users at the centre and focusing on outcomes that deliver choice and confidence.

SRL could be a catalyst for integrating active and public transport networks and demonstrating best practice models of intermodal connectivity.

Interchanging is a key pain point for Victorian travellers. While SRL Precincts will have access to higher frequency bus routes, many stations will have existing bus interchanges and other intermodal facilities that are not integrated with the new stations but offer the opportunity for upgrade to deliver an improved experience for passengers. Where SRL connects with existing stations there will also be opportunity to upgrade these stations and provide an enhanced interchange experience between the new stations and existing ones.

Rates of active and public transport travel to work are currently below 38 per cent in all SRL East and SRL North Precincts, with most below 30 per cent.³³⁵ While some SRL Precincts are well connected to high quality cycle corridors, none have a cycle network and cycle facilities that can cater for high volumes of cyclists accessing key activity nodes within the precinct.

SRL Precincts have the potential to be convenient and comfortable mixed use hubs where tens of thousands of people per day can access their daily needs and specialised services. While there will be some active transport initiatives included in the Core and Enabling works, there is an opportunity to extend these benefits. Research indicates that ideal distances for cycling are 3-5km, suggesting that enhancing the quality and connectivity of cycle networks beyond the SRL Precincts will facilitate greater mode shift towards active transport use. Rather than the typical approach of relying on large car parks at mixed-use suburban centres, realising this potential depends on these hubs being accessible via public and active transport throughout the day.

In addition, adopting Universal Design Principles for SRL Stations and Precincts could help boost patronage and improve community wellbeing. The following case study on the Norwegian Universal Design Action Plan demonstrates these principles.

³³⁴ DoT, 2019, *Movement and Place in Victoria*, <https://transport.vic.gov.au/our-transport-future/movement-and-place-in-victoria>

³³⁵ Australian Bureau of Statistics (ABS) 2016 Census data (SA2)

CASE STUDY

Universal Access

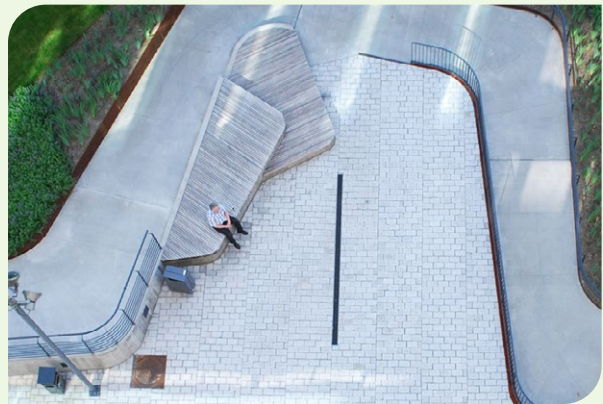
Norwegian Universal Design Action Plan & Schandorffs plass pocket park

Universal Design goes beyond baseline compliance and allows for the planning, design and operation of spaces that provide genuine dignity, equity and social inclusion. It differs from accessibility standards that specify minimum requirements by providing solutions that are accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. For example, while a ramp allows people in wheelchairs or with prams to access a building, it may not be as convenient or appealing as the entry provided for people who can use stairs.

The Norwegian Universal Design Action Plan provides practical guidance for embedding universal design principles into buildings, transport, public open space and information and communication technologies. The design of the Schandorffs plass pocket park is an exemplar of Norwegian Universal Design Principles, receiving the Norwegian Innovation Award for Universal Design. This project brought together multiple stakeholders to convert a former parking lot with limited access and useability into a park that provides a diverse range of spaces that are comfortable, accessible and safe for all users. Quality individual elements such as paving, benches and wayfinding are combined in a multi-functional and inclusive design.

The Norwegian Universal Design Action Plan provides inspiration for the design of SRL East and SRL North, which has an urban design objective to enhance universal access across the SRL Stations and Precincts.

Schandorffs plass pocket park



Source: Østengen & Bergo (via Landzine) (2010)

Value creation opportunities

OPPORTUNITY 1: Plan for integrated interchange facilities at existing stations

Background	<p>Where SRL connects with existing stations there will also be opportunity to upgrade these stations and provide an enhanced interchange experience between the new stations and existing ones. Frequent services with convenient and easy interchanges can mitigate the inconvenience of interchanging. Specific opportunities to enhance interchange facilities for SRL East include:</p> <ul style="list-style-type: none"> — Southland Station (interchange with Cheltenham SRL) – opportunity to provide a paid-paid connection and upgrades to existing rail infrastructure to allow all Frankston Line trains to stop at Southland — Glen Waverley – opportunity to provide a paid-paid connection and upgrade the existing station and bus interchange — Box Hill – opportunity to provide a paid-paid connection and upgrade the existing station and bus interchange. — Each of the above presents opportunities to enhance precinct development and further improve amenity in the centre of the precinct.
VCC Framework mechanism	<div>  <p>Land consolidation acquisition and reservation</p> </div> <div>  <p>Structure planning</p> </div> <div>  <p>Land creation</p> </div>
Options	<ul style="list-style-type: none"> — 1.1: SRLA will work closely with DoT to consider preparing integrated plans for upgrades to existing stations that interchange with SRL East and SRL North, including to address existing and future growth pressures and accessibility issues and to consider other interchange facilities such as for buses.






OPPORTUNITY 2: Boost active transport trips beyond SRL Precincts

Background	<p>SRL provides opportunities to bring forward delivery of strategic cycling corridors beyond the SRL Precincts. This would serve people and families who live and work in the SRL Precincts, visitors to the SRL Precincts and rail users. Place-focused infrastructure development along and beyond the SRL Alignment could help boost the use of active transport and encourage a modal shift from cars to public and active transport modes.</p> <p>SRL East and SRL North could consider connectivity links and the needs of users both within the SRL Precincts and beyond.</p> <p>Examples include:</p> <ul style="list-style-type: none"> — Unlocking opportunities to integrate and bring forward delivery of strategic cycling corridors beyond the SRL Precincts, expanding the catchment of the stations and precincts — Investigating the development of linear parks through land acquisition and land development to better facilitate varying modes of traffic flow and enhance amenity — Integrating SRL East and SRL North ticketing with cycle and scooter share providers to provide mobility as a service option for public transport users. — At this stage, targeted upgrades to active transport routes within the SRL Precincts are subject to further planning and identification, including as part of developing SRL Structure Plans. Consideration of value creation opportunities to extend beyond these upgrades will require ongoing engagement with DoT and councils.
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VCC Framework mechanism	<div data-bbox="598 224 734 331"></div> <div data-bbox="497 340 829 398">Land consolidation acquisition and reservation</div> <div data-bbox="911 215 1034 331"></div> <div data-bbox="912 340 1032 398">Structure planning</div> <div data-bbox="1190 219 1326 331"></div> <div data-bbox="1107 340 1404 398">Procurement conditions for infrastructure</div> <div data-bbox="587 483 729 564"></div> <div data-bbox="577 584 748 611">Land creation</div> <div data-bbox="900 445 1034 564"></div> <div data-bbox="904 584 1032 642">Planning conditions</div> <div data-bbox="1185 445 1318 564"></div> <div data-bbox="1139 584 1372 642">Innovation through procurement</div>
Options	<ul style="list-style-type: none"> — 2.1: SRLA will work with DoT and councils to consider aligning planning for active transport to extend the benefits of SRL's targeted active transport initiatives in support of the Victorian Government's objectives of creating connected communities and increasing accessibility.

OPPORTUNITY 3: Boost intermodal connectivity by enabling light rail extensions and improved bus interchange facilities	
Background	<p>Extensions to key tram lines could enable further mode shift, helping to take more cars off the road. Extended routes can also intensify urban renewal along the tram routes and support SRL Precinct aspirations. Bus interchange enhancements could improve public transport users' experience, increase bus capacity and provide greater access to SRL East and SRL North, also helping to increase public transport patronage and reduce road congestion. Further improvements in customer service and user experience could also give patrons faster connection times when accessing employment and other activities. Potential specific opportunities include:</p> <ul style="list-style-type: none"> — Corridor preservation for future provision or extension of light rail — Integration of light rail between stations and precincts — Upgrading key existing SRL Precinct bus interchanges and bus priority corridors — Supporting the provision of high-frequency bus or tram services between key anchor institutions in the SRL Precinct and the SRL Station.
VCC Framework mechanism	<div data-bbox="587 1451 713 1570"></div> <div data-bbox="549 1588 750 1646">Strategic Land Use Assessment</div> <div data-bbox="888 1458 1046 1570"></div> <div data-bbox="865 1588 1072 1646">Planning scheme amendments</div> <div data-bbox="1209 1464 1337 1570"></div> <div data-bbox="1219 1588 1334 1646">Structure planning</div> <div data-bbox="734 1675 861 1794"></div> <div data-bbox="727 1812 865 1870">Third party incentives</div> <div data-bbox="1062 1697 1203 1794"></div> <div data-bbox="967 1812 1297 1870">Land consolidation acquisition and reservation</div>
Options	<ul style="list-style-type: none"> — 3.1: SRLA will work closely with DoT and local councils to seek to ensure planning of network enhancements and additional projects such as new/extended light rail enhance outcomes for SRL East and SRL North and are provided for in the SRL Structure Plans. — 3.2: SRLA will work with key anchor institutions and developers to seek to ensure SRL Precinct designs are future-proofed for network extensions or additional projects.

OPPORTUNITY 4: Explore Universal Design opportunities

Background	<p>SRL could seek to adopt Universal Design Principles, moving beyond baseline accessibility compliance towards the planning and design of places that provide genuine dignity, equity, social inclusion and children's independent mobility (for an example, see the case study on Norway's approach above). Universal design is an extension of the existing user-centric urban design principles and objectives, which have the needs of SRL Precinct users and 'good design' at their core.</p> <p>This could increase patronage across SRL East and SRL North and also improve productivity and wellbeing for users requiring access assistance. Doncaster and Reservoir have the highest share of users aged 65 years and over, as well as families with children, while Heidelberg and Clayton are likely to receive a greater proportion of visitors with a disability due to their healthcare focus. SRL Stations in these areas and associated precinct design are especially likely to benefit from the application of Universal Design Principles.</p>
VCC Framework mechanism	<div>  <p>Innovation through procurement</p> </div> <div>  <p>Third party incentives</p> </div> <div>  <p>Victorian Design Review panel</p> </div> <div>  <p>Procurement conditions for infrastructure</p> </div> <div>  <p>Procurement conditions for urban development</p> </div>
Options	<ul style="list-style-type: none"> — 4.1: SRLA will investigate opportunities to explore universal design approaches for station and precinct design to enable accessibility for all potential users where practical and appropriate.

OPPORTUNITY 5: Bring forward planning and investment in SRL North to amplify benefits before the opening of the rail line

Background	<p>There is an opportunity to amplify the benefits of SRL East rail operations by improving existing transport services and their connectivity between SRL North Precincts. This could include optimising existing services and timetables across SRL East and SRL North in advance of rail operations. This could particularly benefit residents and workers in SRL North Precincts. Long-term transport planning and staged transport service changes can shape future travel patterns and preferences that can be reinforced by the subsequent delivery of the SRL East and SRL North rail line. Proactive planning for SRL North can also preserve the value capture and creation opportunities of future station locations and alignment.</p>
VCC Framework mechanism	<div>  <p>Third party incentives</p> </div> <div>  <p>Structure planning</p> </div>
Options	<ul style="list-style-type: none"> — 5.1: SRLA will work closely with DoT to consider how to prepare for future network development alongside SRL East East and SRL North. — 5.2: SRLA will work closely with the Department of Environment, Land, Water and Planning (DELWP) and local councils to consider SRL North developments.

Benefits

Potential benefits associated with the value creation mechanisms identified for this theme include:

- **Integrated transport network:** Better integration between different transport modes supports good quality passenger journeys and saves travel time
- **Better public transport connectivity:** An integrated network improves Melbourne's overall public transport connectivity, helping people to move around the city
- **Shift to public transport:** Good quality and fast journeys could encourage more people to use public transport, helping to reduce road congestion and reduce emissions
- **Development integrated with place:** High quality active and public transport infrastructure sends a signal that low car developments are appropriate in this setting, creating a positive feedback loop for higher public transport use and lower road congestion – as has occurred in the Melbourne central city.

11.3.2 Sustainability and environment

Relevant *Plan Melbourne* outcomes

Outcome 4: Melbourne is a distinctive and liveable city with quality design and amenity

Outcome 6: Melbourne is a sustainable and resilient city

The *Victorian Climate Change Act 2017* establishes Victoria's goal to achieve net zero emissions by 2050. Under the Victorian Climate Change Framework, government operations and activities are expected to contribute to meeting this target.

Public transport infrastructure will play a critical role in supporting Victoria's transition to zero emissions – not only by taking cars off the road but also through the construction methods selected. Sustainability rating tools, such as the Infrastructure Sustainability Council of Australia's Rating Scheme Tool and the Green Building Council of Australia's custom Green Star Tool, have been established to ensure sustainability outcomes are delivered by major projects. Managing the emissions from SRL via energy consumption and use of materials can support Victoria to achieve its emissions targets.

Beyond the rail infrastructure, SRL Precincts will need to be adaptable and resilient to the impacts of climate change to achieve vibrant and liveable communities. Good urban design reinforced by local plans can help create places that are distinctive, sustainable and enduring in the face of climate change. *Plan Melbourne* prioritises a cooler and greener Melbourne through urban greening, improved building design and enhanced biodiversity along transport corridors and open space networks. In SRL Precincts this aspiration is echoed by many local governments. Several councils have signed up to *Living Melbourne*, a collaborative and strategic approach to connect existing greening and urban forest approaches across metropolitan Melbourne, and have set canopy cover targets ranging from 15 to 30 per cent. Integrated water cycle management can support thriving green infrastructure in SRL Precincts, both now and into the future.

The White Gum Valley development in Western Australia demonstrates best practice sustainability design elements, detailed in the following case study.

CASE STUDY

White Gum Valley, Western Australia

White Gum Valley (WGV) is a 2.29-hectare infill development, located 3km inland from Fremantle in Western Australia. The project was delivered as a demonstration project by LandCorp,ⁱ Western Australia's land development corporation. The development is expected to accommodate approximately 180 new residents and is a medium-density development with a range of building typologies, including detached housing and apartments. The amenities and attractions offered in Fremantle can easily be reached using public transport. Within walking distance is the White Gum Valley Primary School with other educational establishments nearby including Challenger TAFE Fremantle Campus and South Fremantle Senior High School.

Artist's impression of WGV



Source: DevelopmentWA

WGV's ambition is to demonstrate the best sustainable, modern and affordable design, with a focus on water saving solutions, reducing non-renewable energy use and carbon emissions, and improving the health and wellbeing of the community.ⁱⁱ

WGV's sustainability measures include a target for 60 per cent to 70 per cent reduction in mains water consumption; rebates for sustainability upgrades (including a rooftop solar PV system); water sensitive landscaping; and encouraging active travel, including an average of less than one car space per unit. Opportunities to maximise local views and accommodate climate responsive design to optimise energy savings have been built into the urban design.

WGV has received certification as a 'One Planet community', demonstrating best practice sustainability design and technology sustainability.ⁱⁱⁱ The One Planet Living (OPL) Framework provided a major driver for innovation for WGV and certification as a demonstration project by the WA Government gave developers and designers greater flexibility and assurance in proposing ambitious initiatives.

The project has contributed to social and economic outcomes by providing a diverse mix of housing types that cater to different age groups and professions, including the local artist community, with a community workshop and gallery. Utility bills are reduced, with water and energy-saving initiatives expected to save residents up to \$1,200 annually. Overall carbon emissions reductions of around 60 per cent are anticipated.^{iv v}

The effective and close collaboration between government and anchor institutions, as well as key stakeholders, was critical to achieving sustainability outcomes for WGV. The use of the OPL framework provided clarity and a common benchmark for project partners to work towards, as well as ensuring ongoing performance is measured.^{vi}

i DevelopmentWA, <https://developmentwa.com.au/projects/residential/white-gum-valley/overview>

ii DevelopmentWA, <https://developmentwa.com.au/projects/residential/white-gum-valley/overview>

iii One Planet, <https://www.oneplanetnetwork.org/initiative/one-planet-living-framework>

iv Heart Foundation, <https://www.healthylivingbydesign.com.au/case-studies/wgv>

v Curtin University, <https://news.curtin.edu.au/stories/carbon-positive-living-lab-white-gum-valley/WEB.pdf>





vi Curtin University, <https://news.curtin.edu.au/stories/carbon-positive-living-lab-white-gum-valley>

Value creation opportunities

OPPORTUNITY 6: Investigate options for low carbon building technology and materials, and mitigate construction emissions through renewable generation initiatives

Background	Reduction in total construction emissions across rail and precinct developments related to SRL could help improve liveability in SRL Precincts, mitigate impacts to the community and support the Victorian Government's net-zero emissions target. Exploring options for the use of low carbon building technology and materials, such as green concrete or laminated timber would reduce embodied energy within rail and precinct development. Other initiatives being explored by SRLA as part of the sustainability concept design for SRL East and SRL North include carbon reduction, renewable energy use and water reuse ambitions. Such initiatives would also contribute to a low-carbon economy, helping to generate new jobs, drive innovation and improve the city's liveability.
VCC Framework mechanism	 Third party incentives  Procurement conditions for urban development  Victorian Design Review panel  Innovation through procurement  Private finance and ownership
Options	<ul style="list-style-type: none"> 6.1: SRLA will work with DELWP to investigate options for investment in renewable energy generation and/or emissions offsets to support the delivery of SRL and the Victorian Government's zero emissions target.

OPPORTUNITY 7: Enhance tree canopy cover to improve climate resilience

Background	<ul style="list-style-type: none"> Urban greening can alleviate urban heat island (UHI) effects and support greater climate adaptation and resilience. Localised measures, such as deep root planting and green roofs and walls on dwellings, reduces water use and peak stormwater flow, as well as enhancing economic, social and aesthetic benefits.³³⁶ Reducing UHI effects in SRL Precincts can also be supported by blue infrastructure and using appropriate building materials. Urban greening can enhance social capital. Participants in the recent Infrastructure Victoria Density Done Well Engagement Report (2020) identified the provision of green, open space (including trees, water and gardens) as the most important consideration for a good public environment.³³⁷
VCC Framework mechanism	 Victorian Design Review panel  Procurement conditions for urban development  Innovation through procurement  Planning conditions

³³⁶ City of Melbourne, *Green Out City Strategic Action Plan 2017 – 2021*





³³⁷ Infrastructure Victoria, *30-year Strategy Engagement Report (Stage one and Stage two)*, <https://www.infrastructurevictoria.com.au/wp-content/uploads/2020/05/Density-done-well-engagement-report-FINAL.pdf>

Options	<ul style="list-style-type: none"> — 7.1: SRLA will complete further investigations into urban greening opportunities in SRL Precincts to develop and achieve a canopy cover target. This could also involve engaging with DELWP, local governments and stakeholders to collaborate on delivering aspirational canopy cover targets for cooler and greener cities. — 7.2: SRLA will work closely with specialist experts, including the Victorian Government Architect, to consider how to embed urban greening design principles into SRL East and SRL North urban design strategies.
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OPPORTUNITY 8: Adopt an integrated water cycle management strategy to support green infrastructure and enable resilient precincts




Background	<p>Water for Victoria (2017) is the water plan for Victoria and includes two specific actions that aim to increase integration of greening and water management in public spaces:</p> <ul style="list-style-type: none"> — Action 5.1: Use diverse water sources to protect public spaces — Action 5.6: Work across government for healthy and resilient urban landscapes. <p>There is an opportunity for SRL Precincts to adopt integrated water cycle management strategies, which may include storm water capture and recycled water use, to enhance security of water supply, reduce the strain on potable water infrastructure and support green infrastructure for urban cooling.</p>
VCC Framework mechanism	<div>     </div> <div> <p>Third party incentives</p> <p>Structure planning</p> <p>Planning conditions</p> <p>Procurement conditions for urban development</p> </div>
Options	<ul style="list-style-type: none"> — 8.1: SRLA will engage with DELWP, Melbourne Water, local governments and water authorities to investigate delivery of an integrated water cycle management strategy that provides security of water supply and reduces the strain on potable water infrastructure. — 8.2: SRLA will engage with DELWP, local governments and water authorities to identify potential opportunities for innovative integrated water management solutions across SRL.

OPPORTUNITY 9: Implement circular economy opportunities within SRL Precincts

Background	<p>SRL Precincts will experience substantial growth in residents, workers and visitors by 2056. It will be important to minimise waste and maximise recycling to reduce the environmental impact of the SRL Precincts and ensure they remain liveable. Adopting circular economy principles from <i>Recycling Victoria</i> (the Victorian Government’s policy and action plan) in SRL Precincts could contribute to the state-wide target to divert 80 per cent of waste from landfill and cut total waste generation by 15 per cent per capita by 2030.</p> <p>Opportunities to facilitate value creation could be realised by partnering with stakeholders and may involve:</p> <ul style="list-style-type: none"> — Using smart waste technologies to divert organic materials from landfill, improving data collection for decision making, minimising waste generation, reducing waste contamination and facilitating behaviour change — Supporting research, development and demonstration activities for the use of recycled materials — Considering opportunities for waste and recycling industries in future economic development strategies for SRL Precincts — Innovative procurement conditions that provide incentives for best practice technologies and optimise whole of life cycle approaches to waste management.
VCC Framework mechanism	<div>     </div> <div> <p>Third party incentives</p> <p>Planning conditions</p> <p>Innovation through procurement</p> <p>Structure planning</p> </div>
Options	<ul style="list-style-type: none"> — 9.1: SRLA will engage with DELWP, local governments and stakeholders to seek to develop approaches for supporting circular economy principles in SRL Precincts.

OPPORTUNITY 10: Lead the market in sustainability performance benchmark requirements for SRL East and SRL North development sites

Background	<p><i>Plan Melbourne</i> Direction 6 sets the direction for Melbourne’s transition to a low-carbon city by reducing energy demand, improving energy efficiency and increasing the share of renewable energy. The Victorian Government has set an agenda for ambitious action and leadership on climate change, including the commitment to reach net zero emissions by 2050. A key consideration in Victoria’s <i>Climate Change Adaptation Plan</i> (2017) is how government decision making on the built environment will consider the impacts of climate change and ensure communities have a safe and resilient built environment.</p> <p>There is an opportunity for SRL-led development sites to lead the market in adopting sustainability benchmarks that reduce utilities demand (energy and water) and emissions (carbon emissions) and improve operational performance. Any sustainability benchmarks adopted across the SRL Precincts would need to support the desired development outcomes in the SRL Precinct and balance broader productivity, connectivity and liveability initiatives.</p> <p>Mechanisms to achieve this outcome include planning controls and/or adopting a sustainability rating tool, such as Green Star. A sustainability rating tool could be a flexible toolkit that assists in achieving higher built form sustainability standards, but is agile enough to meet the needs of the specific development requirements at each development site, including healthcare, tertiary education and commercial developments.</p>
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VCC Framework mechanism	 Planning conditions	 Third party incentives	 Innovation through procurement
Options	— 10.1: SRLA will engage with DELWP, local government stakeholders, community and industry to explore opportunities to require suitable sustainability benchmarks on SRL East and SRL North development sites.		

Benefits

Potential benefits associated with the value creation mechanisms identified for this theme include:

- **Environmental:** Reduction in greenhouse gas emissions, creation of climate resilient precincts, improved air quality, enhanced natural habitat and biodiversity outcomes, reduced energy demand by mitigating UHI effects and carbon sequestration, storm water and flooding mitigation and reduced pollution into waterways
- **Employment:** Boost direct employment created by low carbon economy initiatives
- **SRL delivery and legacy:** Mitigation of construction emissions, promote SRL East and SRL North as a best practice example for future major projects, create a social licence to operate, promote and de-risk the market for take up of new technologies and materials and investment in new industries
- **Community and wellbeing:** Improved shade and amenity for cycling and pedestrian paths, enhanced attractiveness of the urban realm and positive impacts on individual mental and physical wellbeing.

11.3.3 Diversity of economic development

Relevant *Plan Melbourne* outcomes

Outcome 1: Melbourne is a productive city that attracts investment, supports innovation and creates jobs

Plan Melbourne Outcome 1 is that ‘Melbourne is a productive city that attracts investment, supports innovation and creates jobs’. Due to globalisation and advances in technology, the nature of economic activities and the skills needed to support them are changing, with Melbourne seeking to build a strong knowledge economy to drive future growth.

The DJPR *2019-23 Strategic Plan*³³⁸ identifies directions aimed at creating and maintaining jobs, fostering a competitive business environment and being a globally connected economy. Critical to this is targeted support for priority industry sectors that leverage Victorian strengths and assets, are globally competitive and have strong growth trajectories. While currently under review, these priority sectors are likely to include life sciences and healthcare, technology and digital business, advanced manufacturing, education (including international education) and professional services (including engineering, design and construction services). Similarly, Invest Victoria’s *International Investment Strategy* targets companies in the digital technology, advanced manufacturing, health and life sciences, agri-food and new energy sectors.³³⁹

Jobs in the technology and digital sector will be important to the continued economic strength of Victoria. Victoria is home to a number of leading Australian tech companies, including MYOB and Seek, and hosts the local offices of Zendesk and Amazon, among others. Victorian universities produce more tech graduates than any other state or territory. Victoria’s digital economy was estimated to be worth over \$50 billion in 2020.³⁴⁰ A strong technology sector also facilitates the competitiveness of other priority sectors, enabling innovation and operational efficiency, enhancing global impact and attracting investment.

The *Victorian Infrastructure Plan*³⁴¹ identifies infrastructure projects, reforms and future directions to improve digital connectivity and support the state’s growing digital economy. The plan focuses on three infrastructure priorities: improving digital access, supporting the use of digital technologies and transforming state assets.

Focusing on these priority industry sectors will maximise the economic value created by SRL.

Economic growth generated by SRL East and SRL North can be accelerated further by adopting smart cities and brand-building initiatives to attract jobs and strategic infrastructure investment to the Monash and La Trobe National Employment and Innovation Clusters (NEICs). Smart cities initiatives focus on ‘innovation-led’ employment growth, targeted in specific agglomeration areas such as NEICs.³⁴² As Victoria transitions towards knowledge and innovation economies,³⁴³ emerging smart city strategies are making growing use of digital information and communication technology. The coalescence of priority sector businesses, smart cities strategies and technologies and coordinated marketing can facilitate development of a strong brand identity. Combined with the improved accessibility and connectivity provided by SRL, this has the potential to build the reputation and role of the NEICs at a national and international level, attract new businesses and talent, and enhance Melbourne’s and Victoria’s economic competitiveness.

Targeted investment and support for businesses in priority sectors that align to local strengths and assets can facilitate a diverse range of jobs and activities. In turn, these will provide a diverse employee pool and enable sharing of technology and knowledge transfer between businesses. This could help to ensure that economic growth enabled by SRL is aligned to Victorian Government policy, maximises the value of historic investments and assets and creates high quality and future-proof jobs.

338 https://dipr.vic.gov.au/_data/assets/pdf_file/0005/1859036/DJPR-Plan-on-a-Page-2019-2023.pdf

339 Invest Victoria, *International Investment Strategy*, (March 2020)

340 Australian Computer Society and Deloitte Access Economics, *Australia’s Digital Pulse 2015*

341 Victorian Government, *Victorian Infrastructure Plan* (2017)

342 Dowling, R., Maalsen, S., Emmanuel, L. and Wolifson, P., *Affordable housing in innovation-led employment strategies*, AHURI Final Report No. 333, (2020) Australian Housing and Urban Research Institute, Melbourne

343 Innovation and Science Australia annual reports.
<https://www.industry.gov.au/data-and-publications/innovation-and-science-australia-annual-reports>

Value creation opportunities

OPPORTUNITY 11: Foster technology capability across SRL East and SRL North

Background	<p>Digital innovation and technology are enablers for better economic and social outcomes. Digital engineering of infrastructure plays a crucial role in the successful delivery of the <i>Victorian Digital Asset Strategy</i>.³⁴⁴ A key element of this strategy is using smart construction platforms and integrated, real-time data collection and analysis to understand how infrastructure assets are performing across their lifecycle, create 'digital twins' and build smart cities. This can assist in integrating planning with the design and development aspects of smart cities, including infrastructure such as smart buildings.</p> <p>Skills development is a vital component of realising Victoria's strengths in digital technologies. To provide a productive workforce that will attract leading businesses (and create pathways for good careers), SRL East and SRL North could support activities, initiatives and infrastructure that promote the development and employment of in-demand workers in the tech sector, especially in the NEICs and key education and medical precincts. This would seek to build on existing training strengths and match employer needs.</p> <p>This would involve collaboration between education providers (Monash, Deakin and La Trobe universities as well as Box Hill Institute and others) and tech industry employers.</p>
VCC Framework mechanism	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Third party incentives</p> </div> <div style="text-align: center;">  <p>Procurement conditions for urban development</p> </div> </div>
Options	<ul style="list-style-type: none"> — 11.1: Explore opportunities such as 'the internet of things' and the development of apps and tools that can be integrated with digital twins to improve user experiences of SRL East and SRL North, connect users to wider services and support collaboration and networking within and between precincts. — 11.2: SRLA will work with DJPR and Invest Victoria to investigate opportunities to leverage the improved accessibility and connectivity delivered by SRL East and SRL North to attract businesses in priority industry sectors to the NEICs or as anchor tenants in the SRL Precincts. — 11.3: Consider initiatives that will support the development of highly skilled and job-ready tech employees through consultation with local governments, DJPR, LaunchVic, education institutions, major tech employers and other relevant stakeholders.

Benefits

A number of benefits have been identified for each of the opportunities, such as:

- **Employment:** Attracting anchor tenants and new businesses, developing a tech talent strategy and improving the ability of existing businesses to network effectively could all increase local employment opportunities. Delivering future-facing jobs growth would build labour force resilience.
- **Economic development, diversity and innovation:** More resilient local economies could be created by testing new models of economic development, encouraging new ideas, enhancing economic diversity and promoting the SRL Precincts as attractive places for residential and business growth.
- **Community benefits of activation:** Social cohesion / perception of belonging, health and wellbeing impacts, attractiveness and vibrancy of diverse activity centre.

³⁴⁴ Office of Projects Victoria, *Victorian Digital Asset Strategy* (January 2020)

11.3.4 Community facilities and services

Relevant *Plan Melbourne* outcomes

Outcome 5: Melbourne is a city of inclusive, vibrant and healthy neighbourhoods

Thriving communities and people's quality of life is fundamentally linked to the liveability of a place. The realisation of *Plan Melbourne's* Outcome 5: – 'Melbourne is a city of inclusive, vibrant and healthy neighbourhoods' – is dependent on people being able to access the services they need, which requires good design. Ensuring people have access to education and health services is the cornerstone of community wellbeing. Community infrastructure also provides the platform for skills development, public participation and recreational activities. These facilities include recreational facilities, childcare facilities, open spaces and parks, aged care facilities and learning facilities.³⁴⁵

Melbourne's middle corridor has relatively good levels of population-serving infrastructure, such as schools, kindergartens, sports and recreation facilities and libraries. However, in some instances, this existing infrastructure is not fit-for-purpose or needs upgrading. There are opportunities to upgrade some of this infrastructure into multi-use facilities to better support growing populations in the SRL Precincts. This would also generate cost and service efficiencies.

Value creation opportunities

OPPORTUNITY 12: Create spaces for more civic and multi-purpose uses

Background	<p>Provision of community infrastructure should focus on the creation of flexible community spaces that allow for multi-purpose use and that can be adapted to meet the changing needs of the community over time.</p> <p>This includes considering the use of 'libraries as the living rooms of the city' and recognising that public libraries can generate significant economic and social benefits for their local communities.³⁴⁶ Sports and recreational infrastructure boosts productivity due to increased physical activity and reduced illness and provides nearly half a billion dollars in estimated benefits to the health system across Australia each year.³⁴⁷ These facilities play important social functions by bringing people together and creating a sense of belonging.</p> <p>Existing infrastructure can be leveraged by connecting, upgrading and enhancing facilities and services to provide adaptive, flexible spaces for a range of purposes and activities.</p> <p>Furthermore, there is an opportunity to engage local communities to co-design facilities that support their current and future needs, with the delivery of social infrastructure and services providing social procurement and social enterprise opportunities.</p>
VCC Framework mechanism	<div>     </div> <div> Strategic Land Use Assessment Planning conditions Land consolidation acquisition and reservation Third party incentives </div>
Options	<p>— 12.1: SRLA will engage with individual local governments and their constituents, DFFH, DET and community organisations (including health and wellbeing providers) throughout the Reference Design phases of SRL East and SRL North to consider the future needs of communities and the provision of mixed, multi-use community facilities.</p>

³⁴⁵ Community Research Connection, What makes a city liveable? (2006), <https://crrresearch.org/case-studies/case-studies-sustainable-infrastructure/land-use-planning/what-makes-a-city-liveable>

³⁴⁶ State Library Victoria and Public Libraries Victoria Network, *LIBRARIES WORK!: The socio-economic value of public libraries to Victorians* (2018) p. 8, <https://www.slv.vic.gov.au/sites/default/files/Libraries-work.pdf>

³⁴⁷ Australian Sports Commission, *The Value of Community Sport Infrastructure* (2018) p. 3, https://www.sportaus.gov.au/_data/assets/pdf_file/0009/677970/KPMG_Value_of_Community_Sport_Infrastructure_final.pdf

Benefits

Better use of community infrastructure together with appropriate housing options could deliver the following potential benefits:

- **Community:** Increased social connections and improved social cohesion could lead to a reduction in crime rates and anti-social behaviour
- **Health:** Access to community infrastructure and good design of residential developments could lead to better physical and mental health outcomes for residents
- **Wellbeing:** Improvements in liveability could improve quality of life and a sense of wellbeing for residents
- **Economic:** Greater human capital in the community could lead to increased employment opportunities and outcomes.
- **Environmental:** Increased use of sustainable transport options through improved access to community facilities and services, and reductions in energy demand through sustainable design of housing, could reduce greenhouse gas emissions.

11.3.5 Supply and diversity of housing

Relevant *Plan Melbourne* outcomes

Outcome 1: Melbourne is a productive city that attracts investment, supports innovation and creates jobs

Outcome 2: Melbourne provides housing choice in locations close to jobs and services

Outcome 5: Melbourne is a city of inclusive, vibrant and healthy neighbourhoods

Victoria is facing a significant undersupply of adequate affordable and social housing,³⁴⁸ compromising the Victorian Government's 'liveability' objectives for the wider community. As of December 2019, there were more than 44,000 applicants on the Victorian social housing waiting list.

Recognising the increasing pressure on the system, *Plan Melbourne* stipulates that the supply of affordable and social housing needs to be increased. In particular, *Plan Melbourne* identifies urban renewal precincts as an opportunity to provide more affordable and social housing. A key component of the *Homes for Victorians* strategy³⁴⁹ is renewing public housing and addressing homelessness.

The Victorian Government's Big Housing Build initiative has committed \$5.3 billion to the social and affordable housing supply pipeline for Victoria, and establishes Homes Victoria to help realise the investment. The Big Housing Build presents a significant opportunity for the increased supply of social and affordable housing in SRL Precincts, leveraging the increased connectivity, accessibility and liveability provided by SRL.

³⁴⁸ Affordable housing is housing that is appropriate for the needs of a range of very low to moderate income households, and priced (whether mortgage repayments or rent) so these households are able to meet their other essential basic living costs. Social housing is a type of rental housing that is provided and/or managed by the government (public housing) or by a not-for-profit organisation (community housing). Social housing is an overarching term that covers both public housing and community housing'. *Plan Melbourne 2017-2050*, Victorian Government

³⁴⁹ Victorian Government, *Homes for Victorians - Affordability, Access and Choice* (2017)

There is an opportunity to leverage the improved accessibility provided by SRL to increase the provision of affordable and social housing for individuals and families within residential and mixed-use development around SRL Stations and in SRL Precincts. These opportunities could indirectly support a wide range of Victorian Government initiatives such as increased investment in mental health and family violence services, programs to reduce social disadvantage and place-based reforms.

Diversity of housing supply could also help meet the changing needs of residents moving through different life stages; for example, enabling ageing residents to downsize but remain in their neighbourhood and community. New models of housing – such as 'build to rent' or 'build to rent to own' – could open up new housing choices for key workers and their families. In line with the outcomes of *Plan Melbourne*, increasing housing diversity and choice in locations close to transport, jobs and services could assist in establishing vibrant communities that suit different residents and households.

The City of Chicago developed three mixed-use library and affordable and social housing developments, demonstrating a unique approach to the co-location of community facilities.

CASE STUDY

Chicago

Multipurpose community infrastructure, including affordable housing

The City of Chicago set out in 2016 to co-locate libraries with public and affordable housing as part of a broader social inclusion policy. Following a design competition, three sites were developed to create two senior housing buildings and a mixed-income housing development, co-located with modern libraries and community hubs.

Then-Mayor of Chicago Rahm Emanuel promoted the value of public space and good design, stating that people need more than affordable apartments; healthy neighbourhoods also require things like decent transit, parks, stores, playgrounds and libraries.ⁱ

Each of the mixed-use housing and library developments were designed by top architecture and design firms, selected through a design competition sponsored by the City of Chicago's Department of Planning and Development. Locations were selected based on the need for both affordable housing and public library facilities.ⁱⁱ

All three libraries have an early learning children's playspace; a media and mentoring space for teenagers to explore digital design, music and more; and workforce development support for adults looking to learn technology and/or job skills. In addition to traditional library programs like book clubs and cultural programs, each library offers additional programs and services to meet the needs of the residents they serve.ⁱⁱⁱ

The Independence Library and Apartments combines a 1,500m² library with a 44-unit affordable apartment complex for seniors. The \$33.4 million (USD) project opened in 2019.

Independence Library and Apartments



Source: James Florio

i Kimmelman, M, *Chicago Finds a Way to Improve Public Housing: Libraries*, (15 May 2019), <https://www.nytimes.com/2019/05/15/arts/design/chicago-public-housing.html>

ii Rockett, D, *Chicago's 3 new apartment-library developments offer fresh take on mixed-use buildings*, (19 July 2019), <https://www.chicagotribune.com/real-estate/ct-affordable-housing-libraries-0728-20190719-5kwcmfycjbypirabtvtyulpia-story.html>

iii Chicago Public Library Foundation, *Mayor Emanuel, Chicago Public Library and Chicago Housing Authority Open Innovative Library Projects*, (23 January 2019), <https://www.chipublib.org/news/mayor-emanuel-chicago-public-library-and-chicago-housing-authority-open-innovative-library-projects/>

The two-story library has reading and learning areas for all age groups, as well as a large community multi-purpose room that supports public lectures, gatherings and events. The second floor of the library extends out over the covered parking to form a park-like terrace space serving as an outdoor amenity space for residents as well as occasional library use.^{iv}

The Taylor Street Apartments project is a one-story public library branch and a multi-story mixed-income residential complex, with additional community spaces at street level. There are 73 apartments above the library – 37 Chicago Housing Authority units, 29 affordable units and seven market rate units.^v

The \$34 million Northtown project provides 44 affordable apartments for low income seniors above a 1,486m² library. Of the 44 apartments, 30 are reserved for public housing residents with the remainder occupied by residents who meet age and income requirements. The development includes a roof deck, fitness room, lounge areas and laundries, as well as an impressive mural by a local artist featuring images from the neighbourhood.^{vi}

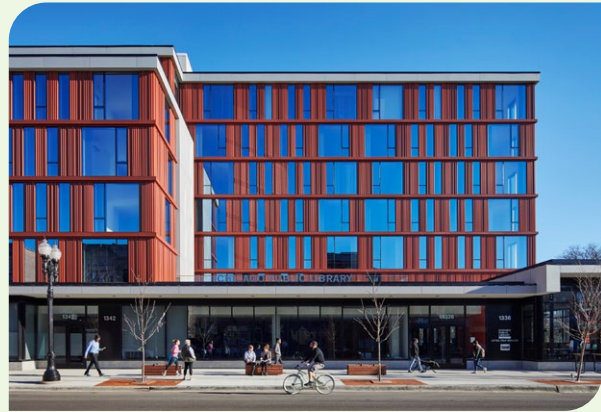
The New York Times reports that the three libraries are “already attracting a mix of toddlers, retirees, after-school teens, job-seekers, not to mention the traditional readers, nappers and borrowers of DVDs”.^{vii}

One private rental tenant in the Taylor Street Apartments believes the neighbourhood is both vibrant and quiet at the same time, and chose to live there as “it was a cool building”, close to her work and had attractive cycling and amenity facilities, like a bike room and social lounge.^{viii}

The Chicago model of co-locating affordable housing with community infrastructure (such as a library) demonstrates how accessibility and inclusivity can be improved by providing housing for low income seniors in vibrant neighbourhoods.

The libraries themselves also become new centres of inclusion and connection – providing curated programs for seniors, children, teenagers and adults, and creating a new intergenerational community hub.

Taylor Street Apartments and Little Italy Branch Library



Source: Tom Harris

iv John Ronan Architects, *Independence Library and Apartments* (2019), <https://www.archdaily.com/927467/independence-library-and-apartments-john-ronan-architects>

v Chicago Housing Authority, *Taylor Street Apartments and Little Italy Branch Library Garner National Award* (24 June 2019), <https://www.thecha.org/news-media/news/taylor-street-apartments-and-little-italy-branch-library-garner-national-award>

vi RE Journals, *Northtown Apartments, affordable senior housing co-located with a public library, welcomes first move-ins*, (29 August 2019), <https://rejourneys.com/northtown-apartments-affordable-senior-housing-co-located-with-a-public-library-welcomes-first-move-ins/>

vii Kimmelman, M., *Chicago Finds a Way to Improve Public Housing: Libraries*, (15 May 2019), <https://www.nytimes.com/2019/05/15/arts/design/chicago-public-housing.html>

viii Rockett, D., *Chicago's 3 new apartment-library developments offer fresh take on mixed-use buildings* (19 July 2019), <https://www.chicagotribune.com/real-estate/ct-affordable-housing-libraries-0728-20190719-5kwcmftfycibypirabtvtytulpia-story.html>

Value creation opportunities

OPPORTUNITY 13: Facilitate the delivery of diverse, affordable and social housing

Background

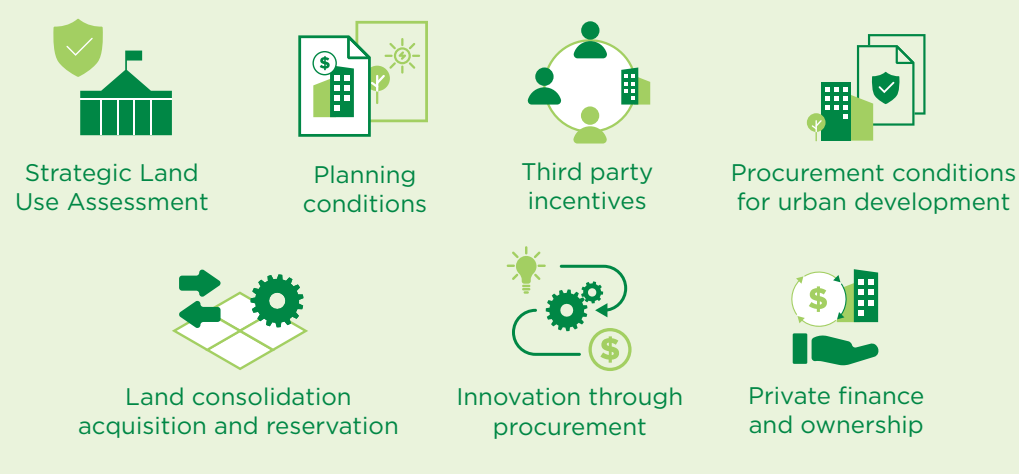
Residential developments in and around SRL Precincts, as well as over and adjacent to station development, can allow for the provision of affordable and social housing. As SRL is expected to increase development attractiveness and land value in the SRL Precincts, there is an opportunity to provide additional affordable and social housing that is accessible to employment, education and health services within the precinct – above and beyond existing government requirements.

Appropriate consideration of dwelling mix and provision of houses and apartments of different sizes can also contribute to community diversity. This avoids the concentration and clustering of disadvantage, which can compound the economic marginalisation of some communities. Dwelling diversity also helps ensure that residential developments meet the needs of changing household types and lifestyles. This allows residents to retain existing social connections and support networks when they ‘downsize’ or ‘right-size’ their dwelling. This is particularly relevant for ageing-in-place, with older residents able to move to dwellings that are more manageable both physically and financially. It also increases opportunities for first home buyers to purchase a home close to where they may have grown up.

Research has found that workforce diversity (students, creatives, service and hospitality professionals, commercial office workers, freelancers and others)³⁵⁰ supports economic productivity. Providing affordable housing – and more diverse housing options – in SRL Precincts could prevent the displacement of low-income workers and attract essential workers, helping to retain and grow associated industries.

To facilitate the delivery of affordable housing to support a diverse workforce, a range of planning conditions, funding partnerships and models could be explored with the community housing and private sectors (e.g. Housing Capital Aggregator or Social Housing Growth Fund, ground lease model).

VCC Framework mechanism



³⁵⁰ City Of Melbourne, *Draft Affordable Housing Strategy*, (2030), https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.com-participate-files/7015/8321/Q373/DRAFT_AFFORDABLE_HOUSING_STRATEGY_ATT2.PDF

Options

- 13.1: Consider allocating a proportion of land acquired for SRL East and SRL North to the development of social and affordable housing.
- 13.2: SRLA will consider partnering with Homes Victoria, DFFH, DTF, other relevant government agencies, community housing providers and the private development sector to leverage government land and/or innovative funding and financing models to increase the provision of sustainable, diverse and affordable housing in SRL Precincts.
- 13.3: SRLA will investigate opportunities to work with Homes Victoria to realise appropriate initiatives identified in the Victorian Government's Big Housing Build social and affordable housing pipeline within SRL Precincts.
- 13.4: SRLA will partner with DELWP and DTF to investigate appropriate planning and other statutory mechanisms to increase the supply of affordable housing.
- 13.5: SRLA will work closely with DELWP and other relevant government agencies to investigate the mechanisms required to achieve appropriate dwelling type, tenure and size mix.

OPPORTUNITY 14: Density 'done well' in residential developments

Background

As the density of SRL Precincts increases, their attractiveness to residents, workers and visitors will be largely derived from the design of the buildings, streets and open spaces. It is important the density is 'done well' via well-designed developments that entice people and investment, and support the liveability, connectivity and productivity of the precincts.

The Victorian Government has committed to promoting good design in high density residential developments, most notably with the implementation of the *Better Apartment Design Standards in 2017* and the draft *Better Apartments in Neighbourhoods Standards*. These standards provide tools to promote good design practices and ensure acceptable amenity and functional living spaces are provided as part of new apartment developments.

Well-designed residential developments not only contribute to improvements in the health and wellbeing of residents, including creating opportunities for increased social interaction and reducing loneliness; they can also decrease the cost of living for residents and the long-term carbon footprint of developments.

Well-designed residential development and building frontages could improve the attractiveness, activity and passive surveillance of the neighbourhood and the adjacent public realm. Good development design also contributes to achieving walkable precincts through a reduction in urban block size and the creation of new and improved shared streets and links to encourage sustainable transport choices. When designed well, the building mass and the arrangement of buildings and spaces can also contribute positively to the pedestrian experience, surrounding uses and the emerging character of the public realm.

New building design features may also become essential in high density developments following the COVID-19 pandemic. For example, this could include greater use of touchless technology (such as voice-activated lifts and automatic doors), greater use of antibacterial finishings and coatings, automatic sanitising, wider corridors, larger public areas, more access to private courtyards and terraces, and more windows that can be opened.

The pandemic has also reinforced the importance of local neighbourhoods with easy access to shops, services and community and recreation facilities. New residential developments will need to support this access, including potentially providing retail, hospitality and other services on-site.

SRL East and SRL North could play a role in advocating and supporting good design of residential developments within the precincts.

VCC Framework mechanism	<div data-bbox="571 226 699 338"></div> <div data-bbox="576 353 694 409">Structure planning</div> <div data-bbox="842 215 970 331"></div> <div data-bbox="807 353 1005 409">Strategic Land Use Assessment</div> <div data-bbox="1134 219 1294 338"></div> <div data-bbox="1114 353 1316 409">Planning scheme amendments</div> <div data-bbox="691 439 823 555"></div> <div data-bbox="695 577 823 633">Planning conditions</div> <div data-bbox="986 477 1129 555"></div> <div data-bbox="983 577 1149 607">Land creation</div>
Options	<p>— 14.1: SRLA will work with specialist experts and relevant stakeholders, including the Victorian Government Architect, DELWP and local governments, to investigate opportunities to improve residential design quality.</p>

Benefits

Potential benefits associated with the value creation opportunities include:

- **Happy and healthy communities:** Security of tenure and access to quality housing is a major driver of health status, with effects on both mental and physical health. Enabling people to have a secure home supports a person's sense of identity, security, independence and control, helping to alleviate stress levels and raise self-esteem and motivation
- **Participation in work or study:** Access to stable and appropriate housing supports individuals of all ages (including children) to participate in educational and employment opportunities, which has implications for an individual's educational attainment and financial security, as well as for social cohesion and community resilience
- **Avoided costs to government:** Stable housing not only indirectly supports a range of government policy reforms and investments; it also reduces strain on government services, including public health and justice services. Secure and appropriate housing reduces the need for government to take ongoing or crisis measures at much higher costs to assist people with urgent or priority needs
- **Economic and productivity benefits:** Affordable housing and appropriate dwelling mix can increase participation in employment and improve individual productivity, as well as promoting workforce diversity and economic productivity. Housing affordability and diversity help to attract key workers and prevent the displacement of low-income workers, and businesses are also able to enjoy ready access to labour markets and higher levels of worker retention
- **Fostering enduring communities:** By providing the diversity of housing that people need in different stages of their lives, vibrant and enduring communities can be built that accommodate a range of residents and their needs over time.
- **Maximising the Big Housing Build:** Locating social and affordable housing supply in highly accessible and services- and jobs-rich precincts will maximise the benefits created by the Victorian Government's Big Housing Build.

11.4 Next steps

The value creation opportunities and recommendations outlined in this chapter have been identified at a high level, consistent with the stage of SRL development and bespoke VCC compliance requirements.

SRLA will consider those opportunities throughout the lifecycle of program development, including the Reference Design and procurement phases and through the development of SRL Structure Plans. Opportunities requiring further development and testing will be explored and recommendations made through SRLA's governance arrangements.

Recommendation 1.1 (under Opportunity 1: Plan for integrated interchange facilities at existing stations) has been adopted and will be progressed as a priority action in step with the development of plans for SRL East rail infrastructure. SRLA will work closely with DoT to undertake further technical work to deliver upgrades to existing stations that interchange with SRL East Stations, including to address existing and future growth pressures and accessibility issues and to consider other interchange facilities such as for buses.

Some value creation opportunities may be treated as scope options during the procurement process, providing additional opportunities to test the merits of specific value creation initiatives. Other opportunities will require partnerships across government, the private sector and local communities to realise these opportunities over time.

As SRL matures, the scope of value creation opportunities will be defined more clearly. As a result, these and other additional opportunities may be identified, prioritised and implemented, while others could be deprioritised or discounted. Some opportunities may be investigated by SRLA and raised with the relevant Victorian Government agencies for them to pursue further or they may be facilitated by current and emerging SRL partners.

12 Overall evaluation: SRL East and SRL North

Chapter summary

- This chapter provides a summary of key economic findings and appraisal results for SRL East and SRL North. The detailed SRL East and SRL North economic appraisal is provided in Appendix C.2: Suburban Rail Loop Economic Appraisal Report.
- The economic appraisal has assessed and compared incremental costs and benefits of two Program Cases relative to the Base Case:
 - **Program Case A:** Comprises the proposed SRL East and SRL North rail along with precinct initiatives, with completion scheduled for 2053
 - **Program Case B:** Rail and precinct initiatives as per Program Case A, with completion scheduled for 2043.
- The economic appraisal demonstrates that at 4 per cent discount rate both Program Case Option A and Program Case Option B are economically viable:
 - Program Case Option A has a net present value (NPV) ranging between \$3.0 billion and \$22.9 billion and a benefit-cost ratio (BCR) ranging between 1.1 and 1.7
 - Program Case Option B has an NPV ranging between \$2.4 billion and \$25.2 billion and a BCR ranging between 1.0 and 1.7.
- The construction and delivery of SRL East will directly support up to 8,000 jobs, while SRL North will directly support 5,100 jobs.³⁵¹ Economy-wide modelling demonstrates that Program Case Option A will create 3,900 additional jobs (net) across Victoria at the peak of construction. Across Australia, approximately 4,100 additional jobs (net) are expected to be generated at the peak of construction. For Program Case Option B, SRL East and SRL North will create 5,200 additional jobs (net) across Victoria and 5,300 additional jobs (net) across Australia at the peak of construction.³⁵²
- The construction and operation of SRL East and SRL North is expected to increase Victoria's Gross State Product (GSP) by approximately \$50.8 billion and \$58.7 billion in present value terms using a 4 per cent discount rate for Program Case A and Program Case B respectively. Overall, Australia's Gross Domestic Product (GDP) will be higher by \$49.3 billion and \$58.0 billion in present value terms for Program Case A and Program Case B respectively.³⁵³
- The economic contribution of the investment has also been assessed by analysing the return on investment, as measured through the change in economic output relative to the funding cost of the investment. The analysis shows that the Victorian economy, as measured by change in GSP, will be better off by between 5.0 and 4.7 times the cost of investment (after allowing for borrowing cost) for Program Case Option A and Program Case Option B respectively. Similarly, the Australian economy, as measured by the change in GDP, will be better off by 2.7 and 2.6 times the cost of investment for Program Case Option A and Program Case Option B respectively.

³⁵¹ SRLA estimates

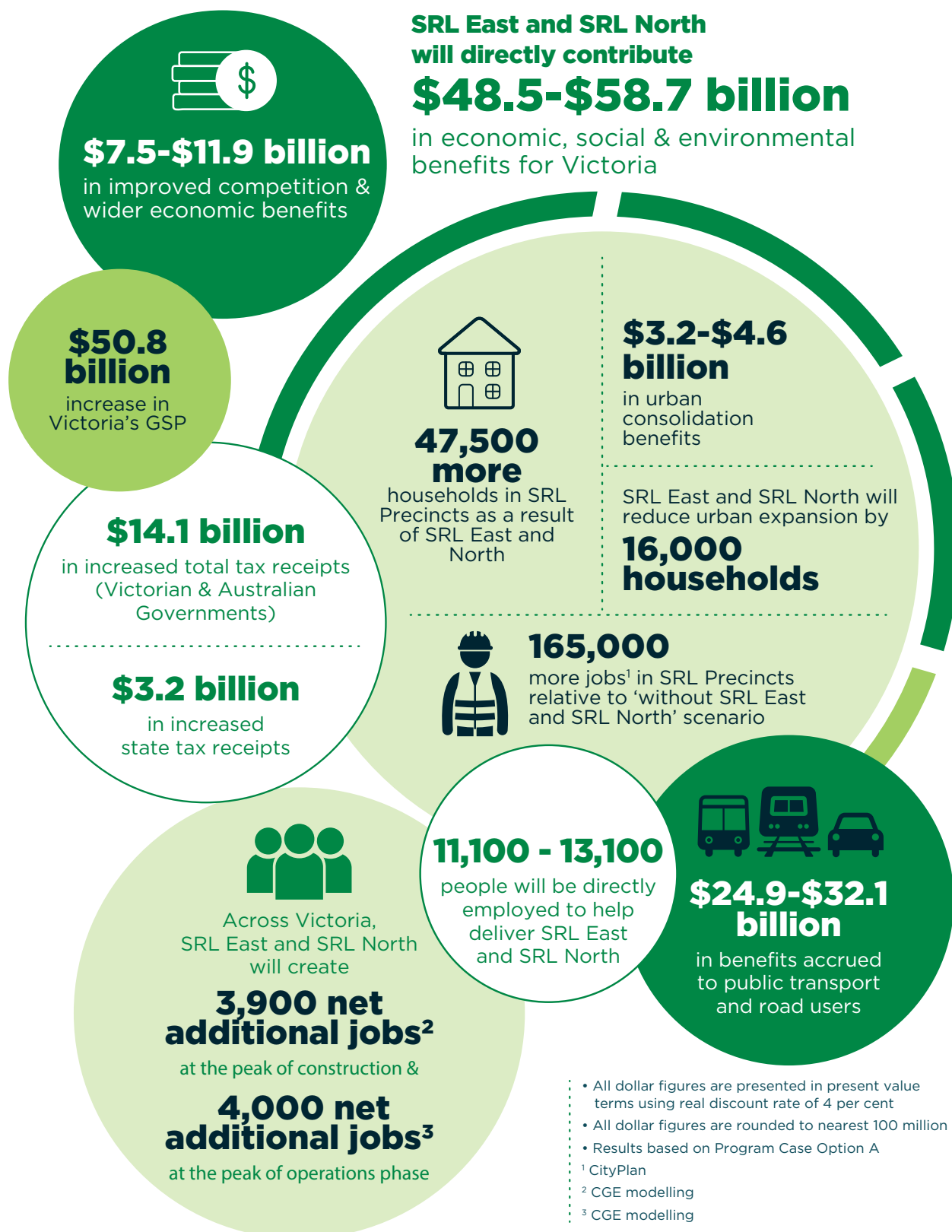
³⁵² CGE modelling

³⁵³ The analysis assumes that the investment is borrowed and split one third Victorian Government, one third Australian Government and the balance is from the private sector via implementation of value capture mechanisms.

12.1 Key results

SRL East and SRL North will provide a wide range of significant benefits – for individuals, communities and for the Victorian and Australian economies. Key results for Program Case Option A are summarised in Figure 12-1.

Figure 12-1: Economic benefits of SRL East and SRL North, 2056 (Program Case Option A)



Source: Suburban Rail Loop Economic Appraisal Report (2020)

The economic appraisal for SRL East and SRL North demonstrates that both Program Case Option A and Program Case Option B are economically viable, as shown in [Figure 12-2](#) and [Figure 12-3](#) below.

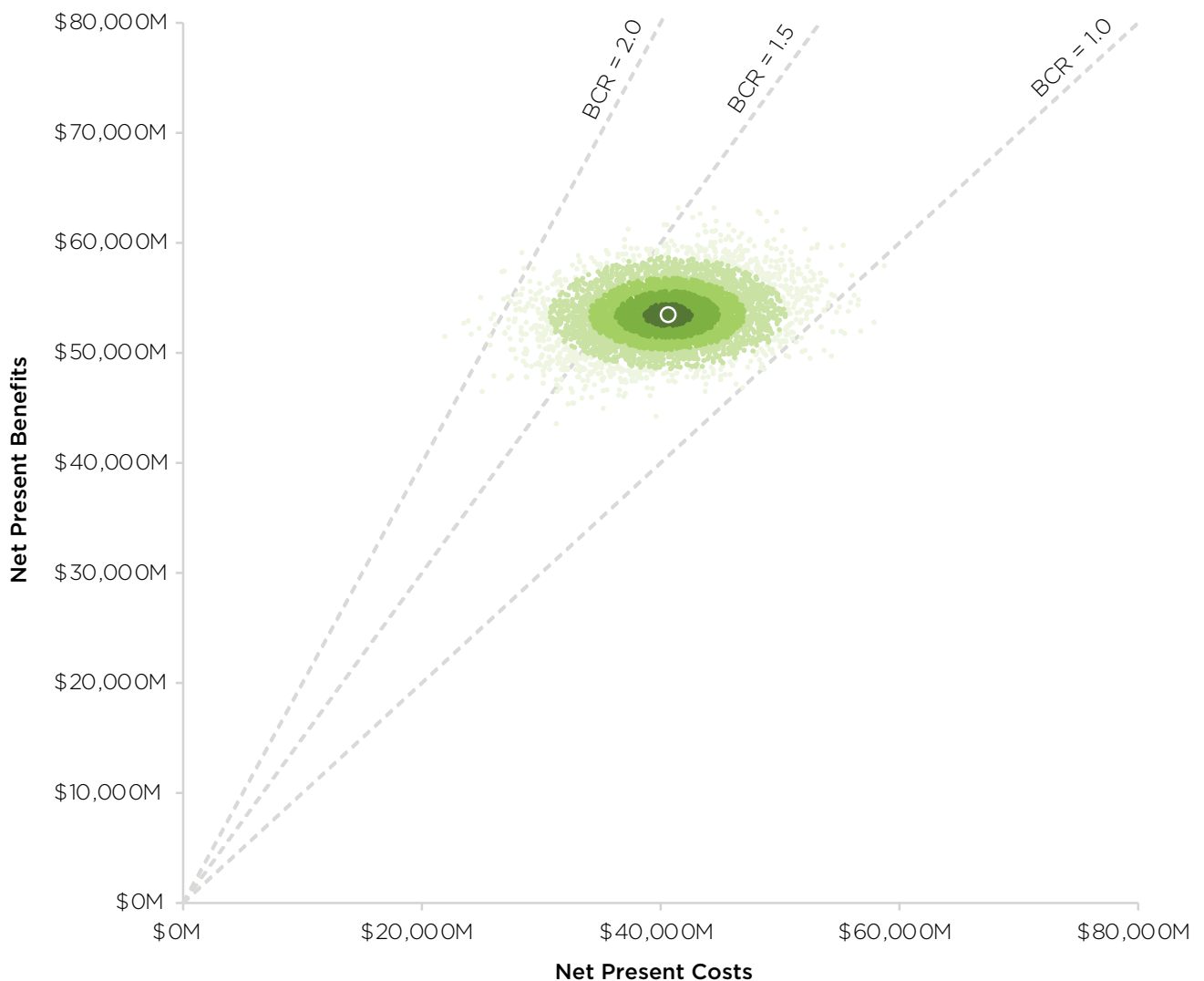
In particular:

- Program Case Option A has an NPV ranging between \$3.0 billion and \$22.9 billion and a BCR ranging between 1.1 and 1.7
- Program Case Option B has an NPV ranging between \$2.4 billion and \$25.2 billion and a BCR ranging between 1.0 and 1.7.

Benefit-cost ratio

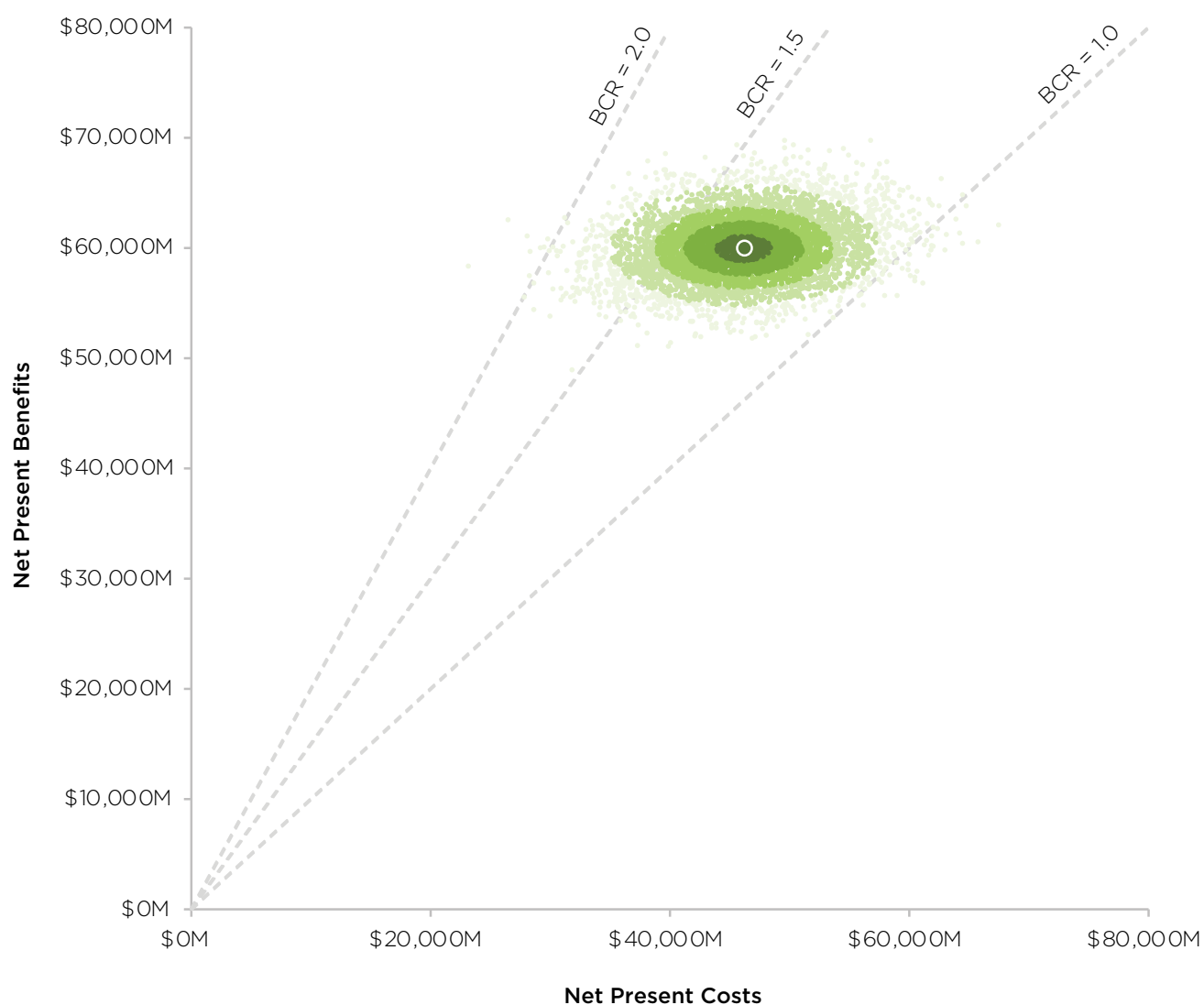
Benefit-cost ratio (BCR) is a ratio of an investment's benefits, expressed in monetary terms, relative to its costs, also expressed in monetary terms. This metric is intended to summarise the overall value for money of a project or proposal.

Figure 12-2: Monte Carlo simulation results – Program Case Option A



Source: KPMG analysis

Figure 12-3: Monte Carlo simulation results – Program Case Option B



Source: KPMG analysis

The full suite of economic results for both Program Cases Option A and Option B are outlined throughout the remainder of this chapter and summarised in section 12.5. The detailed SRL East and SRL North economic appraisal that underpins this chapter is provided in Appendix C.2: Suburban Rail Loop Economic Appraisal Report.

Selecting an appropriate discount rate for appraising multi-generational, transformative projects

For some time, there has been growing local and global support for fit-for-purpose discount rates for multi-generational projects. For example, research from the Grattan Institute noted that longer-term projects should require lower discount rates that vary to reflect the current risk free rate and the sensitivity of the project's expected returns to the economy.ⁱ

In recent years, fit-for-purpose discount rates have been applied on a number of major infrastructure project appraisals, such as:

- In the UK, London's Crossrail project,ⁱⁱ High Speed Rail 1ⁱⁱⁱ and High Speed Rail 2^{iv} - these projects were assessed over a 60-year period using a discount rate of 3.5 per cent for the first 30 years and 3 per cent thereafter to reflect the impacts on future generations
- Grand Paris Express, a large scale automated metropolitan orbital transport and urban regeneration project under construction in Paris and greater Ile-de-France – this was assessed using a discount rate of 4 per cent to demonstrate the rate of return required for public projects in France^v
- For Inland Rail, an expansive multi-generational rail infrastructure initiative, the Australian Government and Australian Rail Track Corporation applied and reported against a discount rate of 4 per cent as part of the project's economic appraisal.

Using a discount rate for multi-generational investments – such as SRL East and SRL North – in line with standard investment guidance results in latter year benefits (and equally costs) being discounted to near zero. For example, the equivalent of \$1 in undiscounted economic benefit in 2053, the year when SRL East and SRL North are planned to be fully delivered and operational under Option A and the first year when the full project benefits are realised, would be valued at just 12 cents in present value terms if a discount rate of 7 per cent was applied.

Accordingly, the economic assessment of SRL East and SRL North has considered and selected a discount rate that:

- Better reflects the intended outcomes of the multi-generational SRL investment
- Is more in-line with low risk-free rates over the last decade and more, as well as the current global economic environment
- Is consistent with global and local practice for appraising long term, multi-generational investments.

i M Terrill and H Batrouney, *Unfreezing discount rates: transport infrastructure for tomorrow*, Grattan Institute (2018)

ii Transport for London, *Crossrail business case summary report* (July 2010)

iii London & Continental Railways, *Economic Impact of High Speed 1* (2019)

iv UK Department for Transport, *High Speed 2 Phase One – Full Business Case* (2020)

v International Transport Forum, *Strategic Investment Packages – Case-Specific Policy Analysis* (2018)

12.2 Overview of the approach to economic evaluation

12.2.1 Evaluating SRL East and SRL North

SRL is not a standard transport project. It is a multi-generational, transformative, city- and state-shaping program of investment. It will take time to deliver but its benefits are significant and long lasting. With an integrated approach to transport and land use planning, SRL will deliver a wide array of benefits, beyond just improved transport connections.

These benefits will manifest over differing time horizons – in the near term, where an infrastructure need is present, and in the longer term, where proactive investment in infrastructure can both anticipate an infrastructure need and propel growth and economic outcomes for Melbourne and Victoria. As SRL East and SRL North deliver an integrated land use and transport solution, the benefits generated are intrinsically linked to both the enhanced transport connections and the precinct development initiatives. As such, the economic benefits are assessed by taking both elements of the program into account and appraising SRL East and SRL North accordingly as a complete program of investment. Sequencing will enable a practical delivery approach, and is incorporated in the assessment in terms of the timing of benefits realisation.

The economic appraisal of SRL East and SRL North builds on the lessons learnt from past transformative, multi-generational projects and the established guidelines for assessing major projects such as those from the Victorian Department of Treasury and Finance (DTF), Department of Transport (DoT), Australian Transport Assessment and Planning (ATAP) Guidelines, Austroads and Infrastructure Australia.

Key differences between SRL East and SRL North and more traditional transport projects are outlined in [Table 12-1](#) below.

Table 12-1: SRL East and SRL North are not standard transport projects

Key area	Description
Geography	The geographic footprint of the combined SRL East and SRL North is significant and will create benefits for multiple metropolitan regions. SRL East and SRL North extend through Melbourne's middle suburbs from Cheltenham in the south east, through Box Hill and on to Melbourne Airport. An entirely new rail line will be developed, connecting Melbourne's middle suburbs to priority growth precincts, and linking all Victorians to major health, education and employment centres.
Scope	In addition to the rail line, SRL East and SRL North include development of a ring of urban precincts along the alignment. Precinct initiatives include changes to planning controls, over-station development (OSD) / adjacent-to-station development (ASD), new open spaces or streetscape improvements, and other place making initiatives. This program of works will profoundly reshape Melbourne's urban form.
Time horizon	SRL East and SRL North are investments made now to benefit future Victorians for many decades to come. While transport economic evaluations typically consider a 30-year appraisal period, the full benefits of SRL East and SRL North will not start to be realised until well into the middle of this century and will continue to provide benefits well into next century. In particular, the intention of SRL to reshape Melbourne's urban form will play out over multiple decades.

CASE STUDY

City Loop

Assessing the City Loop using conventional economic appraisalⁱ

Progressively opened between 1981 and 1985, Melbourne's City Loop was a city-shaping infrastructure project that transformed the central city and laid the foundation for the vibrant CBD of Melbourne today. It delivered a range of benefits to Melbourne over different time horizons and therefore serves as a useful illustration of a multi-generational, city-shaping, transformative infrastructure investment.

Analysis has been undertaken to apply contemporary and conventional economic evaluation guidelines to the City Loop project. Rather than undertaking an 'ex-post evaluation' – which is completed at the time of a project's completion with the information available to date – this analysis applies contemporary and conventional economic evaluation guidelines to assess the City Loop as it would have been understood at the time of investment decision making.

To undertake this analysis, the following were replicated to match their state at the time of construction of the City Loop:

- State of the economy
- Demographics
- Transport network.

The assumptions and parameters used in the analysis are consistent with relevant transport economic evaluation guidelines.

The results of the economic analysis of the City Loop at the time of investment decision making are summarised in [Table 12-2](#).

**Table 12-2: City Loop economic appraisal results
(7 per cent discount rate, 1972 price and discount year)**

Discounted costs and benefits	7 per cent discount rate
Conventional Benefits	
PT benefit	\$1,338 M
<i>Perceived PT user benefits</i>	\$1,007 M
Farebox RCC	\$331 M
Road benefit	\$840 M
<i>Perceived Road user benefits</i>	\$381 M
<i>Vehicle operating cost, parking and toll RCCs</i>	\$459 M
Externalities	\$566 M
Residual value	\$60 M
Total conventional benefit	\$2,805 M
Total cost	\$4,382 M
NPV	-\$1,577 M
BCR	0.6

ⁱ Case study prepared based on analysis undertaken by KPMG.

Note: The sum of the individual benefits is not exactly equal to the total benefit due to rounding. This difference is immaterial

Key insights from the City Loop economic appraisal include:

- At a 7 per cent discount rate and using a conventional economic appraisal method, the City Loop had a BCR of 0.6
- The BCR of 0.6 is likely to be overestimated (compared to if the appraisal was undertaken in the 1970s) – this is due to the higher demographic assumptions used based on observed actual population and employment growth
- Rail patronage growth in the past 20 years has been above the projections made in the 1980s.

This indicates that the City Loop may have not been considered a viable project and Melbourne would not be the city that it is today. This analysis illustrates that for multi-generational, city-shaping and transformative projects, it is appropriate to apply urban form and land use related benefits – including land use impact modelling, Urban Consolidation Benefits (UCBs) and Wider Economic Benefits (WEBs) – within the assessment.

In addition, using a discount rate that is appropriate for a transformative and multi-generational project is important for assessing city-shaping projects such as the City Loop.

Discount rate

The discount rate is the percentage rate at which future values are reduced to bring them into line with today's values. This is done to compare the costs and benefits of a project over time.

The following table outlines key elements of the SRL East and SRL North economic evaluation framework and the rationale for enhancing the standard economic evaluation approach.

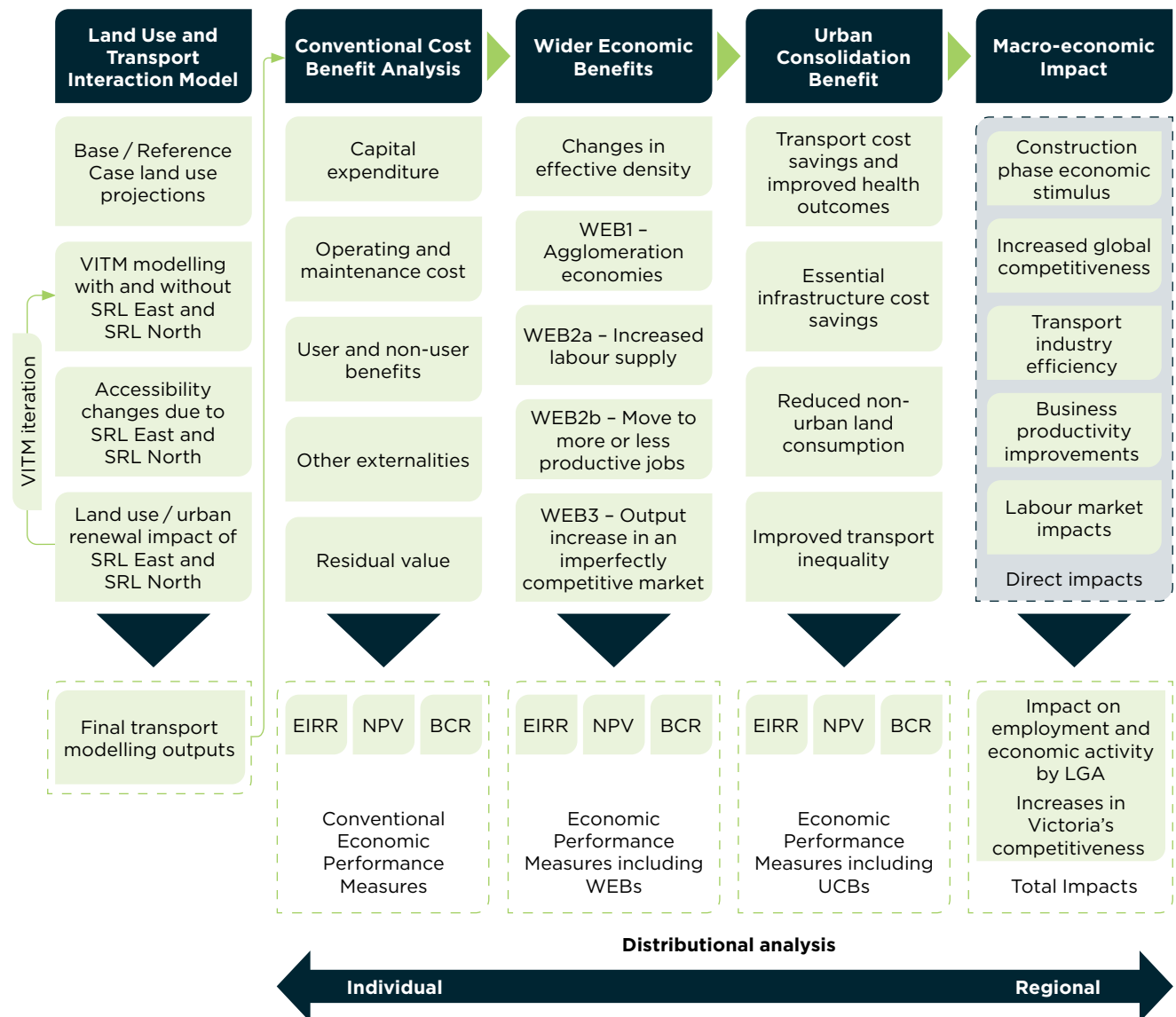
Table 12-3: Key elements of the economic evaluation framework for SRL East and SRL North

Framework element	Key features of the standard approach	The case for enhancing the approach for SRL East and SRL North	What the SRL East and SRL North approach includes
Accessibility benefits from land use change	Within the conventional transport CBA approach, land use assumptions are typically held constant between the Project and Base Cases and no allowance is made to capture land use changes.	A key objective of SRL is to transform land use and urban settlement patterns across Melbourne. It is intended to shift Melbourne away from its current monocentric structure to a more balanced, polycentric city of multiple employment and population centres outside the CBD.	Integrated transport and land use modelling undertaken using CityPlan model.
Intergenerational equity and social welfare	<p>Standard approaches require future costs and benefits to be discounted at a real rate of 7 per cent, with limited consideration of the timeframes of these future cash flows.</p> <p>Furthermore, standard economic evaluation metrics measured and reported within the conventional approach (e.g. net present value, benefit cost ratio) compare total project costs to total project benefits. How these costs and benefits are distributed across different cohorts within society is sometimes a secondary consideration.</p>	<p>SRL intended to benefit Victorians for generations to come. Application of the standard 7 per cent discount rate would render almost worthless many of the benefits enjoyed by the intended beneficiaries of SRL East and SRL North.</p> <p>SRL also intended to improve social equity across Melbourne, improving accessibility for many vulnerable residents. The particular value of SRL East and SRL North to these individuals would not be reflected in standard economic evaluation metrics.</p>	<p>Analysis of the geographic and social distribution of SRL East and SRL North impacts, including through the use of the Melbourne Activity and Agent Based Model (MABM).</p> <p>Quantification of accessibility benefits received by socially excluded people.</p> <p>Application of a discount rate of 4 per cent.</p>

Framework element	Key features of the standard approach	The case for enhancing the approach for SRL East and SRL North	What the SRL East and SRL North approach includes
Full scope of SRL East and SRL North benefits	A conventional transport economic appraisal focuses on transport-specific benefits with additional benefits typically treated as sensitivities. Accordingly, benefits arising from precinct development and WEBs and UCBs are reported separately and are not captured within the headline BCR.	Benefits associated with precinct development, improved community wellbeing, WEBs and UCBs are each core benefits realised by SRL East and SRL North. The evaluation framework must regard these as highly as conventional transport benefits, even if this means including them in the core benefits using a range to reflect uncertainty in the underlying benefit estimation methodologies.	Inclusion of WEBs and UCBs.
Treatment of enabling infrastructure investments – a programmatic approach	Conventional transport CBA typically involves an assessment of the costs and benefits associated with an individual investment. Where an initial investment enables subsequent investments, the BCR does not take into account the benefits that the subsequent investments generate. This means the benefits for an initial ‘enabling investment’ made as part of a long-term program of works can be significantly understated.	Delivery of SRL East and SRL North will be sequenced over multiple decades. This series of investments should be appraised programmatically. Failure to consider SRL East and SRL North as a combined ‘program of works’ will skew the appraisal of each section. For example, the initial SRL East investments include certain ‘start up’ costs that subsidise subsequent investments where more of the benefits are realised (from network wide impacts as well as cost efficiencies). With this in mind, the full program of works across SRL East and SRL North will be appraised.	The economic appraisal takes a holistic approach, considering a broad range of costs and benefits. A programmatic approach to economic appraisal has been implemented.
Appraisal result	Conventional transport project appraisals focus on one headline BCR.	Compared to typical transport projects, SRL East and SRL North comprise a long-term program of works that will be sequenced over the coming decades. This longer timeframe means that there is a greater level of uncertainty involved in evaluating the impacts of SRL East and SRL North.	Use of scenario based analysis. Uncertainty testing, including in relation to technology (such as autonomous vehicles) and policy change. Reporting of BCR and NPV as a range.

Figure 12-4 illustrates the holistic approach that guides the assessment of SRL East and SRL North and notes how transport initiatives as well as broad land use change and economy-wide productivity, environmental and social benefits have been evaluated.

Figure 12-4: SRL East and SRL North economic appraisal framework



These key benefits have been quantified based on relevant Victorian and Australian transport project economic evaluation guidelines and, where appropriate, methodologies developed based on international literature and adapted for SRL East and SRL North, as appropriate. Specific approaches to quantify SRL East and SRL North benefits are discussed further in Appendix C.2: Suburban Rail Loop Economic Appraisal Report.

Distributional, equity and spatial analysis has also been undertaken to determine how these benefits are distributed geographically and across socioeconomic cohorts.

Economic costs of SRL East and SRL North

The economic evaluation considers the economic costs of SRL East and SRL North and their component initiatives. These reflect the incremental cost changes resulting from the initiatives relative to the 'Base Case' (that is, Melbourne without SRL East and SRL North) and include capital costs and operating and maintenance costs (including renewals).

Further details on economic costs are provided in Appendix C.2: Suburban Rail Loop Economic Appraisal Report.

12.3 Scenarios assessed

This economic evaluation has assessed and compared incremental costs and benefits of two Program Cases relative to the Base Case. As SRL North is still in early planning stages and consequently delivery timelines are yet to be confirmed, two different dates for the commencement of services have been used to define the Program Cases.

Program Cases consider both the rail and select precinct initiatives of SRL East and SRL North:

- **Program Case Option A:** Proposed SRL East and SRL North rail along with select precinct initiatives, with completion scheduled for 2053
- **Program Case Option B:** Rail and precinct initiatives as per Program Case A, with completion scheduled for 2043.

12.4 Scenario definitions

12.4.1 Economic Base Case

The Base Case is the reference point for the economic analysis and considers future transport network assumptions and land use projections consistent with the DoT Reference Case approach.³⁵⁴

The Reference Case transport network includes committed projects in addition to an agreed set of assumed projects, including arterial road upgrades, rail service upgrades, motorway improvements, tram and bus upgrades and service levels to supply a reasonable capacity that is supportive of the future demand associated with the Reference Case land use.

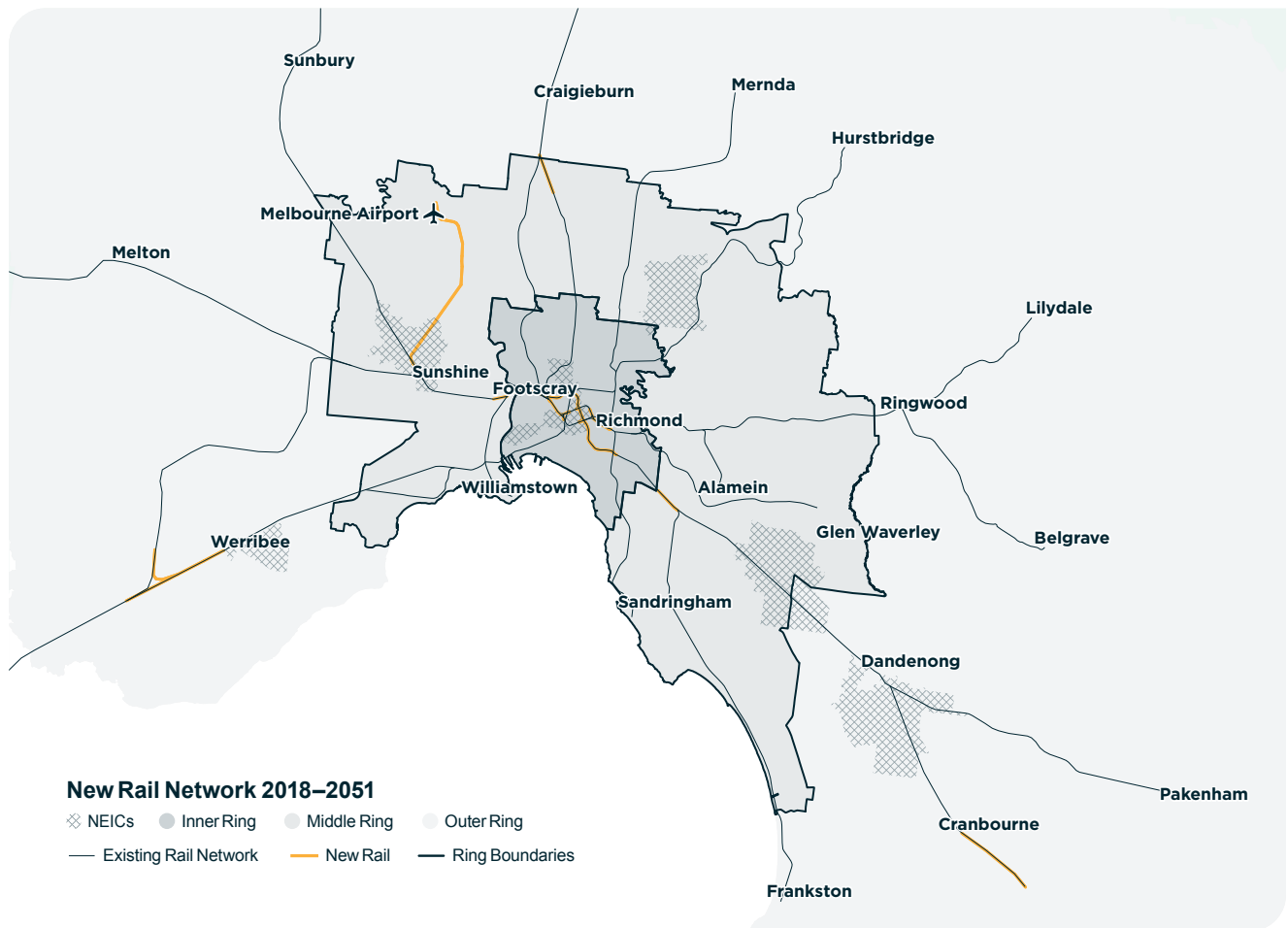
The Economic Base Case excludes the Program Case or other Enabled Investments that are dependent on the Program Case being in place. As such, the Base Case for this appraisal:

- Reflects the scenario without costs or benefits associated with SRL East and SRL North
- Includes land use assumptions similar to the Reference Case, but without SRL East and SRL North investments
- Uses Small Area Land Use Projections (SALUP) 2019 as developed by DoT and provides a projection of population and employment distribution across Victoria for a network without SRL East and SRL North.

³⁵⁴ DoT, *The standard approach to transport modelling and economic evaluation in Victoria, 2019-20 v 4.0* (2019)

The Base Case rail network configuration is presented in [Figure 12-5](#) with the changes over time representing the assumed upgrades to the rail networks. Beyond 2051 (e.g. for 2056 modelled scenarios), the Base Case rail network is assumed to be consistent with the 2051 network.

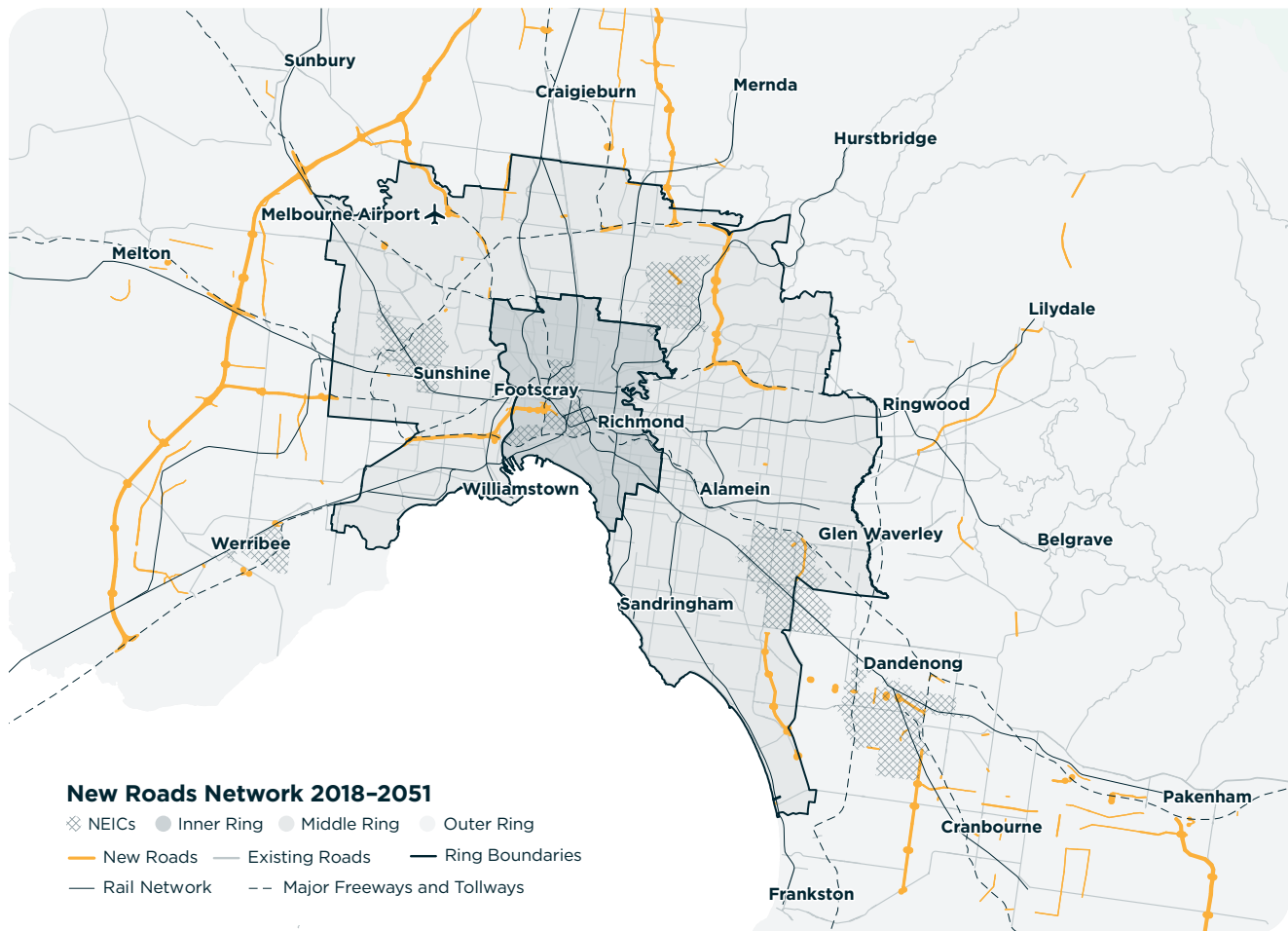
Figure 12-5: Base Case rail network changes, 2018-2051



Source: DoT Reference Case

The Base Case road network configuration is presented in [Figure 12-6](#) with changes over time representing the assumed upgrades to the road networks. Beyond 2051 (e.g. for 2056 modelled scenarios), the Base Case road network is assumed to be consistent with the 2051 network.

Figure 12-6: Base Case road network changes, 2018-2051



Source: DoT Reference Case

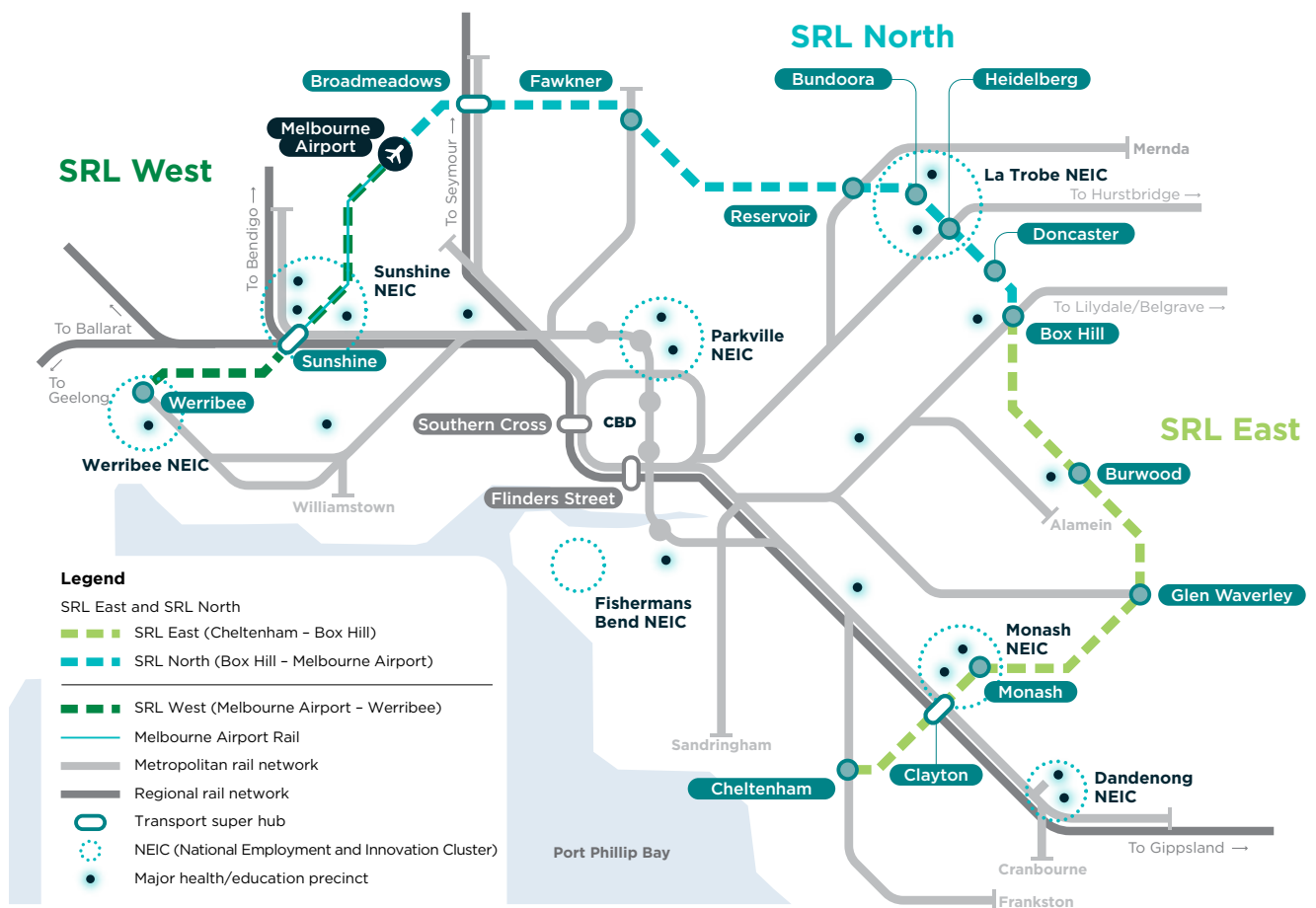
12.4.2 Program cases

As noted above, because SRL North is still in early planning stages and consequently delivery timelines are yet to be confirmed, two different dates for the commencement of services have been used to define the Program Cases.

Economic evaluation of the Program Cases includes initiatives that form part of the SRL East and SRL North scope of works.³⁵⁵ The network with SRL East and SRL North is shown in [Figure 12-7](#).

³⁵⁵ The detailed scope of works assessed by the economic appraisal is described in section 5.4.4. Economic appraisal inputs account for both SRL East and SRL North.

Figure 12-7: SRL East and SRL North network



Source: Suburban Rail Loop Authority (SRLA)

The Program Cases consider both the rail and precinct initiatives:

- Rail – proposed SRL East and SRL North rail lines and the associated change to planning controls or any surface access
- Precinct initiatives – includes an indicative package of works to derive value from the transport investment, including planning settings, station development, catalyst projects and broader infrastructure

Alongside the significant investment in rail infrastructure, a range of precinct initiatives will be delivered as follows:

- Planning settings – developing structure plans to guide land use, built form, local access and public spaces needed to support changing community needs
- Station development – provision of over-station and adjacent-to-station development to capitalise on the opportunity to leverage land for additional commercial, residential and community infrastructure
- Catalyst projects – focal investments in transport interchanges, civic infrastructure and commercial developments that shape thriving communities and leverage Victoria's competitive strengths
- Broader infrastructure – coordinating the delivery of community facilities and services to enhance the liveability, productivity and connectivity of precincts for current and future generations.

The two Program Case Options considered for SRL East and SRL North follow a sequenced approach:

Program Case Option A

- SRL East (Cheltenham – Box Hill) from 2035
- SRL North (Box Hill – Melbourne Airport) from 2053³⁵⁶

Program Case Option B

- SRL East (Cheltenham – Box Hill) from 2035
- SRL North (Box Hill – Melbourne Airport) from 2043³⁵⁷

Modelling of Program Cases was undertaken with land use changes.

12.4.3 Key inputs and assumptions

Key inputs to the economic appraisal include:

- **Capital costs** – all capital costs (for transport and precinct initiatives) incurred during planning, construction, delivery and commissioning of the infrastructure including rolling stock necessary to deliver the Program Cases. Capital costs include an inherent and contingent risk allowance and consider real escalation. For the purposes of this analysis, capital cost estimates have been developed in real (2020 dollar) terms
- **Operating and maintenance costs** – all necessary incremental costs to the Base Case to operate and maintain SRL East and SRL North assets over the economic evaluation period. For the purposes of this analysis, operating and maintenance costs have also been estimated in real (2020 dollar) terms³⁵⁸
- **Demand analysis** – outputs from the Victorian Integrated Transport Model (VITM) for the Base Case and Program Cases for the years 2031, 2036, 2041, 2046, 2051 and 2056. For each scenario and model year, outputs are provided for four time periods across an average weekday from which benefits (including travel time savings, vehicle operating cost savings, crash cost savings and environmental externality savings) are calculated
- **Unit rates** – for each of the benefits calculated from the modelling outputs. Unit rates for conventional benefits and WEBs are drawn primarily from the Australian Transport Assessment and Planning Guidelines (ATAP 2018), with additional sources identified for further benefit categories such as social equity, precinct benefits, UCBs and WEBs
- **Applicable evaluation parameters** – these are provided in [Table 12-4](#).

Externality

An externality is a cost or benefit caused by the activity of an economic agent that is not incurred or received by that agent. Examples include greenhouse gas emissions or vehicle crash cost savings.

³⁵⁶ For the purposes of modelling, a sequenced approach to SRL North has been considered with Box Hill to Reservoir opening in 2043 and Reservoir to Melbourne Airport opening in 2053. Whilst SRL North has been sequenced for modelling purposes, the procurement of SRL North will be subject to additional analysis and future packaging and procurement decisions will be made at the appropriate time.

³⁵⁷ For the purposes of modelling, a sequenced approach to SRL North has been considered with Box Hill to Reservoir opening in 2038 and Reservoir to Melbourne Airport opening in 2043. Whilst SRL North has been sequenced for modelling purposes, the procurement of SRL North will be subject to additional analysis and future packaging and procurement decisions will be made at the appropriate time.

³⁵⁸ The economic capital cost used within the CBA differs from the financial capital cost. It is adjusted from the financial cost to account for contingency, sunk costs, profit margins, real escalation, taxes, levies, stamp duties and council rates.

Table 12-4: Key input parameters

Parameter	Value	Description
Discount rate, real	4 per cent (real)	The economic assessment has been undertaken using a discount rate of 4 per cent, as endorsed by the Victorian Government.
Cost certainty	P10 to P90 range	Costs are included as ranges between P10 and P90. The cost midpoint estimate is P50, as per ATAP and DoT guidelines.
Evaluation period	50 years	From the first year of operation of the Program Case. 50 years is used in line with ATAP 2018 ³⁵⁹ for rail infrastructure. As per Infrastructure Australia and DTF guidance, residual value of assets is included in the last year of evaluation to incorporate the benefits that will continue to be delivered by the main asset.
Price base	2020	To align with price base used for construction costs.
Base year for discounting	2022	To align with first year of construction.
Construction period	(1) Program Case Option A: 2022 to 2053 (2) Program Case Option B: 2022 to 2043	As per the construction schedule.
First year of operations	(1) Program Case Option A — SRL East: 2035 — SRL North: 2053 ³⁶⁰ (2) Program Case Option B — SRL East: 2035 — SRL North: 2043 ³⁶¹	SRLA assumption.
Public transport expansion factors	Peak to Annual (train) – 241.2 Off Peak to Annual (train) – 354.5 Peak to Annual (public transport in general) – 241.7 Off Peak to Annual (public transport in general) – 355.7 Daily to Annual Factor (public transport in general) – 298.3	Based on travel patterns informed by Myki data for work days, public / school holidays and weekends.
Road expansion factors	Daily to annual demand – 330	In line with Austroads 2012 for road expansion factor.
Value of travel (VOT) time savings	VOT: — Business-to-business trips: \$52.84 (as per ATAP 2018) — Other trips: \$16.38 (as per ATAP 2018)	As per ATAP 2018.

359 ATAP Guidelines 2018: Cost Benefit Analysis [T2]

360 For the purposes of modelling, a sequenced approach to SRL North has been considered with Box Hill to Reservoir opening in 2043 and Reservoir to Melbourne Airport opening in 2053. Whilst SRL North has been sequenced for modelling purposes, the procurement of SRL North will be subject to additional analysis and future packaging and procurement decisions will be made at the appropriate time.

361 For the purposes of modelling, a sequenced approach to SRL North has been considered with Box Hill and Reservoir opening in 2038 and Reservoir to Melbourne Airport opening in 2043. Whilst SRL North has been sequenced for modelling purposes, the procurement of SRL North will be subject to additional analysis and future packaging and procurement decisions will be made at the appropriate time.

Parameter	Value	Description
Indexation	VOT indexed at 1.5 per cent per year for work related travel. For non-work related travel, VOT indexed at 0.75 per cent (calculated as the estimated real long-term average growth in real income in Victoria multiplied by an elasticity of 0.5).	Based on productivity growth forecasts in DoT (2016) guidelines. Indexed as per DoT and ATAP 2018.
Demand modelling years	(1) Program Case Option A: SRL East: 2031 and 2036; SRL North: 2041 and 2046; 2051 and 2056 (2) Program Case Option B: SRL East: 2031 and 2036; SRL North: 2036 and 2041; 2051 and 2056	Benefits linearly interpolated between modelled years.
Interpolation and extrapolation	Linear interpolation used to determine the magnitude of benefits for intermediate years. Benefits beyond the final demand modelling year are flattened, with the exception of public transport benefits which are extrapolated on the basis of the 2051 and 2056 PT CAGR.	Consistent with ATAP 2018. ³⁶²

12.4.4 Transport and land use modelling

A number of transport and land use models were used to estimate the economic benefits of SRL East and SRL North. This section provides a summary of these models, with further detail regarding the modelling framework and approach presented in Appendix C.1: Demand Modelling Report and Appendix C.2: Suburban Rail Loop Economic Appraisal Report.

Transport modelling

A range of transport models were used to generate inputs to the economic appraisal:

- VITM – A primary, four-step model that forecasts travel demand by road and public transport from a given set of demographic, road network and public transport service plan inputs. Outputs for the majority of conventional benefits are sourced from VITM, including all public transport benefits. VITM also helps produce a number of inputs for the quantification of WEBs and UCBs
- MABM – An agent and activity based model that is able to depict behavioural responses to complex changes to the transport network and consider all journeys and trip choices made in a day. MABM was used to model how travel behaviours of individual users change following the introduction of SRL East and SRL North, and therefore allow for discussion of the distribution of travel benefits. MABM was also used to assess the impact on SRL East and SRL North of technology changes such as autonomous and electric vehicles, as well as potential future changes to how transport is priced. As an agent and activity based model, MABM is more suited to modelling behavioural responses to complex changes, such as complex policy and technological changes.

³⁶² ATAP Guidelines 2018: Cost Benefit Analysis [T2]

Land use modelling

As has been discussed extensively in previous chapters, city-shaping transport projects not only directly alter travel behaviour, they also alter relative accessibility across the city. This will impact the attractiveness of locations for households and businesses (particularly locations to live and work) and how developers respond to demand for real estate.

Similarly, significant initiatives to facilitate localised community improvements (such as civic squares, station plazas, community parks and neighbourhood parks) will also change land use. Such initiatives may impact travel patterns (assessed through VITM) and other economic costs and benefits.

The appraisal of SRL East and SRL North has employed a land use and transport interaction model, known as CityPlan, to incorporate the land use changes resulting from rail initiatives and localised community improvements. CityPlan uses transport demand and accessibility inputs (from VITM) to determine land use and demographic impacts that result from the SRL East and SRL North transport initiatives and localised community improvements and subsequent changes in accessibility. Population forecasts applied in CityPlan were sourced from Department of Environment, Land, Water and Planning (DELWP) Projections 2018 (Unpublished) and SALUP 2019.

12.5 Results

12.5.1 Benefits, costs and economic performance measures

Table 12-5 below presents a summary of the potential benefits, costs and resulting economic performance measures of the Program Cases.

Table 12-5: Economic evaluation results for SRL Program Case Option A and B discounted at 4 per cent

Discounted costs and benefits	Program Case Option A	Program Case Option B
Conventional Benefits		
Public transport user benefits	\$14.9bn to \$19.8bn	\$16.6bn to \$21.7bn
Road user benefits	\$10.0bn to \$12.3bn	\$11.7bn to \$14.3bn
Externalities (non-user benefits)	\$3.5bn to \$3.7bn	\$4.2bn to \$4.6bn
Option and non-use value	\$1.1bn to \$5.4bn	\$1.2bn to \$5.7bn
Residual value of assets	\$3.8bn to \$6.4bn	\$3.6bn to \$6.0bn
Total conventional benefit	\$33.6bn to \$40.9bn	\$37.4bn to \$45.2bn
Wider Economic Benefits		
WB1 - Agglomeration economies	\$6.0bn to \$9.7bn	\$6.3bn to \$10.3bn
WB2 - Labour market deepening	\$1.1bn to \$1.8bn	\$1.8bn to \$3.0bn
WB3 - Imperfect markets	\$0.4bn to \$0.5bn	\$0.5bn to \$0.6bn
Total Wider Economic Benefits	\$7.5bn to \$11.9bn	\$8.8bn to \$13.9bn
Urban Consolidation Benefits		
Essential infrastructure cost savings	\$2.0bn to \$3.3bn	\$2.3bn to \$3.7bn
Reduced non-urban land consumption	\$0.01bn to \$0.02bn	\$0.01bn to \$0.02bn
Improved social inclusion and equality	\$1.0bn to \$1.6bn	\$1.2bn to \$1.9bn
Total Urban Consolidation Benefits	\$3.2bn to \$4.6bn	\$3.7bn to \$5.3bn
Costs		

Discounted costs and benefits	Program Case Option A	Program Case Option B
Capital costs	\$24.1bn to \$40.2bn	\$27.1bn to \$45.1bn
Recurrent costs	\$6.3bn to \$10.6bn	\$7.6bn to \$12.6bn
Total Cost	\$30.7bn to \$50.5bn	\$35.1bn to \$57.6bn
Total Benefit	\$48.5bn to \$58.7bn	\$54.7bn to \$65.8bn
Net Present Value (NPV)	\$3.0bn to \$22.9bn	\$2.4bn to \$25.2bn
Benefit Cost Ratio (BCR)	1.1 to 1.7	1.0 to 1.7

Source: KPMG (2020) based on VITM and CityPlan modelling result and relevant guidelines and agreed assumptions
Note: The probabilistic ranges are not additive because the underlying distribution of inputs vary for each line item.

Public transport user benefits accrue from changes to the public transport service levels, resulting in improvements to capacity and convenience. This improves public transport users' overall experience, as they benefit from reduced door-to-door journey times along with the benefits derived from more reliable services and improved network resilience. Public transport benefits make up the largest component and account for between \$14.9 billion to \$19.8 billion of the benefits for Program Case Option A and between \$16.6 billion to \$21.7 billion of the benefits for Program Case Option B.

Road user benefits principally accrue due to some road users switching from car in the Base Case to public transport in the Program Case. Consequently, there is less congestion on the road network for remaining road users, including freight vehicles, allowing them to navigate the network more efficiently, reaching their destinations more quickly and incurring lower vehicle operating costs from less time spent in congestion. The additional road user benefits generated are estimated to be between \$10.0 billion to \$12.3 billion for Program Case Option A and between \$11.7 billion to \$14.3 billion for Program Case Option B.

Other societal benefits include externalities arising from SRL East and SRL North, including improved road safety and avoided environmental externality costs (resulting from drivers switching from road to public transport) and improved public health (through increased walking or cycling to/from public transport). The new public transport train services will also generate option and non-use benefits for households within close proximity to train stations. The present value of externalities is between \$3.5 billion to \$3.7 billion for Program Case Option A and between \$4.2 billion to \$4.6 billion for Program Case Option B. The estimated present value of option and non-use benefits is between \$1.1 billion to \$5.4 billion for Program Case Option A and between \$1.2 billion to \$5.7 billion for Program Case Option B.

Benefits have been assessed over a 50-year evaluation period from project opening. However, the infrastructure asset will continue to yield benefits for its remaining economic life beyond the evaluation period. To provide consideration for these benefits, a residual value has been estimated to capture the benefits of the infrastructure asset's remaining useful economic life beyond the evaluation period. The present value of the residual asset value is between \$3.8 billion to \$6.4 billion for Program Case Option A and between \$3.6 billion to \$6.0 billion for Program Case Option B.

In addition, more firms will be able to locate in closer proximity to each other, generating proximity and cluster effects such as knowledge spillovers and improving the productivity of local industries. This will result in the realisation of a range of WEBs including agglomeration economies and a shift to more productive jobs. The present value of the WEBs is estimated to be between \$7.5 billion to \$11.9 billion for Program Case Option A and \$8.8 billion to \$13.9 billion for Program Case Option B.

SRL East and SRL North will deliver transport network improvements that will facilitate changes in land use and urban development. Improving the accessibility and connectivity of key precincts outside of Melbourne's CBD will allow people to live closer to where they work, as employment opportunities are expanded.

SRL East and SRL North will contribute to greater urban development in established areas, resulting in UCBs such as public infrastructure cost savings associated with providing essential infrastructure and reduced non-urban land consumption. In particular, the configuration of SRL East and SRL North allows for greater densification of development within middle ring suburbs, which reduces the reliance on greenfield development on the urban fringe to facilitate population growth, in turn avoiding additional trunk infrastructure costs that may otherwise be required. The present value of the UCBs is between \$3.2 billion to \$4.6 billion for Program Case Option A and \$3.7 billion to \$5.3 billion for Program Case Option B.

Capital costs include all costs incurred when delivering and commissioning the infrastructure and rolling stock required for the Program Cases. The present value of capital costs is between \$24.1 billion to \$40.2 billion for Program Case Option A and between \$27.1 billion to \$45.1 billion for Program Case Option B.

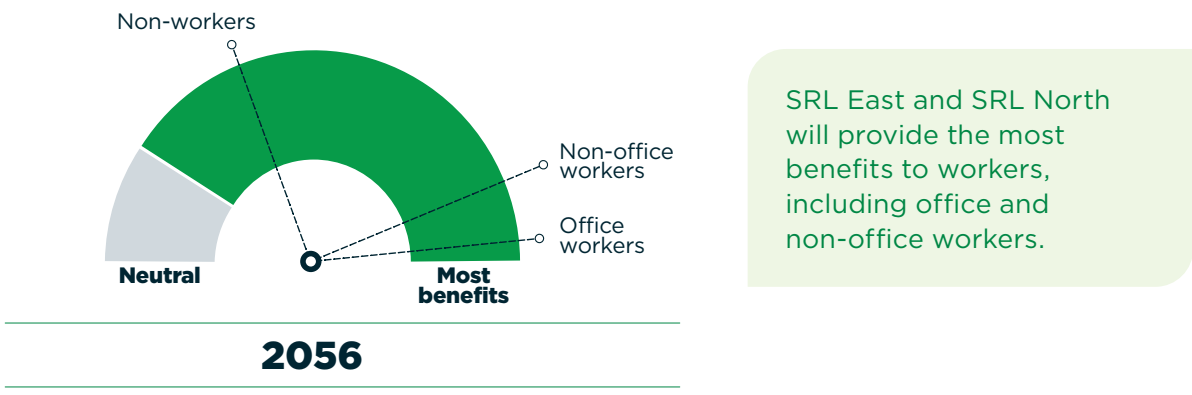
Recurrent costs include all necessary operating, maintenance and renewal costs for running additional train services, supporting infrastructure, and new rail track and systems. It also includes the operating and maintenance costs of the new precinct facilities. The present value of recurrent costs is between \$6.3 billion to \$10.6 billion for Program Case Option A and between \$7.6 billion to \$12.6 billion for Program Case Option B.

The NPV for Program Case Option A is estimated to be between \$3.0 billion to \$22.9 billion and between \$2.4 billion to \$25.2 billion for Program Case Option B. The BCR is therefore estimated to range between 1.1 to 1.7 and between 1.0 to 1.7 respectively for Program Case Options A and B.

12.5.2 Distributional Impact Analysis

Figure 12-8, Figure 12-9 and Figure 12-10 summarise the insights on particular beneficiaries drawn from the modelling and reported for three key demographic groups: work status, age and equivalised household income.

Figure 12-8: Groups of people who benefit from SRL East and SRL North based on their work status



Source: KPMG MABM analysis

Figure 12-9: Groups of people who benefit from SRL East and SRL North based on their age

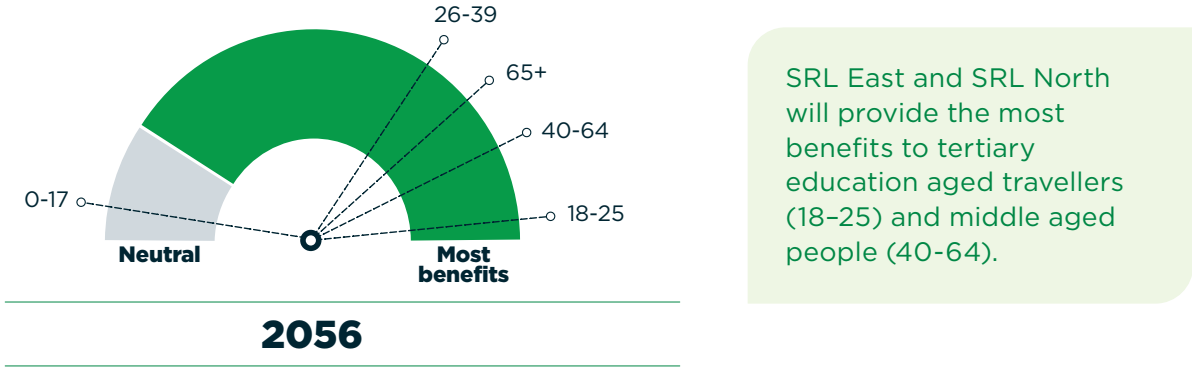
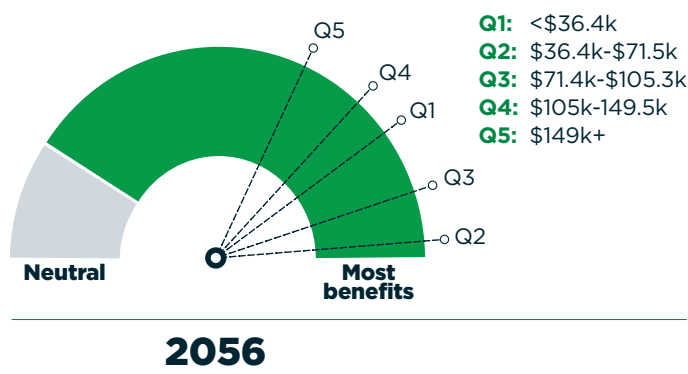


Figure 12-10: Groups of workers who benefit from SRL East and SRL North based on their household income



Low and middle income households will benefit the most from SRL East and SRL North.

Source: KPMG MABM analysis

People working in the middle and outer suburbs of Melbourne are the primary beneficiaries of SRL East and SRL North in 2056. There are two primary reasons for this:

- An increase in public transport access for workers in those areas
- A shift towards public transport due to SRL East and SRL North easing congestion for on-road (such as buses and trams) public transport.

All income brackets benefit from SRL East and SRL North, with lower income brackets (quintiles one, two and three) benefiting the most.

12.5.3 Uncertainty analysis

With economic analysis depending heavily on cost planning, transport modelling, land use modelling and a range of other assumptions (including Base Case land use projections and expected future transport network), it is important to assess the impact of changes in major inputs and assumptions to the economic viability of the Program Cases.

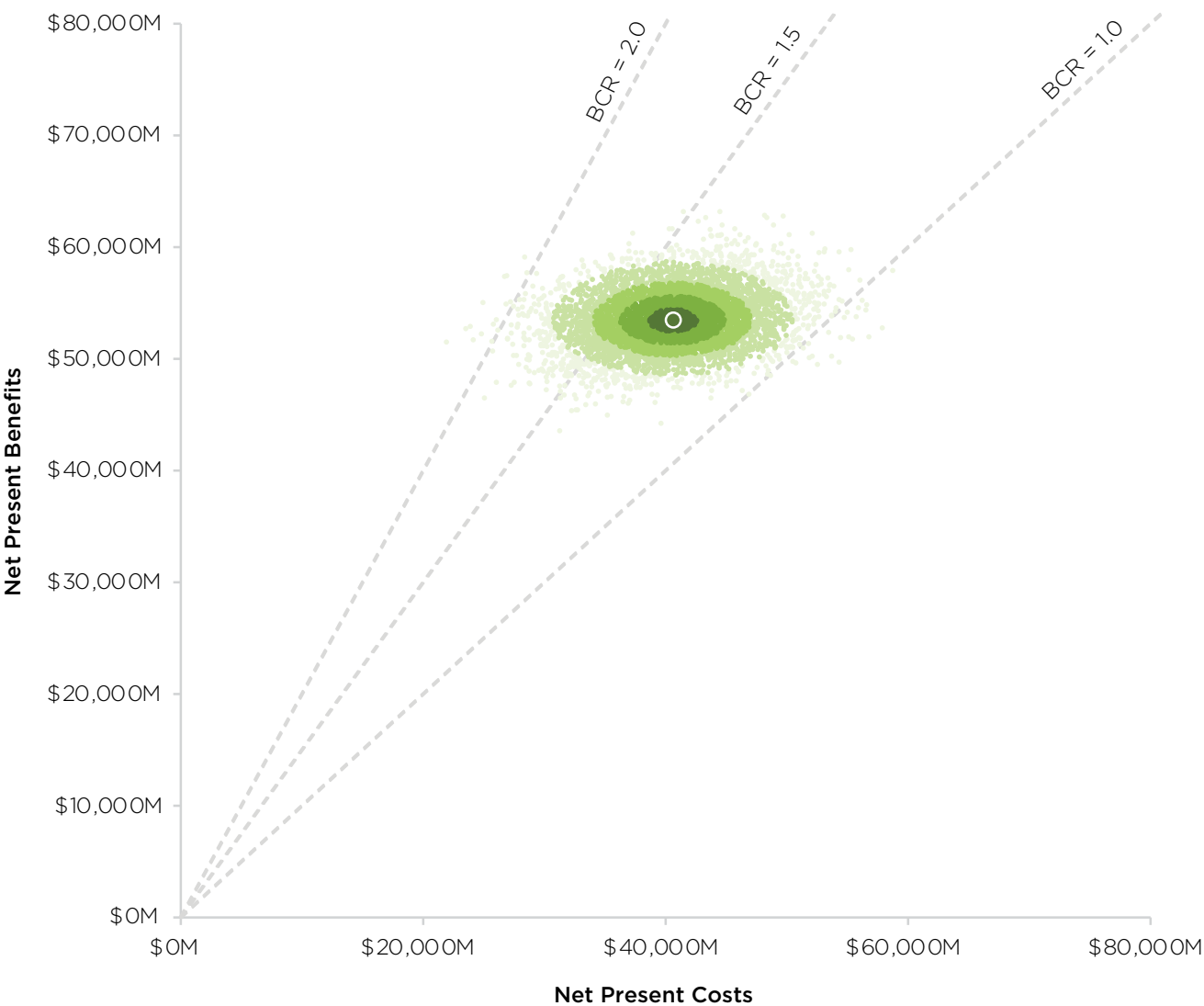
A range of uncertainty tests were included to test the robustness of the economic appraisal and to provide an indication of how the key appraisal metrics vary given key areas of risk and uncertainty at the 4 per cent discount rate.

Results of the uncertainty analysis undertaken using a Monte Carlo simulation at the 4 per cent discount rate for Program Case Option A and Program Case B are presented in [Figure 12-11](#) and [Figure 12-12](#).

At a 95 per cent confidence level, Program Case Option A has a BCR of 1.1 to 1.7 while Program Case Option B has a BCR of 1.0 to 1.7.

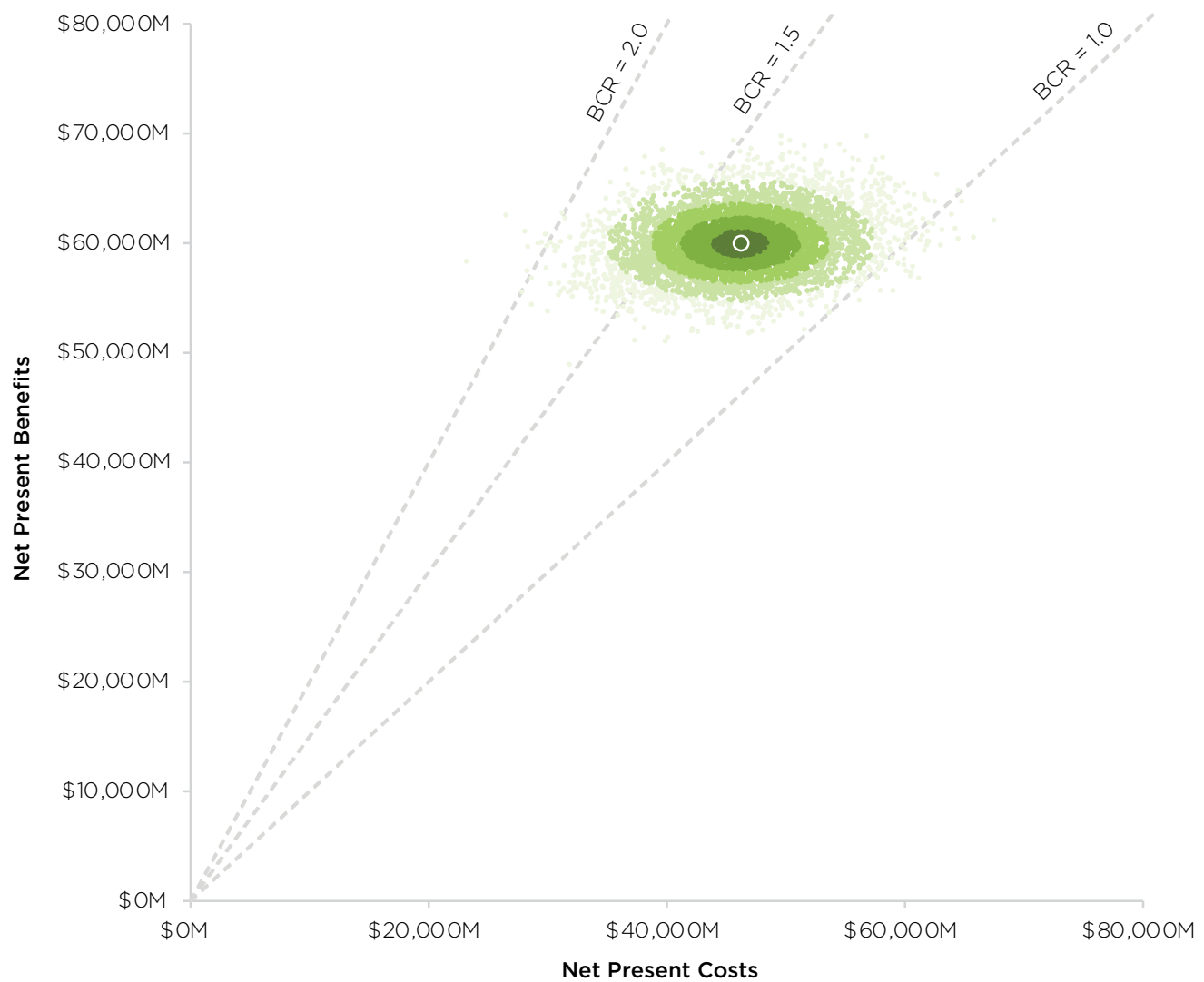
This indicates the combined SRL East and SRL North is an economically viable program under both Program Case Option A and Program Case Option B under a discount rate of 4 per cent.

Figure 12-11: Monte Carlo simulation results – Program Case Option A



Source: KPMG analysis

Figure 12-12: Monte Carlo simulation results – Program Case Option B



Source: KPMG analysis

12.5.4 Scenario and sensitivity analysis

The SRL East and SRL North economic appraisal horizon spans five decades. Within this period, changes are expected in the supply of transport infrastructure and people's behaviour towards transport costs and accessibility. These uncertainties, which may impact the economic viability of SRL, include potential changes to the future network, alternative fare structures and people's changes in attitudes towards travel and public transport.

Given the inherent uncertainties associated with the long-term projections underpinning the SRL East and SRL North economic appraisal, it is appropriate to consider the economic outcomes of a range of future scenarios via alternative Base Case and / or Program Case combinations.

These scenarios are based on downside assumptions / parameters to capture any uncertainties that, if they were to materialise, would result in divergence from the 'the most likely' central scenario. In order to capture the downside effect, conservative parameters and assumptions have been employed to identify the lower bound benefits under conservative circumstances.

The following have been considered as part of the scenario testing:

- COVID-19 sensitivity, which considers the following revised modelling assumptions:
 - Based on analysis undertaken by DELWP, growth in population and employment is expected to be delayed by two years in early model years, increasing to a delay of four years by 2056. For example, the growth originally forecast for 2020 is expected to be realised by 2022, while 2052 growth levels are expected to be realised by 2056

- Based on analysis undertaken by DoT and DJPR, 29 per cent of Victorian jobs are suited for remote work and people employed in these jobs are assumed to work from home for two to three days a week
- Air passenger numbers fall in the short term, with travel returning to 2019 levels by 2023 for domestic and short haul travel, and by 2024 for all travel. By 2031, air travel forecasts are assumed to revert to pre-COVID levels
- Airport user preference – this scenario uses different alternative specific constants (ASC) in the VITM airport module to test different user response assumptions to public transport to the airport. This test provides a 10 minute preference to rail as a mode choice for air passengers
- High AV / EV use – which tests potential consequences or includes potential scenarios of higher prevalence of autonomous vehicles (AVs) and Electric Vehicles (EVs):
 - In a high automation, high private use scenario which considers 35 per cent conventionally driven vehicles (CDVs) and 65 per cent privately owned AVs / EVs
 - In a high automation, high rideshare scenario which considers 21 per cent CDVs, 39 per cent private AVs and 40 per cent shared, on-demand AVs / EVs
- Transport network pricing – this scenario tests the potential impact of a revised pricing system for public and private transport, including flagfall and a distance-based public transport fare system, road distance pricing and an inner Melbourne road cordon charge. The network pricing is based on time of day, mode of transport and location. Specifically, it tests an alternative pricing strategy for both road and public transport travel:
 - Road pricing: \$0.165/km
 - Public transport (peak): \$1.70 flagfall and \$0.09/km
 - Public transport (off-peak): \$1.50 flagfall and \$0.07/km.

In addition to the above, simple scenario tests were also undertaken as follows:

- +/- 20 per cent increase in public transport benefits
- +/- 20 per cent increase in road user benefits
- Alternate extrapolation method that flatlines all benefits after the last model year 2056 (i.e. to test a scenario where SRL does not deliver any growth in benefits beyond 2056 – a highly conservative assumption).

The scenario tests demonstrated that SRL East and SRL North combined are economically viable and resilient to uncertainty under the majority of the scenarios.

12.5.5 Economy-wide impacts

SRL East and SRL North enable employment and economic growth opportunities at both state and national levels. To understand this macroeconomy-wide impact, Computable General Equilibrium (CGE) modelling was undertaken to simulate the investment and operational phases of SRL East and SRL North, drawing upon the financial modelling, conventional CBA and WEBs analysis undertaken. The macroeconomy-wide impact was estimated both at the state and national levels. The CGE models the total impact of SRL East and SRL North on the economy via 'shocks' in monetary terms (e.g. investment in the transport sector) and therefore, granular details on the changes (e.g. specific precinct initiatives) are less relevant to the analysis.

SRL East and SRL North will help support SRL Precincts to grow from 192,000 jobs and 92,500 households currently to 545,000 jobs and 232,000 households by 2056 under Program Case Option A.

Relative to a scenario where SRL East and SRL North do not exist, it is estimated that SRL East and SRL North will directly lead to 165,000 additional jobs and 47,500 additional households to locate in the SRL Precincts in 2056.³⁶³

The construction and delivery of SRL East will directly create 6,000 to 8,000 jobs, with SRL North creating 5,100 direct additional jobs. Across Victoria, this level of investment will create 3,900 net additional jobs (FTE) at the peak of construction. SRL East and SRL

North are long-term, productivity enhancing investments. The combined impact of SRL East's and SRL North's precinct specific land use changes and productivity enhancements will lead to an increase in employment across the state, with 4,000 net additional jobs (FTE) created at the peak of the operation phase. This means that unemployment levels will decline by around 3,900 at the peak of construction and by a similar amount at the peak of the operation phase.³⁶⁴

³⁶³ CityPlan modelling

³⁶⁴ CGE modelling

This level of economic activity is anticipated to increase Victoria's GSP by \$50.8 billion in present value terms using a 4 per cent discount rate. Overall, Australia's GDP will be higher by \$49.3 billion in present value terms over the evaluation period. The increase in economic output will lead to increased Victorian and Australian Government tax receipts. Over the construction and operations phase, the Victorian Government's tax receipts will be higher by \$3.2 billion and the Australian Government's tax receipts will be substantially higher by around \$10.9 billion in present value terms.

Table 12-6 shows the economy-wide impact on employment and GSP and GDP.

Table 12-6: Economy wide impact using a 4 per cent discount rate

	Region	Construction phase	Operational phase	Total
Program Case Option A				
Output (GDP or GSP in \$bn, present value using 4 per cent discount rate)	Victoria	\$23.6 bn	\$27.2 bn	\$50.8 bn
	Australia	\$22.7 bn	\$26.6 bn	\$49.3 bn
Net additional jobs (FTE), in peak year	Victoria	3,900	4,000	n/a
	Australia	4,100	3,400	n/a
Net additional jobs (FTE), average per year	Victoria	2,400	3,400	n/a
	Australia	2,000	3,000	n/a
Program Case Option B				
Output (GDP or GSP in \$bn, present value using 4 per cent discount rate)	Victoria	\$19.4 bn	\$39.3 bn	\$58.7 bn
	Australia	\$18.5 bn	\$39.5 bn	\$58.0 bn
Net additional jobs (FTE), in peak year	Victoria	5,200	4,400	n/a
	Australia	5,300	4,800	n/a
Net additional jobs (FTE), average per year	Victoria	2,900	3,700	n/a
		2,500	3,900	n/a

Source: KPMG (2020) based on KPMG-SD simulation

Similarly, SRL East and SRL North will help support SRL Precincts to grow to 551,500 jobs and 234,000 households by 2056 under Program Case Option B. Relative to a scenario where SRL East and SRL North do not exist, it is estimated that Option B will directly lead to 171,500 additional jobs and 49,500 additional households to locate in the SRL Precincts in 2056.³⁶⁵ Additionally, under Option B, SRL East and SRL North will:

- Directly employ between 6,000 to 8,000 people as part of SRL East, with SRL North directly employing 5,100 people
- Create 5,200 net additional jobs (FTE) at the peak of construction across Victoria³⁶⁶
- Increase employment across Victoria with 4,400 net additional jobs (FTE) at the peak of the operation phase³⁶⁷
- Increase Victoria's GSP by \$58.7 billion in present value terms using a 4 per cent discount rate
- Increase Australia's GDP by \$58.0 billion in present value terms using a 4 per cent discount rate
- Increase Victorian Government tax receipts by \$3.7 billion in present value terms at a 4 per cent discount rate
- Increase Australian Government tax receipts by \$12.9 billion in present value terms at a 4 per cent discount rate.

³⁶⁵ CityPlan modelling

³⁶⁶ CGE modelling

³⁶⁷ CGE modelling

12.5.6 Economic return on investment

An alternative approach to assessing the economic contribution of the investment is to assess the return on investment, as measured through the change in economic output relative to the cost of the investment. This is especially relevant in the economic climate caused by COVID-19.

To assess the impact, two separate Key Performance Indicators (KPIs) have been developed at both the state and national levels to assess the value of investing in SRL East and SRL North to bolster and catalyse growth in the Victorian and Australian economies:

- KPI 1: Compares the total cost (capital expenditure and benchmark borrowing cost) against the real increase in GSP / GDP
- KPI 2: Compares the financing cost (benchmark borrowing cost) against the marginal increase in tax receipts (as a result of increases to GSP / GDP).³⁶⁸

Borrowing cost for this return on investment analysis is based on the 10-year Treasury Corporation of Victoria (TCV) bond rate and 10-year Commonwealth bond rate for the state and federal governments respectively.³⁶⁹ The KPIs have been calculated using total cost (capital expenditure and benchmark borrowing cost) and the real increase in GSP / GDP.

The KPIs are summarised in [Table 12-7](#).

Table 12-7: CGE KPIs

KPI	Program Case Option A	Program Case Option B
KPI 1		
Victoria (Δ GSP / State total cost)	5.0	4.7
National (Δ GDP / State + Australian Governments' total cost)	2.7	2.6
KPI 2		
Victoria (Δ State tax receipts / State interest)	0.7	0.7
National (Δ State + Australian Government tax receipts / State + Australian Government interest)	2.0	2.1

Source: KPMG analysis based on CGE modelling

KPI 1 in [Table 12-7](#) highlights the economic return on investment compared to the funding cost. This analysis shows that the Victorian economy will be better off by more than five times the SRL East and SRL North investment cost (after allowing for borrowing cost) for Program Case Option A and by more than four times for Program Case Option B. Similarly, the national economy will be better off by more than two times the SRL East and SRL North investment cost for both Program Case Option A and Program Case Option B.

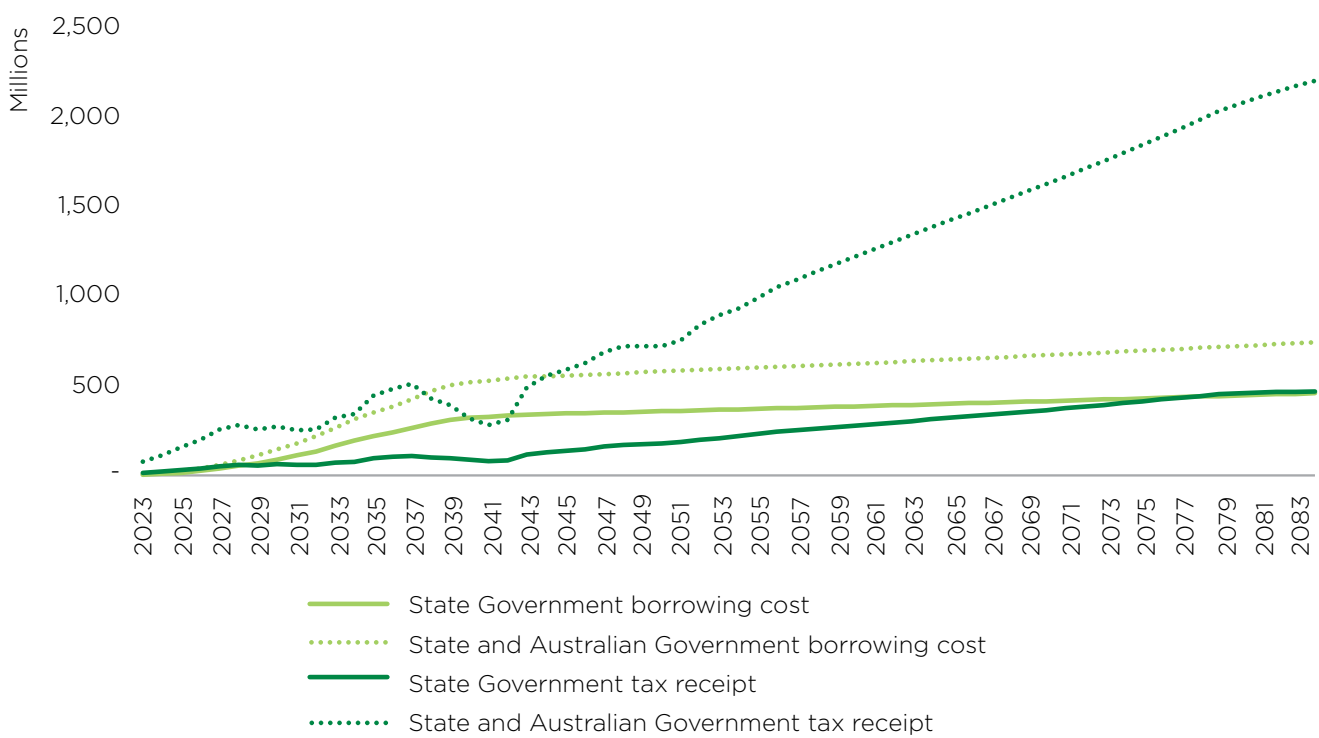
This increase in economic activity will in turn boost the Victorian and Australian Government's tax receipts. KPI 2 in [Table 12-7](#) show that the tax receipts from the increase in GSP and GDP is sufficient to cover the Victorian and Australian Governments' borrowing costs for both Program Case Option A and Program Case Option B, with a small shortfall if only state borrowing cost versus state tax receipts are compared.³⁷⁰ This is shown in [Figure 12-13](#) and [Figure 12-14](#) below.

³⁶⁸ For the purpose of this analysis, it was assumed that one-third of the cost is funded and financed by the private sector through value capture mechanisms, one-third by the State Government and the remaining one third by the Australian Government. State and Australian Government finance their respective share of the capital expenditure from borrowings at the applicable State and Commonwealth 10-year bond rate.

³⁶⁹ The 10-year Treasury Corporation of Victoria (TCV) bond rate and 10-year Commonwealth bond rate are based on October 2020 rates.

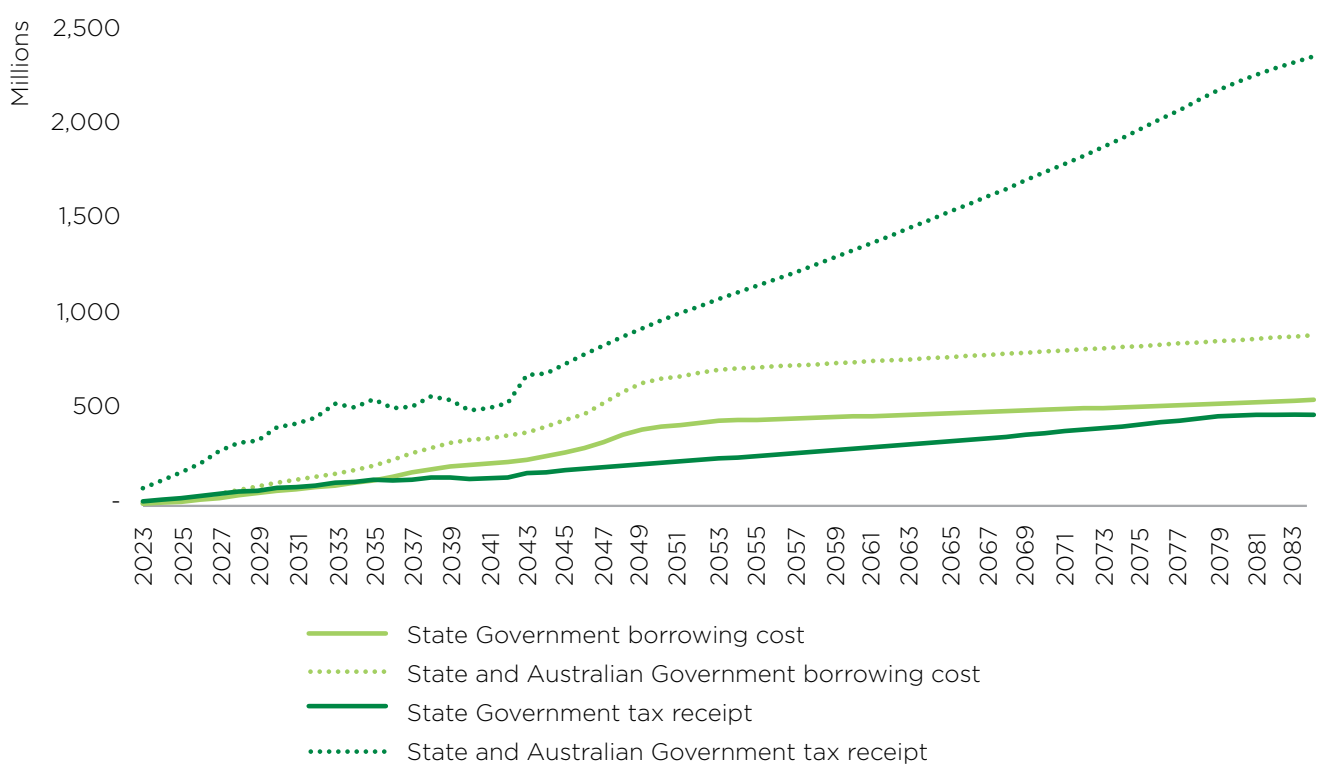
³⁷⁰ This is excluding Victoria's additional share of Commonwealth tax receipts.

Figure 12-13: SRL East and SRL North borrowing cost against tax receipt
- Program Case Option A



Source: KPMG analysis based on CGE modelling

Figure 12-14: SRL East and SRL North borrowing cost against tax receipt
- Program Case Option B



Source: KPMG analysis based on CGE modelling

12.5.7 Benefits discussed qualitatively

A range of other economic effects (see [Table 12-8](#)) have been identified but were not monetised for inclusion within the CBA due to lack of data. The impact and nature of these benefits and costs have been discussed qualitatively.

Table 12-8: Other economic effects of the Program Case

Benefit stream	Cost or Benefit	Impact on benefits	Rating
Conventional Benefits	Reduced roadway costs	Roadway costs include road maintenance, construction and land acquisition. These costs are affected by vehicle weight, size and speed. In urban areas with significant congestion problems and high land values, even a modest reduction in volumes can provide large savings. SRL East and SRL North reduce car use and it is anticipated that the reduction in road travel will provide some additional benefits.	Slight positive impact on economic benefits
	Construction disruption	While a range of construction related impacts are captured in the economic costs (including business disruption and costs to mitigate impacts), some costs have not had an economic value placed on them. It is anticipated that due to the scale of the construction activity under both program cases disruption to traffic flows may occur, which would likely result in a disbenefit.	Slight negative impact on economic benefits
	Civic pride	<p>Civic pride relates to how places and public infrastructure promote and foster local identity and autonomy. Civic pride is often attributed to the realm of architecture, where grand public infrastructure is often said to convey civic victory and subsequently civic pride.</p> <p>Civic pride refers to a feeling of self-worth or self-respect and the different ways people value or praise their identity or community; it links pride to a sense of self-esteem, confidence and local integrity and prosperity.</p> <p>Most of the literature on civic pride relates to symbolic civil infrastructure such as bridges, light rail, stadiums and parks. Within the context of SRL East and SRL North, involvement in precinct design, increased community participation, connectivity and sense of belonging may all enhance civic pride and therefore benefits.</p>	Slight positive impact on economic benefits

Benefit stream	Cost or Benefit	Impact on benefits	Rating
UCBs	Improved neighbourhood amenity	<p>Compact urban form can make an area more vibrant and attractive and generally contributes to enhanced amenity. Diversity is often an urban amenity, since urban consumers are attracted to cities with ethnic restaurants, international cultural offerings and a lively street scene.</p> <p>SRL East and SRL North have the potential to attract investment for higher density housing and provide greater urban amenity.</p> <p>However, due to the lack of reliable data and a robust method for quantification, this benefit has been discussed qualitatively by this economic appraisal. Further discussion is provided in Appendix C.2.</p>	Moderate positive impact on economic benefits
	Environmental and biodiversity impacts	<p>Non-urban land offers a range of environmental and biodiversity benefits, such as regulating and stabilising water runoff, buffering heavy rain and its effects, and vegetation cover. Biodiversity loss and degradation of natural habitats can lead to disruption to the ecosystem services, and consequently cause economic and social losses.</p> <p>SRL East and SRL North can help consolidate the urban form from sprawling and thus provide biodiversity conservation benefits.</p> <p>However, due to the lack of reliable data and a robust method for quantification, this benefit has been discussed qualitatively by this economic appraisal. Details are provided in Appendix C.2.</p>	Moderate positive impact on economic benefits
Local area benefits ³⁷¹	Benefits associated with local area improvements	<p>The SRL Precinct initiatives will facilitate a broad range of improvements for local communities that have potential to, for example:</p> <ul style="list-style-type: none"> — Reduce heat through tree planting — Improve mental and physical health by developing public open space — Increase volunteering participation. <p>The specific precinct initiatives being developed for SRL East and SRL North are intended to deliver on these benefits. However, at time of assessment quantitative data was not available for inclusion in the CBA. It is anticipated that a moderate benefit would be achieved from the suite of precinct initiatives to be implemented.</p>	Moderate positive impact on economic benefits

Source: KPMG (2020)

³⁷¹ Note, this benefit stream is currently not included in the core economic appraisal.



**SUBURBAN
RAIL LOOP**

Part D: Delivering SRL

13 Governance

Chapter summary

- Currently an Administrative Office in relation to the Department of Transport (DoT), it is anticipated that dedicated legislation will support SRLA's delivery of Suburban Rail Loop.
- SRLA is responsible to the Minister for the Suburban Rail Loop. It has an expert management team, led by its Chief Executive Officer (CEO) and Executive General Managers.
- SRLA's governance arrangements are multi-faceted and involve many areas of the Victorian Government, helping to ensure ongoing alignment between the program and broader government policy objectives. This includes the SRL Inter-Departmental Committee (IDC), which provides a forum for the heads of relevant departments to discuss and resolve SRL-related matters.
- To support the formal governance arrangements, SRLA has ongoing interactions with a broad range of Victorian Government stakeholders.

13.1 Overview of SRLA

13.1.1 Governing arrangements

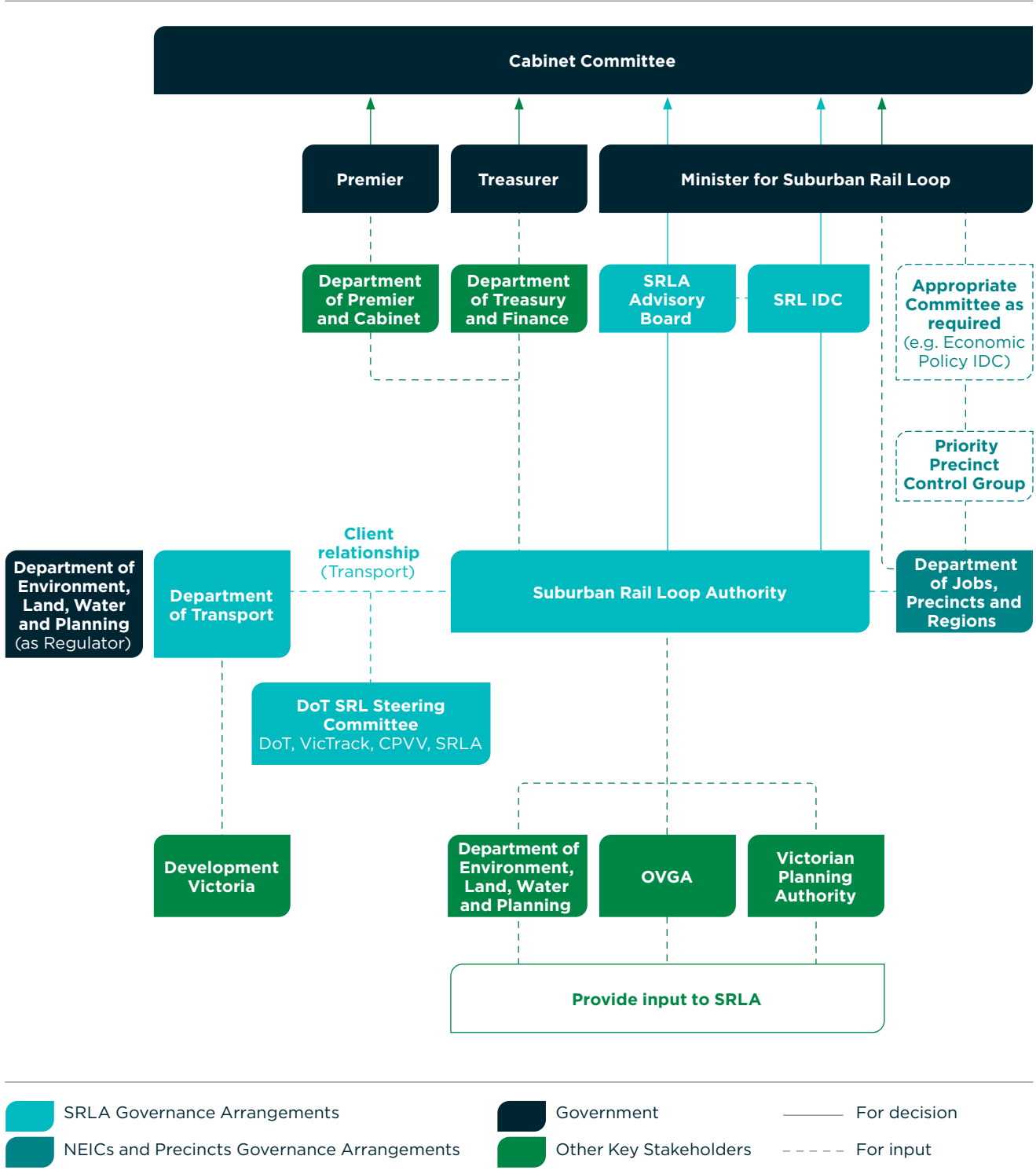
SRLA was established as an Administrative Office in relation to the DoT on 3 September 2019, with the SRLA CEO appointed by the Victorian Premier as the Administrative Office Head pursuant to the *Public Administration Act 2004* (Vic).

13.2 Governance

13.2.1 Decision making structure

A high-level overview of the SRL East decision making structure is shown in [Figure 13-1](#).

Figure 13-1: SRL East decision making structure



SRLA

A strong governance framework is in place to manage and deliver SRL. SRLA is an Administrative Office in relation to the Department of Transport (DoT). SRLA is governed by a CEO and an Advisory Board.

Government

The Victorian Government is ultimately required to approve the Business and Investment Case and Funding Submissions in respect of SRL East (and SRL overall) and to make key decisions in relation to SRL during its development and delivery. Key government decisions will be made through Cabinet Committee(s) and/or relevant Minister(s).

SRL Inter-Departmental Committee (SRL IDC)

The SRL IDC provides a forum for the heads of relevant departments to discuss key SRL-related matters that require the Victorian Government's consideration for decision. Members of the SRL IDC include:

- Secretary, Department of Premier and Cabinet (as SRL IDC Chair)
- Secretary, Department of Treasury and Finance
- Secretary, Department of Transport
- Secretary, Department of Jobs, Precincts and Regions
- Secretary, Department of Environment, Land, Water and Planning
- SRLA Advisory Board Chair
- SRLA CEO.

In particular, the role of the SRL IDC is to oversee the development of submissions for consideration by relevant Cabinet Committee(s), including to review and endorse submissions prior to these being presented to the Cabinet Committee(s). Further, the SRL IDC also provides strategic and operational coordination, including to ensure coherence and alignment of SRL with broader Victorian Government priorities.

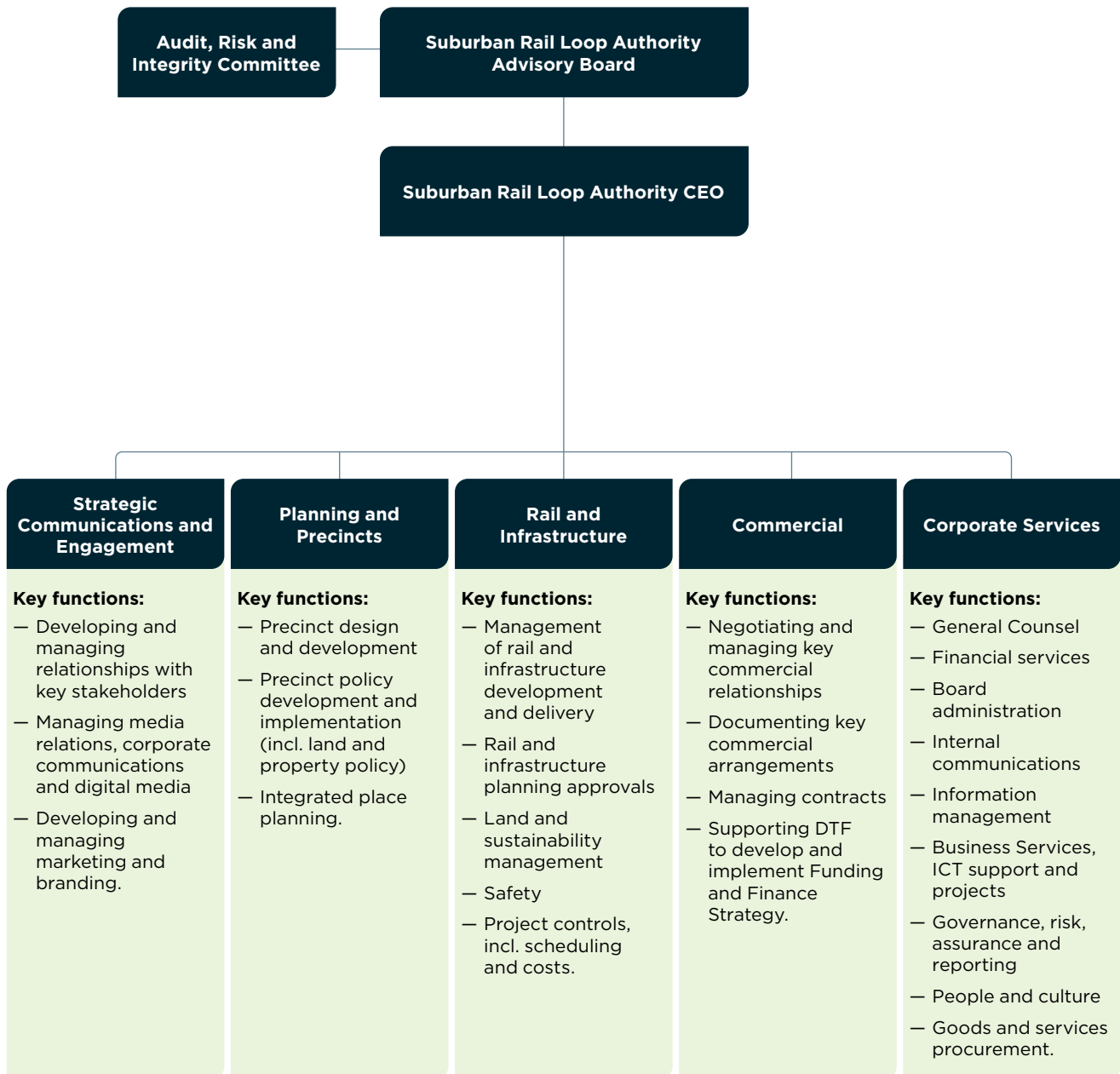
13.2.2 Internal SRLA structure

SRLA employs professionals and experts with a broad-ranging mix of skills and expertise from both public and private sectors. SRLA has five divisions: Strategic Communications and Engagement; Planning and Precincts; Rail and Infrastructure; Commercial; and Corporate Services. SRLA's Executive Leadership Team consists of the SRLA CEO and the Executive General Managers from each of SRLA's divisions.

The internal organisational structure of SRLA is shown in [Figure 13-2](#).

Figure 13-2: SRLA internal structure

As of January, 2021



13.3 Victorian Government stakeholders

The scale and complexity of SRL means there are a wide range of stakeholders, both internal and external to government, with whom SRLA actively engages. This section focuses on Victorian Government stakeholders and, in particular, the roles and responsibilities of various key government departments. Strategic communications and engagement with stakeholders (both internal and external to SRLA) are discussed later in Chapter 18.

An overview of key Victorian Government stakeholders is presented in [Table 13-1](#), including a summary of their respective roles and interfaces with SRLA. As described earlier, the SRL IDC facilitates consultation and engagement between departments (at the Secretary level). In addition, more targeted consultations between SRLA and other relevant departments are held for various SRL workstreams, on an as-required basis.

Table 13-1: Roles and interfaces of key Victorian Government stakeholders

Victorian Government stakeholder	Summary of key roles and interfaces with SRLA
Department of Premier and Cabinet	<ul style="list-style-type: none"> — Whole-of-government coordination — Administration of the SRL IDC.
Department of Treasury and Finance	<ul style="list-style-type: none"> — Development of the SRL Funding and Financing Strategy — Responsible for High Value High Risk (HVHR) and other assurance processes — Key stakeholder during the development of packaging and procurement strategies and other decisions.
Department of Transport	<ul style="list-style-type: none"> — Transport modelling, transport policy and transport network plans — Collating source data to track the measurement and management of the benefits of SRL over time, in accordance with the benefits management process — Authorising transport elements of SRL scope, including the Concept of Operations, farebox strategy and rolling stock strategy
Major Transport Infrastructure Authority / Rail Projects Victoria	<ul style="list-style-type: none"> — Co-ordination and interface of projects being planned and delivered in Melbourne's west, and ensuring provision is made for SRL West and its timely delivery.
Department of Jobs, Precincts and Regions	<ul style="list-style-type: none"> — Whole-of-government coordination of NEICs, including Monash and La Trobe NEICs (which are connected by and form part of SRL East).
Department of Environment, Land, Water and Planning	<ul style="list-style-type: none"> — Strategic planning framework — Support the Minister for Planning in respect of the Minister's strategic and statutory planning decision making role, including any SRL Environment Effects Statement (EES) assessment process — Development of state population projections through Victoria in Future (VIF).

13.4 SRLA Policy Framework

As an Administrative Office in relation to the DoT, SRLA has adopted DoT's policies, frameworks, plans and procedures to support its operating environment. These policies, frameworks, plans and procedures are supplemented and, where appropriate, superseded by SRLA-specific documents to reflect SRLA's organisational settings.

The policies, frameworks, plans and procedures cover areas such as:

- Project management and planning
- Health and safety
- Communications and stakeholder engagement
- People and culture
- Integrity, including gifts, benefits and hospitality and public interest disclosure
- Probity and conflict management
- Risk management
- Procurement
- Information security and management
- Privacy
- Financial management
- Business continuity.

14 Planning approvals process

Chapter summary

- This chapter discusses the planning assessment and approvals pathway for SRL East
- To support the planning assessment and approvals process, SRL East has been further divided into logically separable program elements as follows:
 - **SRL East Transport Project** – the primary planning approvals pathway of the SRL East Transport Project will involve an Environment Effects Statement (EES) assessment by the Minister for Planning, and an accompanying Planning Scheme Amendment (PSA) to give planning approval.
 - **SRL East Structure Planning** – to accommodate the population and employment growth projections for the precincts, SRLA will work with local councils and stakeholders to update or establish structure plans. These structure plans will follow statutory approval processes.
 - **Government and third-party development projects** – this refers to certain development projects within SRL East Precincts, with the planning approvals approach to be considered separately on a case-by-case basis.
- The planning approvals approach for SRL East has also considered Initial Works, the pathway to land acquisitions, key interdependencies (amongst program elements) and other planning issues and considerations.
- Given the protracted nature of SRL North, the planning approvals pathway for this will be investigated during the next phase of planning, including any future-proofing requirements.

14.1 Introduction

Recognising the scale, complexity and staging of SRL, the planning assessment and approvals approach will seek approvals for logically separable elements of the program. As discussed in Chapter 4, the Victorian Government is prioritising the delivery of SRL East (between Cheltenham and Box Hill) and has committed to commence SRL East works by the end of 2022.

To support the planning assessment and approvals process for SRL East, the following major program elements have been identified:

- **SRL East Transport Project** – Construction and operation of dual rail tunnels between Cheltenham and Box Hill, six new stations and a Southern Stabling Facility. An EES will be prepared for the works and exhibited and assessed concurrently with a draft PSA that would approve the works. Initial Works, which have limited environmental and social effects, have been excluded from the EES and will be subject to separate approvals
- **SRL East Structure Planning** – The structure planning of the six SRL East Precincts, will not form part of the associated SRL East Transport Project EES PSA. Following after the EES process, SRL East Precincts will need to update or establish structure plans to clearly demonstrate how population and employment growth will be accommodated over time. These structure plans will follow statutory approval processes, with PSAs implemented in due course. The statutory process to amend the relevant planning schemes to approve SRL East Precinct Structure plans will not commence until after the SRL East Transport Project EES has been assessed and approved
- **Government and third-party development projects** – Development of government land or development proposed by government agencies and/or major developers in (or in the vicinity of) the six SRL East Precincts will require approval via planning approvals pathways available under relevant planning legislations.

In this chapter, the planning approach and approvals pathways considered are focused on SRL East. The approvals approach for SRL East has also considered issues associated with the acquisition of land and key interdependencies, as well as other planning issues and considerations (such as secondary consents and updates of relevant legislation).

The approach to planning assessment and approvals for SRL North will be developed during the next phase of planning, which will need to take into consideration any cumulative impacts from SRL East, as well as land preservation requirements.

14.2 SRL East Transport Project

14.2.1 Requirement for an EES

Suburban Rail Loop Authority (SRLA) undertook a preliminary assessment in relation to SRL East to identify the potential environmental, social and economic effects associated with the SRL East rail infrastructure. A project outline was submitted to the Minister for Planning to assist his consideration of whether an EES should be prepared for the SRL East Transport Project pursuant to the *Environment Effects Act 1978* (EE Act).

The Minister for Planning decided that an EES was required for the SRL East Transport Project (other than the Initial Works).

What is an Environment Effects Statement?

An EES is a detailed record of the expected environmental impacts during delivery (construction) and operational phases of a project, as well as outlining key risks and proposed mitigations, and proposed environmental performance requirements.

The EES process is the highest level of formal planning and environmental assessment available in Victoria. The main components of the EES process are set out in the Suburban Rail Loop Ministerial Guidelines for Assessment of Environmental Effects (Department of Environment, Land, Water and Planning, September 2020) under the EE Act. The Minister for Planning prepares an assessment on the EES based on EES documents, public submissions, response to submissions and any inquiry report.

The EES is not an approval process itself, rather it enables statutory decision makers to make decisions about whether a project with potentially significant environmental effects should proceed.

The EES will assess the SRL East Concept Design as representative of a technically feasible way of constructing and operating the SRL East Transport Project. The EES will assess the potential impacts of the SRL East Transport Project and identify project-specific measures to manage these impacts.

The SRL East Transport Project EES process is outlined in [Figure 14-1](#).

Figure 14-1: SRL East Transport Project EES and PSA steps



An EES Inquiry and Advisory Committee is expected to conduct public hearings following the formal exhibition of the EES. The committee will then provide an assessment to the Minister for Planning for consideration.

The Minister for Planning's final EES assessment will inform the future decisions of statutory decision makers in relation to the approvals required to proceed. Key approvals include the SRL East Transport Project PSA under the *Planning and Environment Act 1987* (P&E Act), which would give planning approval to the project. An EES will also trigger mandatory preparation of a Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006*.

The SRL East Transport Project is expected to be declared under s10 of the *Major Transport Project Facilitation Act 2009* (MTPF Act), which, following planning approvals, will provide the project authority appointed under the MTPF Act with land acquisition and delivery powers. Following planning approvals, a project area designated under the MTPF Act is a deemed reservation of land for a public purpose, so that formal land acquisition can commence under the *Land Acquisition and Compensation Act 1986* (LAC Act).

In addition, SRLA will refer the SRL East Transport Project to the Australian Government pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

14.2.2 Initial Works

The Minister for Planning excluded certain works (defined as Initial Works in section 5.4.3) from the scope of the EES assessment. This comprises preparatory works with limited environmental and social effects, the early delivery of which is considered critical to optimise the overall delivery program, allow commencement of SRL East works in 2022, de-risk delivery of SRL East Main Works, minimise disruption to communities and enable initial precinct activations.

Where planning and other approvals are required for Initial Works, these will be sought under a separate approvals process to the SRL East Transport Project.

14.3 SRL East Structure Planning

Figure 14-2: Structure Planning and PSA steps



SRLA will work with local government to develop Structure Plans for each SRL Precinct.

The Structure Plans, will demonstrate how population and employment growth projections can be delivered in a way consistent with the principle of a ‘20-minute neighbourhood’ under *Plan Melbourne 2017-2050*. The Structure Plans will outline sub-precinct uses, precinct development objectives, strategies and desired development outcomes, and be implemented through future PSAs.

During the development of Structure Plans, SRLA will work in close consultation with local governments, relevant Victorian Government departments and agencies, stakeholders and local communities. The Structure Planning for SRL Precincts will not be undertaken until the Minister for Planning has approved the six station locations as part of the Transport Project PSA.

As part of the Structure Planning process, it is expected that an Advisory Committee (AC) or Panel will oversee and facilitate a consistent approach to the assessment of PSAs along the rail alignment.

Key steps of the Structure Planning and PSA process are outlined in [Figure 14-2](#). The sequence to preparing, assessing and approving each Structure Plan (and future PSA) will not commence until after the Transport Project EES and PSA.

14.4 Government land and third-party developments

Development opportunities within the six SRL East Precincts may be identified before or during the Structure Planning PSA process, including:

- **Developments proposed on government land or by government agencies** – opportunities could include schools, hospitals and other public / community services (including public open space)
- **Developments proposed by private landowners or developers** – opportunities could be prompted by potential uplift benefits derived from the Victorian Government's investment in the SRL East Transport Project.

SRLA will consult with government agencies and the industry to better understand potential development opportunities and their timing. Based on this information, SRLA will identify a planning approvals pathway on a case-by-case basis.

14.5 Land assembly

14.5.1 Initial Works

Land assembly for Initial Works will be undertaken in accordance with relevant statutory processes and policies, including the Victorian Government Land Transaction Policy.

14.5.2 SRL East Transport Project

Assembly of land for the SRL East Transport Project will predominantly be undertaken by compulsory acquisition under the LAC Act.

Pursuant to the LAC Act, SRLA will be subject to strict obligations and timing requirements in notifying affected landowners, offering and negotiating compensation, resolving disputes about compensation and taking possession of acquired land. SRLA will use specialist staff to engage with and support affected landowners and occupiers, and commence engagement around land acquisition as early as practicable in the project's development. Acquisition under the LAC Act cannot occur until after the EES and will comply with the Victorian Government guidelines for land assembly and acquisition.

Assembly of public land (either controlled by Victorian Government departments and agencies, or by local government) will be by negotiated purchase or acquisition, which may involve exercising statutory powers. Typically, this would involve exercising powers under the MTPF Act and other relevant legislations.

Any surplus land assembled will be considered for development by SRLA (in accordance with precinct requirements), or for disposal in accordance with the requirements of the Victorian Government Land Monitor.

14.6 Key interdependencies

The planning approach for SRL East seeks assessment and approvals of logically separable program elements. This allows a customised and more appropriate assessment process to be followed for each element. Within the overall SRL East planning approvals process, SRLA is managing the following interdependencies:

- Early Works are integral to the SRL East Transport Project and will be assessed as part of the EES. If the same contractor undertakes both Initial Works and Early Works, they will need to ensure that the delivery program reflects the different approvals timelines and requirements
- More detailed Structure Plans, will form part of future PSAs following approval of the Transport Project EES and PSA
- Preferred station locations and entrances are key inputs into the SRL Structure Plans. These will be finalised by the approval of the SRL East Transport Project PSA
- The formal planning assessment and approvals process for Structure Plans will not commence until after the approval of the Transport Project PSA.

14.7 Other planning issues and considerations

14.7.1 Secondary consents and land assembly

Following planning approvals of both Initial Works and the SRL East Transport Project PSA, there may be additional requirements for secondary consents to be obtained, as well as lengthy land acquisition / possession processes.

To minimise approval and program delay risks, SRLA has considered – and made provision for – the following key steps typically required prior to the commencement of works:

- Project area designation by the Minister for Planning under the MTPF Act, which requires the preparation of detailed plans by SRLA and review by the Office of the Surveyor General
- Land assembly, either by agreement or by exercising compulsory acquisition powers under the MTPF Act and LAC Act
- Approval of secondary consents prior to the commencement of relevant works.

14.7.2 Approach to dealing with upcoming updates to the *Environment Protection Act 2017* (EP Act) and subordinate legislation

SRLA is consulting with the Environment Protection Authority to support achievement of the environmental and human health protection principles enshrined in the EP Act. The EP Act was amended by the *Environment Protection Amendment Act 2018*, which will come into effect on 1 July 2021.

15 Risk management

Chapter summary

- SRLA is instilling the highest level of risk awareness across its organisation and SRL. SRLA's key principles for managing risk include:
 - The establishment of a risk-aware culture, ensuring that policies, systems and processes are applied systematically across the organisation
 - Multi-level governance and oversight
 - Continual monitoring, recognising that risks change over time.
- SRLA has developed a Risk Management Framework (SRLA Risk Framework), which is in accordance with the Department of Treasury and Finance's (DTF) High Value High Risk (HVHR) Guidelines, Infrastructure Australia Guidelines and AS/NZS ISO 31000:2018 Risk Management – Principles and Guidelines. The framework provides guidance to the risk governance, assessment and management processes for SRL.
- The risk governance model embedded within the SRLA Risk Framework establishes accountability for the management and oversight of risk, including procedures for escalation of risks across all levels of SRLA.
- SRLA has adopted a structured approach to quantifying risks and opportunities, which enables raw (non-risk adjusted) estimates to be converted into risk adjusted estimates. This approach incorporates risk identification and analysis, as well as review and refinement procedures.
- SRLA recognises that risk management is an ongoing initiative, and processes will continue to be developed over time as SRL is planned and delivered. Risk registers documenting identified risks, risk quantification and assessments, and mitigation strategies will be refined during the SRL's design development.

15.1 Introduction

Managing risk is an integral part of good project management and an essential element of successful project delivery. A program of the scale and complexity of SRL involves a significant number of risks (with varying degrees of impact) that need to be managed and/or mitigated to ensure program objectives are still achieved.

SRLA has developed a comprehensive approach to risk assessment and management in line with relevant guidelines and standards. As part of this, SRLA sought to understand key lessons learned from other projects and to apply international best practice. These risk assessment and management processes will remain an ongoing focus for SRLA throughout its existence and will be applicable to all phases of SRL.

In delivering SRL East, SRLA will ensure a consistent approach to considering and managing risk across its operations to protect and create value for Victorians, including through:

- Risk-based decision making processes
- Risk-based allocation of limited resources
- An effective control environment.

SRLA Risk Management Principles

SRLA is instilling the highest level of risk awareness across its organisation and SRL, and has adopted the following key principles in managing organisation and program risks:

- **Risk-aware culture** – Risk management is an integral part of SRLA's culture, reflected in policies, systems and processes which are applied systematically to strategic business planning, performance management and governance operations to ensure that threats to SRLA's strategic objectives and goals are managed appropriately. Adherence to the SRLA Risk Framework will enable SRLA to follow a consistent approach for managing risks across the organisation
- **Multi-level governance and oversight** – Responsibility for managing SRLA risks exists at several levels: the SRLA Chief Executive Officer (CEO), the SRLA Advisory Board, the Audit and Risk Committee, the SRLA Executive Leadership Team, Project Control team and Project Directors
- **Continual monitoring** – Risks change over time. Risks therefore need to be monitored and reviewed to ensure decisions regarding risks remain relevant and appropriate.

15.2 Key characteristics and risk profile

SRL is unique in its scale and complexity. Key characteristics affecting the program's risk profile include:

- **Duration and staged delivery** – SRL involves a new orbital rail line spanning 90km and a range of precinct development initiatives across Melbourne's 'middle ring' of suburbs to improve productivity, connectivity and liveability. A program of this scale requires staged delivery across multiple decades, creating a number of challenges and risks not faced by most other projects.
- **Urban environment** – SRL East and SRL North will involve major infrastructure works and precinct development activities in established urban areas. Activities will need to be carefully planned and implemented to minimise disruption and manage impacts on communities.
- **Scale and complexity** – SRL is the largest and most complex transport project in Victoria's history, and encompasses an ambitious range of initiatives to enhance the SRL Precincts. The new SRL East rail line from Cheltenham to Box Hill will involve underground construction in challenging ground conditions, with complex rail systems and a significant number of interfaces, resulting in a range of risks that will require careful management.

SRLA's approach to risk management responds to these unique characteristics.

15.3 Approach to risk management

15.3.1 Risk management framework

In line with Victorian Government Risk Management Framework (VGRMF) requirements, SRLA has adopted the risk process outlined in ISO 31000:2018 Risk Management. This international standard for risk management is a core component of the SRLA Risk Framework, which will be incorporated into SRLA's planning and delivery of SRL.

The approach taken under the SRLA Risk Framework includes:

- Alignment with Department of Transport's (DoT) Risk Management Framework
- Management of risks using consistent risk management practices
- Establishment and operation of risk management committees and working groups to oversee risk management activities at the corporate and divisional level
- Establishment and regular review of risk registers at the corporate (enterprise), divisional and project levels
- Development and implementation of risk treatment plans for identified enterprise, divisional and project risks
- Embedding risk management practices into SRLA's planning and delivery processes
- Using enterprise and divisional risk registers to maintain SRLA's risk records and facilitate risk reporting
- Ensuring that risks are reviewed regularly and within minimum timeframes
- Nominating risks for escalation using procedures outlined in the risk management process guide
- Communicating, coordinating or collaborating as appropriate to manage inter-agency, shared and state-significant risks
- Meeting reporting and assurance requirements to provide the Audit, Risk and Integrity Committee and SRLA Executive Leadership Team with timely and accurate information on enterprise risk, controls and framework performance
- Providing an annual attestation of SRLA's compliance with the VGRMF requirements.

15.3.2 Risk management process

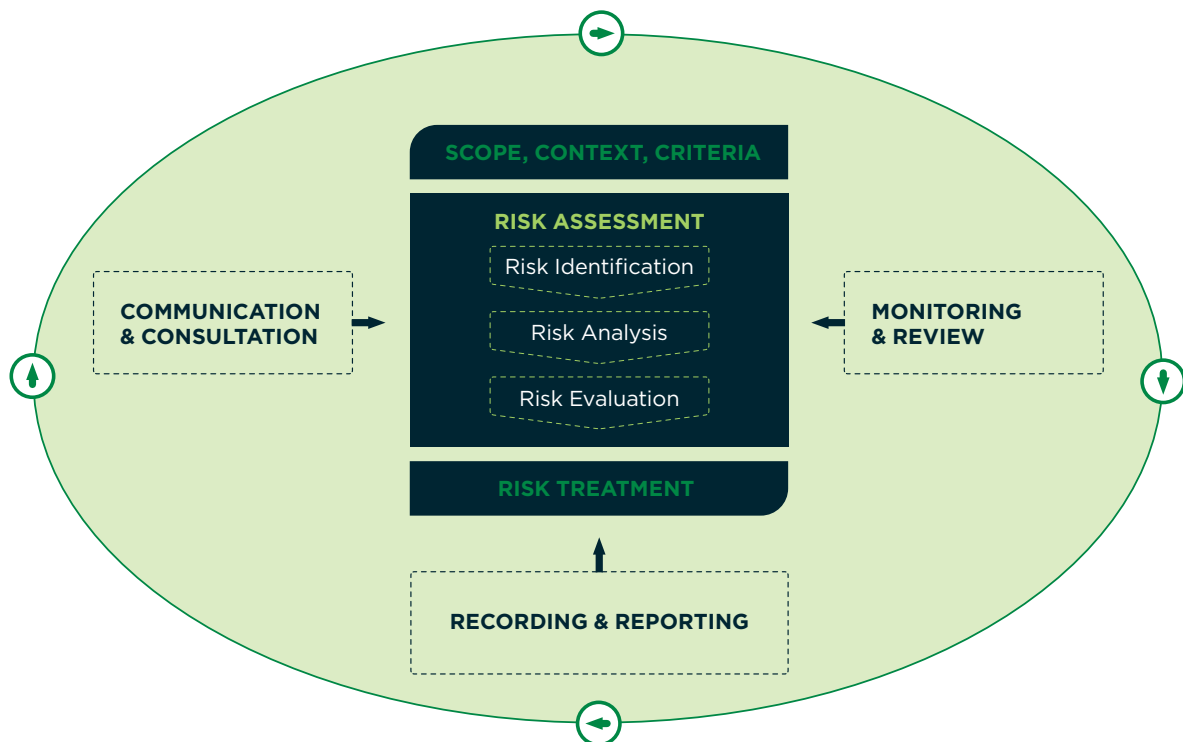
The risk management process developed by SRLA is an integral part of management and decision making. It is designed to be dynamic and iterative to help SRLA proactively tackle risk and respond to change. It has been integrated into SRLA's organisational structure, operations and processes, and applies at strategic, operational, program and/or project levels.

As shown in [Figure 15-1](#), the ISO 31000 risk management process adopted by SRLA involves the systematic application of policies, procedures and practices to the activities of communicating and consulting, establishing the context and assessing, treating, monitoring, reviewing, recording and reporting risk.

The following activities are integral to the risk management process:

- Establishing the scope, context and criteria – to ensure the risk management process is fit for purpose, enabling effective risk assessment and appropriate risk treatment
- Communication and consultation – to ensure those accountable for implementing the risk management process and stakeholders understand the basis on which decisions are made
- Risk assessment and treatment – to identify, analyse and evaluate a risk, and then to determine SRLA's approach to management of the risk
- Recording and reporting of risks – to communicate risk management activities and outcomes, provide information for decision making, improve risk management activities and assist engagement and interaction with stakeholders.

Figure 15-1: SRLA risk management process



SRLA's risk governance and management structures have also been aligned to the key elements of the formal risk process illustrated in [Figure 15-2](#) below.

15.3.3 Risk governance

The risk governance model embedded within the SRLA Risk Framework establishes accountability for the management and oversight of risk, including procedures for escalation of risks across all levels of SRLA.

Consistent with DoT's Risk Management Framework and the VGRMF, SRLA has adopted a 'three lines of defence' model for managing and auditing risk. In this model, the day-to-day decisions of personnel at all levels is the first line of defence, with appropriate oversight by management. Supporting functions, such as SRLA's risk management and project control teams, are the second line of defence, and impartial review via audit and/or assurance processes is the third line of defence. Working together, these three lines of defence serve to protect SRLA from excessive or undesirable levels of risk.

As shown in [Table 15-1](#) below, the three lines of defence model distinguishes the three groups involved in effective risk management:

- Functions that own and manage risk
- Functions that oversee risk
- Functions that provide independent assurance.

Table 15-1: Three lines of defence

First line	Second line	Third line
Project teams and management	Risk management function	Internal audit / External assurance
Setting strategy, measuring performance and establishing and maintaining risk management, control and governance across respective business functions.	Providing a risk framework to improve decision making, planning, and prioritisation of business activities.	Providing independent and objective assurance of the overall adequacy and effectiveness of governance, risk management and control within SRLA.
Roles and responsibilities		
<ul style="list-style-type: none"> — Identify risk — Consider risk in operational decision making — Align decisions with risk appetite — Implement and maintain controls — Report on the adequacy of risk mitigation. 	<ul style="list-style-type: none"> — Maintain risk governance — Develop the risk framework — Provide supporting tools — Facilitate management of enterprise risk — Assessment and reporting — Manage the risk function — Facilitate the setting of risk appetite. 	<ul style="list-style-type: none"> — Assess the risk environment — Provide independent assurance on the internal control system — Communicate residual or unacceptable risk exposure for remediation.

The three lines of defence will be overseen by SRLA's established governance processes, including by the SRLA Board and the Audit, Risk and Integrity Committee. Further information in relation to SRLA's governance arrangements is provided in [Chapter 13](#).

15.3.4 Risk assessment process

Risk assessment is part of the overall risk management process and comprises the key steps of risk identification, risk analysis and risk evaluation:

- **Risk identification** – The purpose of risk identification is to find, recognise and describe risks (or opportunities) that might prevent (or help) SRLA achieve its objectives
- **Risk analysis** – The purpose of risk analysis is to understand the nature of identified risks and their characteristics. It involves a detailed consideration of consequences, likelihood, complexity and connectivity, time related factors, effectiveness of existing controls and sensitivity and confidence levels
- **Risk evaluation** – The purpose of risk evaluation is to support decisions. Risk evaluation involves comparing the results of the risk analysis with SRLA's risk criteria to determine where additional action is required.

Following this process, SRLA will determine which risk treatment is required to reduce any residual risk to an acceptable level. Treatment options can include avoiding a threat, reducing a threat, transferring a risk, sharing a risk, accepting a risk and/or preparing contingent plans.

In combination, the steps of risk identification and risk analysis allow for risks to be quantified. Risk review and refinement also have an important bearing on risk quantification, serving as a feedback process to ensure the risk analysis remains accurate and up to date. Further details on the critical sub steps of the process of risk quantification are provided in [section 15.3.5](#) below.

15.3.5 Risk quantification

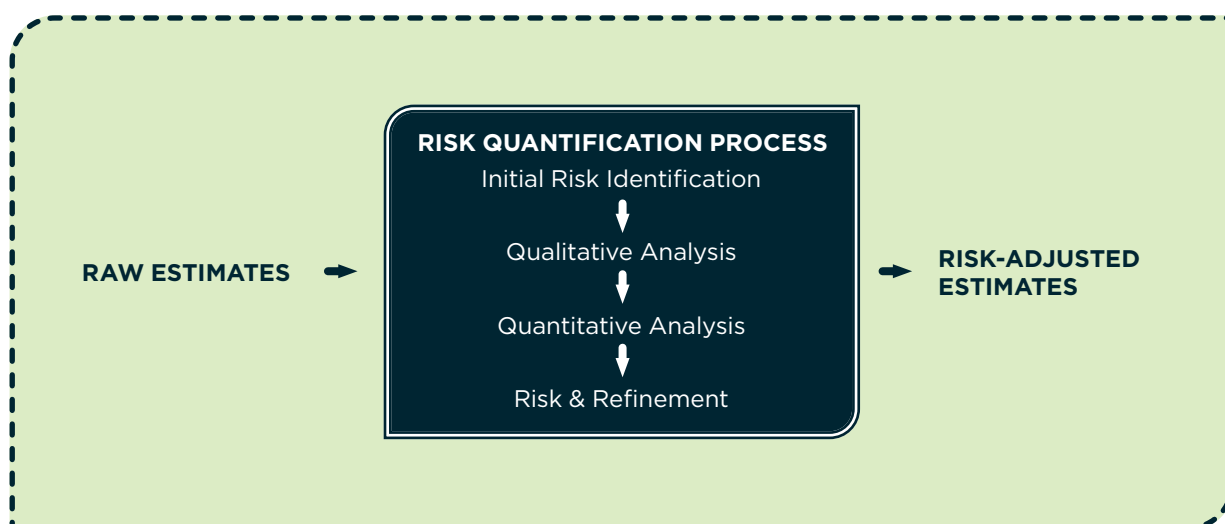
SRLA has developed and will continue to develop a range of program cost estimates (capital and operational) and revenue projections during the preparation of Funding Submissions and to inform government funding decisions.

To ensure these estimates are realistic and appropriate, SRLA has adopted a four-step process to quantify risks and opportunities, enabling raw (non-risk adjusted) estimates to be converted into risk adjusted estimates. This process incorporates the risk identification and analysis elements of the overall risk assessment process, as well as review and refinement procedures.

SRLA's approach to risk quantification may be tailored over time to reflect the specific circumstances of SRL East and the relevant funding decision. For example, more simple risk quantification processes may be adopted for lower value and/or lower risk investments, whereas more complex risk quantification processes can be adopted for higher value and/or higher risk investments.

The following section focuses on the risk quantification process for 'high value and high risk' (HVHR) investments, which is consistent with the process adopted for the SRL East Main Works Funding Submission. This approach was developed in accordance with the DTF HVHR Guidelines, Infrastructure Australia Guidelines and AS/NZS ISO 31000:2018 Risk Management – Principles and Guidelines. This process is illustrated in [Figure 15-2](#) and explained below.

Figure 15-2: Risk quantification process and methodology



Step 1: Initial risk identification

Based on the development, planning and investigation work undertaken, preliminary risk registers are populated through the following risk identification methods:

- Dedicated risk identification and risk treatment workshops
- Individual inputs (raised with their line manager, safety director, etc.)
- Regular meetings or risk review updates.

Risk registers will record identified details of each risk, including its description, causes, consequences, risk owner, risk ratings, controls and treatment plans.

To facilitate overview and understanding, risks are also grouped into broader categories, which provide high-level descriptions of sources of uncertainty and their consequences, expressed in more general terms.

Risk identification will continue as an iterative process on a whole-of-project-life basis, with risk registers updated as required. This includes capturing risks related to the planning and development, delivery and operational phases of SRL East and SRL North.

Step 2: Qualitative analysis

Identified risks (from Step 1) are analysed and reported in terms of likelihood and consequence criteria, which together determine the risk's rating. This initial rating assesses the level of risk without any controls in place and is captured in the risk register.

Five category levels are used to qualitatively assess the likelihood (from rare to almost certain) and risk consequence (from insignificant to catastrophic).

Step 3: Quantitative analysis

Quantitative risk analysis involves quantifying (using the best available data) the probability and consequence that a risk will affect an objective, with these parameters documented for each risk. As the impact on areas such as the organisation, local infrastructure, health and safety, environment and regulatory, economic and political aspects is not easily quantifiable, focus is placed on the time and cost consequences of the risk.

For binary risk events with fixed consequences, the expected consequence can be calculated as:

$$\text{Probability (\%)} * \text{Impact (Time)} = \text{Expected Time Consequence}$$

$$\text{Probability (\%)} * \text{Impact (Cost)} = \text{Expected Cost Consequence}$$

In cases where the impact of a risk event on the objectives varies depending on the severity of the cause, the expected impacts of the risk are best expressed with probability distribution curves. The cumulative effect of multiple risks upon a program can be modelled against the objectives (time / cost) by using a Monte Carlo simulation, as required. This analysis, known as a Quantitative Risk Assessment (QRA), will generate overall program cost and time probability distribution curves.

Specifically, the QRA process involves the following steps:

- Confirm the context (in terms of scope, measures, basis for calculation, etc.)
- Develop a QRA model structure (time, cost, allowances for weather, etc.)
- Undertake risk quantification analysis and correlation workshops to gather the parameters (minimum / likely / maximum impacts, probabilities of identified risks, distribution curves, correlation between identified risks)
- Conduct structured interviews with subject matter experts to verify parameters and exercise independent judgment
- Run Monte Carlo simulation
- Interpret results and validate the model.

Step 4: Review and refinement

Following completion of Step 3, SRLA reviews the outcomes of the detailed risk quantification process, including benchmarking exercises to compare the quantified risk (in percentage terms) to the assumptions and outcomes of comparable infrastructure projects. Risk registers and relevant assumptions are also reviewed periodically by SRLA in accordance with SRLA's Risk Framework.

As part of the review and refinement process, assurance processes are also undertaken to confirm that the risk quantification process has been undertaken appropriately and that the risk outputs are within expected ranges. For example, for the Stage One Main Works Funding Submission, this includes an independent review in accordance with the DTF HVHR Guidelines.

SRLA's risk registers are updated and refined as a result of review and refinement processes, and where relevant, additional risk workshops and Monte Carlo simulations are undertaken.

15.4 Management of key risks

15.4.1 COVID-19

As outlined in Chapter 1, this Investment Case has been prepared during the COVID-19 global pandemic, which has created a range of uncertainties, risks and opportunities for governments, businesses and communities across Australia and around the world.

The uncertainties created by the COVID-19 pandemic have been considered as part of the risk quantification process for SRL East, as well as the demand and economic appraisal in this Business and Investment Case (summarised in Chapter 12).

15.4.2 Lessons learned from previous projects

SRLA has undertaken an extensive review and engagement process to ensure that lessons are learned from previous projects, including in relation to identifying and managing risks. This has included consultations with the Office of Projects Victoria (OPV), Major Transport Infrastructure Authority (MTIA) and Sydney Metro, as well as engagement with a range of individuals with experience from comparable projects in jurisdictions overseas (including, for example, Crossrail in the UK and Paris Metro in France).

15.4.3 Key risks

Specific key risks and a targeted approach to managing them will be considered in detail as part of Funding Submissions and SRLA's ongoing risk management process.

SRLA will manage risks across all levels of the organisation and in relation to specific functions:

- **Enterprise risks** – refers to the overall risk that SRLA takes or holds as an organisation to achieve its objectives (i.e. SRL East and SRL North program of works). This includes all areas of organisational exposure to risk, including financial, operational, reporting, compliance, governance, strategic, reputational, health and safety etc. These risks will be managed by both the CEO and the SRLA Executive Leadership Team
- **Divisional and project risks** – refers to risks associated with delivering the SRL, which can be effectively managed by the project team and the divisions.

In addition, SRLA will also support the management of risks by other government entities including state-significant risks, shared risks and transport portfolio strategic risks.

Table 15-2 outlines a selected list of key risks relevant to SRL East and SRL North. A high-level overview of SRLA's current approach to risk mitigation has also been provided, which will be developed further over time as the program is planned and delivered.

Table 15-2: Summary of selected key risks

Risk	Description	Current mitigation strategies
Planning and environmental approvals	<p>Rail infrastructure works and precinct activities will be subject to a range of environmental and planning approvals.</p> <p>There is a risk that these approvals are not obtained within assumed timeframes and/or that approvals contain unforeseen conditions, leading to delays and/or increased costs.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> – SRLA is engaging with relevant planning authorities to understand requirements and likely timeframes. – Appropriate allowances (including contingency) will be included within SRLA's programs.
Land assembly	<p>Rail infrastructure works and precinct activities will require significant land, including in established urban areas. This land will need to be purchased or compulsorily acquired.</p> <p>There is a risk that the land assembly process takes longer than anticipated, costs more than expected and/or that the initial land take is ultimately not sufficient to accommodate the required works and activities.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> – SRLA is undertaking detailed design and other planning activities to understand the required land take. – SRLA will engage collaboratively with potentially affected landowners. – Appropriate allowances (including contingency) will be included within SRLA's programs and budgets.
Scope	<p>Due to the scale and complexity of SRL, there is a risk that:</p> <ul style="list-style-type: none"> – Scope is inappropriately defined or not well-understood, with the required scope not fully reflected in designs and cost estimates – Stakeholder requirements lead to unforeseen changes in scope – Scope changes occur during the detailed design development process – Classifications of scope items as per Scope Allocation Framework change during detailed planning and design processes. <p>In each case, this could lead to delays and/or cost increases.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> – SRLA is undertaking detailed design, site investigations, stakeholder consultations and other technical works to ensure that scope is well-understood and clearly defined – SRLA will ensure that bidders are provided with all relevant information and given sufficient time to develop their tender and final designs – SRLA will adopt a collaborative approach to working with contractors, both through interactive tender processes during bid design development, and subsequently during the detailed design development process to appropriately manage / minimise change – SRLA is considering scope risk and mitigations as a key objective during the development of its packaging and procurement strategy (including the selection of a delivery model) – SRLA is developing a rigorous approach to project controls, including in relation to scope, budget and change management.

Risk	Description	Current mitigation strategies
Site conditions	<p>SRL East will be predominantly underground, with SRL North also expected to include underground sections. The rail alignment will be through a variety of challenging geological conditions, which will create various design and construction impacts.</p> <p>Unforeseen ground conditions can affect productivity and construction methodologies.</p> <p>Other key site conditions risks include unexpected utilities, contamination and groundwater management issues.</p> <p>Adverse site conditions can result in time and/or cost impacts.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> — SRLA is currently undertaking extensive site investigations, including: <ul style="list-style-type: none"> — Non-destructive digging and spatial mapping to identify utility services — Geotechnical drilling and testing to determine ground conditions — Installation of groundwater monitoring systems to allow sample collection and measurement of groundwater levels — Additional targeted investigations where contamination is present. — The results of these investigations will be subject to peer review and shared with the contractor market. Additional investigations will be undertaken where required, including in response to feedback / requests from the contractor market. — SRLA is also engaging with utility service providers and other asset owners to ensure that existing services are identified and requirements are understood.
Interfaces and systems integration	<p>SRL will involve a significant number of complex interfaces, including between:</p> <ul style="list-style-type: none"> — Works and systems within individual work packages (intra-package interfaces) — Works and systems within different work packages (inter-package interfaces) — Rail and precinct activities — Sequence of delivery — SRL works with other projects (for example, Melbourne Airport Rail, etc.) — SRL works with the existing transport network. <p>Poorly managed interfaces can lead to delays and/or cost increases.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> — SRLA is focusing on the identification and management of interfaces across the program lifecycle, including specification, design, construction, testing and commissioning and operations and maintenance. — The delivery strategies for program works are being developed to minimise interfaces between work packages, and to ensure that all interfaces are clearly understood and manageable. — Delivery contracts will include appropriate regimes to ensure that interface risks are managed appropriately. — SRLA is adopting a systems engineering approach to the management of interfaces, with a focus on systems integration from the outset of the planning and design process. — SRL will be a standalone network, but it is intended that it will be integrated with the existing transport network.

Risk	Description	Current mitigation strategies
Quality and performance	<p>Issues associated with performance and/or quality can delay projects, cause additional costs or affect the achievement of project benefits.</p> <p>For example, SRL works could potentially be affected by sub-optimal contractor performance, tunnel boring machine (TBM) failure or latent defects.</p>	<p>SRLA will manage contractor performance and quality through:</p> <ul style="list-style-type: none"> – The use of appropriate specifications, requirements and standards – Appropriate allocation of risk, including in relation to the quality of works and rectification of defects – Proactive management of contractors, with a collaborative approach to the resolution of issues.
Market capacity and competition	<p>Given the scale of SRL and the number of major projects in the current infrastructure pipeline, there is a risk that market capacity constraints could affect SRLA's ability to deliver SRL East and SRL North, leading to delays and/or cost increases.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> – Market capacity and competition is a key consideration for SRLA in developing its delivery strategy for SRL and, in particular, in the development of packaging and procurement strategies. – SRLA is undertaking a detailed market engagement process to better understand market perspectives, including any constraints and barriers to entry. – SRLA will seek to coordinate its activities with other government agencies procuring for major infrastructure projects in Victoria and interstate.
Industrial relations	<p>Unanticipated industrial relations conditions, wage rates or other allowances can lead to unexpected costs.</p> <p>Industrial action can lead to delays and additional costs.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> – SRLA will work with its delivery partners to ensure that industrial relations are appropriately managed. – Appropriate allowances (including contingency) will be included within SRLA's programs and budgets.
Stakeholders and community	<p>SRL East and SRL North will involve extensive works in existing urban precincts, causing disruption and other impacts to local businesses and communities.</p> <p>Local community and stakeholder opposition can lead to delays and/or a requirement for scope changes and additional costs.</p>	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> – SRLA is planning its activities to minimise disruptions and maximise community benefits. – Further information in relation to SRLA's approach to stakeholder communications and engagement is discussed in Chapter 18

Risk	Description	Current mitigation strategies
Rail operations	<p>Key categories of risks during the operations phase of SRL include:</p> <ul style="list-style-type: none"> — Reliability and performance of the rail system — Operating, maintenance, lifecycle and other costs — Patronage and farebox revenues. 	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> — Rail operations performance is a key focus for SRLA in determining the specifications, requirements and design of the rail infrastructure works. — SRLA is preparing Concept of Operations and maintenance documents to ensure that operational requirements are captured and factored into the design development process. — The role of the future accredited rail operator is also a key focus for SRLA in developing its packaging and procurement strategy for the works. Early procurement of the operator (as one of the first contracts to be awarded for SRL East) is being considered by SRLA as a potential risk mitigation strategy.
Future Stages	<p>The multi-staged nature of SRL creates a range of additional risks, including:</p> <ul style="list-style-type: none"> — The need to extend works and systems across stages (for example, certain rail systems) — Corridor preservation for Future Stages — Technological change and/or obsolescence — Delays to delivery of SRL North — Other societal changes that affect the outcomes achieved through SRL. 	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> — Ensuring that the works are packaged and procured in a manner that maximises competition and ensures value for money for SRL North — Undertaking early planning works for SRL North — Seeking to appropriately future-proof for technological and other changes.

Risk	Description	Current mitigation strategies
Benefits realisation	<p>Key risks impacting the realisation of SRL East program benefits include:</p> <p>Patronage</p> <ul style="list-style-type: none"> — If SRL East and SRL North fails to achieve the forecast level of patronage, this could put at-risk the program's connectivity and productivity benefits <p>OSD/ASD integration</p> <ul style="list-style-type: none"> — A failure to effectively align SRL East and SRL North rail infrastructure works with the planned over-station development (OSD) / adjacent-to-station development (ASD) opportunities could result in sub-optimal precinct outcomes, putting at-risk SRL's liveability and productivity benefits <p>Precinct initiatives</p> <ul style="list-style-type: none"> — SRL is an integrated transport and land use program, and its benefits can only be realised fully if precinct initiatives are implemented successfully alongside the transport investment — Land use planning outside of SRL Precincts has the potential to diminish SRL Precinct growth outcomes. 	<p>SRLA is taking the following steps to manage this risk:</p> <ul style="list-style-type: none"> — SRLA has undertaken significant demand modelling to develop its patronage forecasts, including sensitivity analysis. Throughout the SRL lifecycle, SRLA will maintain a strong focus on realising the connectivity and productivity benefits by optimising the public transport user experience and outcomes — SRLA is an integrated organisation with divisions focused on both 'Rail and Infrastructure' and 'Planning and Precincts'. Leveraging this integrated organisational structure, SRLA will ensure that OSD/ASD outcomes and wider precinct initiatives are embedded in SRLA's development philosophy and approach — SRLA is engaging with program partners to ensure the benefits of the Victorian Government's investment in SRL East can be maximised — SRLA is engaging with relevant government stakeholders to encourage a coordinated and managed approach to growth where there is a potential for precinct growth to be impacted.

15.4.4 Risk allocation

A key aspect of risk management is the appropriate allocation of risks between parties, underpinned by the core principle that risks should be allocated to the party / parties best able to manage them. In the context of major infrastructure projects, a key consideration is the extent to which risks should be retained by government, allocated to the private sector and shared between the parties.

The appropriate risk allocation for individual works packages will be considered as part of the relevant Funding Submissions, discussed collaboratively with the market and relevant industry participants, and refined prior to the award of contracts.

16 Packaging and procurement

Chapter summary

- A key consideration for packaging and procurement is market conditions, and in particular, the impact of the infrastructure project pipeline on market capacity and constraints. This is particularly relevant for SRL East, with Victoria currently in the midst of an infrastructure boom.
- SRLA is adopting a five-step process to developing its packaging and procurement strategy in accordance with Department of Treasury and Finance (DTF) and Infrastructure Australia procurement guidelines. This process includes data gathering, packaging analysis, procurement options considerations, market validation and recommended approach.
- A number of key issues need to be considered in developing an appropriate packaging and procurement strategy for the rail infrastructure, including packaging size and complexity, requirement for line-wide works, flexibility and innovation, management of interfaces, systems integration, operations and maintenance, program scheduling, cost certainty and market capacity and appetite.
- SRLA will work closely with the development market, key precinct stakeholders and other program partners to develop tailored packaging and procurement strategies that facilitate the successful delivery of the SRL Precincts.
- Multiple competitive tender processes will be undertaken in accordance with relevant government guidelines and frameworks.

16.1 Background and context

As presented earlier in this Business and Investment Case, SRL represents a staged program of works to be delivered over multiple decades. This chapter presents SRLA's approach to the development of the packaging and procurement strategy for SRL East and SRL North, with SRL East being the immediate focus and priority. Detailed packaging and procurement analysis will be developed, documented and approved by the Victorian Government.

16.1.1 Market considerations

A key consideration in developing the packaging and procurement strategy is the impact of current and future projects on market conditions. Over 160 major road and rail projects are currently being planned and delivered across Victoria, more than \$80 billion in expenditure.³⁷² Major projects include the Metro Tunnel, the Level Crossing Removal Program, West Gate Tunnel, North East Link and Melbourne Airport Rail.

A large number of major transport projects are also being planned and delivered elsewhere across Australia. Publicly-funded engineering construction expenditure has increased in Australia by 40 per cent over the four years to 2018-19, and the wide-spread and ongoing government commitment to major projects is translating into a 'new normal' level of public sector investment in infrastructure projects.

In addition to the many projects being delivered across Australia, there are around \$200 billion worth of transport investments in the pipeline,³⁷³ with the majority of these investments occurring along the eastern seaboard. Given the long-term nature of SRL, it is inevitable that additional projects will be added to this pipeline as SRL is planned and delivered.

Market capacity has already emerged as an issue in recent years, with Victorian projects competing with interstate and international projects for contractors, labour and resources. It is therefore crucial to consider how best to deliver future projects, engage with the market and manage risks in this changing environment (including how best to attract international interest) to ensure that Victoria's pipeline of major projects can be successfully delivered on a value for money basis.

Current market conditions and market feedback are being considered by SRLA to inform the packaging and procurement strategy for SRL East. SRLA will continually monitor market conditions as SRL is planned, procured and delivered.

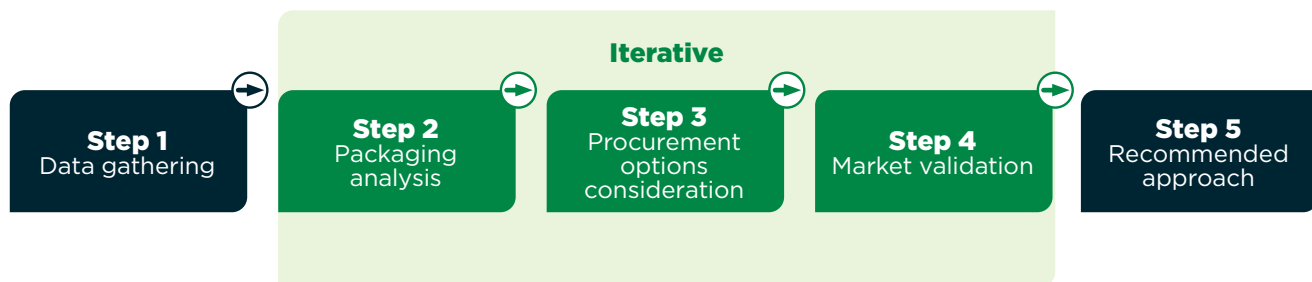
³⁷² Victoria's Big Build (4 December 2020), <https://bigbuild.vic.gov.au/about>

³⁷³ *Australia and New Zealand Infrastructure Pipeline* (accessed on 14 December 2020)

16.2 Packaging and procurement options assessment framework

As shown in Figure 16-1, SRLA is adopting a five-step process in accordance with DTF and Infrastructure Australia procurement guidelines to identify and consider potential packaging and procurement options.

Figure 16-1: Process for developing packaging and procurement strategy



- **Step 1: Data gathering** – Key information about the relevant SRL East and SRL North works is gathered, including objectives, scope elements, key interfaces, costs, risks and broader market considerations. This step also involves gathering lessons learned from previous projects in Victoria, interstate and overseas
- **Step 2: Packaging analysis** – The key scope elements are analysed against identified packaging value drivers to consider whether it would be optimal for components to be delivered individually (as multiple packages) or bundled together (as a single package)
- **Step 3: Procurement options consideration** – The proposed packages (developed in Step 2) are considered against a shortlist of procurement models
- **Step 4: Market validation** – The shortlisted packaging and procurement strategies (developed in Steps 2 and 3) are tested and validated with the market through a market engagement process. Typically, this would involve several rounds of market soundings to develop, test and refine the proposed approach
- **Step 5: Recommended approach** – Based on the iterative process in Steps 2 to 4, SRLA will develop a recommended packaging and procurement strategy for consideration and approval by the Victorian Government.

SRLA notes the above considerations cannot be analysed in isolation and the process is iterative in nature (particularly Steps 2, 3 and 4).

16.3 Key packaging and procurement considerations

16.3.1 SRL rail and infrastructure

Some key issues relevant to the development of the packaging and procurement strategy for the SRL East and SRL North rail line are summarised in [Table 16-1](#) below. SRLA will ensure these key issues are considered and addressed in the packaging and procurement strategy for SRL East, and that these and any other emerging market issues will be considered for SRL North.

Table 16-1: Packaging and procurement considerations – rail

Issue	Description
Package size and complexity	<p>Each stage of the SRL rail line will be too large to be delivered as a single package of works. SRLA will therefore need to break-up the works for each stage into manageable packages. In doing so, SRLA will seek to develop packaging strategies that:</p> <ul style="list-style-type: none"> — Limit the scale and complexity of each package, such that the works can be managed and delivered successfully by the market (for example, without requiring overly large / complex consortia or requiring individual contractors to take on an undesirable volume of work or level of risk) — Enable interfaces to be managed effectively, both between and within packages (see below) — Group together works of a similar technical nature and/or risk profile, enabling an appropriate level of specialisation by the market (and potentially separating works that involve different disciplines or very different types of organisations) — Maximise market interest (see below).
Line-wide works	<p>The packaging strategy will need to recognise that certain works need to be designed, delivered and commissioned on a line-wide basis. For example, some components of the works need to operate as an end-to-end system (e.g. train control) and other components will need to be consistent across the line to enable efficient operations and maintenance (e.g. consistent plant, equipment and systems at each station).</p> <p>The packaging and procurement strategy will also need to consider how certain line-wide systems delivered in SRL East can be extended / augmented for SRL North on a value for money basis.</p>
Flexibility and innovation	<p>SRLA will need to consider the extent to which the packaging and procurement strategy creates or reduces opportunities for innovation in design, construction methodologies and operations and maintenance.</p> <p>The desire for innovation will, to a degree, need to be balanced against the need for certainty. For example, certain aspects of the works are likely to be ‘fixed’ or specified within certain parameters by planning approvals processes to enable interfaces to be effectively managed and to meet SRLA’s and other stakeholders’ requirements.</p>
Management of interfaces	<p>Packaging strategies will need to be developed in a manner that provides for manageable interfaces between packages – for example, through clearly defined geographic boundaries or clear delineation between technical disciplines, work types or systems.</p> <p>Flexible procurement models with appropriate risk allocations and incentive mechanisms will be required for certain aspects of the works to enable interfaces to be managed in a collaborative manner. It will also be important to ensure that the selected procurement models provide SRLA with an appropriate level of transparency and control to proactively identify and help manage interface issues between packages.</p> <p>Collaborative contractual arrangements between package contractors (for example, to establish inter-package groups to coordinate activities, manage interfaces and resolve issues) are also likely to be required.</p>

Issue	Description
Systems integration	<p>To successfully deliver the SRL railway, it will be necessary to consider not just the interfaces between individual systems, but the integration and commissioning of the systems as a whole. This issue is particularly important in rail given the complexity of the systems, as well as the need to ensure safety and to satisfy regulatory requirements.</p> <p>This will be a critical area of focus for SRLA throughout each stage of the works – with systems engineering and integration being a key consideration from the outset.</p>
Operations and maintenance	<p>The packaging and procurement strategy will require a whole-of-life focus, including the operation of the SRL rail services and the maintenance of assets. Operator input into design, delivery, systems integration and commissioning will be critical to the program's success, and this will need to be carefully considered and managed as part of the packaging and procurement strategy and throughout the tender processes. Again, this is particularly important for rail projects given the paramount importance of safety and the need to consider accreditation and regulatory requirements.</p> <p>The packaging and procurement strategy will also need to consider how the operating and maintenance arrangements of SRL East can be extended or retendered for SRL North on a value for money basis.</p>
Program (schedule)	<p>SRLA will need to consider the extent to which different packaging and procurement strategies facilitate the timely completion of the works. For example, different packaging strategies might create program synergies (or inefficiencies), and the procurement models and risk allocations will need to be selected to create appropriate program-based incentives, including incentives to collaborate across packages on a 'best-for-project' (not 'best-for-package') basis.</p>
Cost certainty	<p>The works will need to be packaged and scoped in a manner that can be accurately priced by the market, with an appropriate procurement model selected for each package to provide an appropriate level of cost certainty while balancing the level of risk and uncertainty (including the uncertainty created by inter-package interfaces). Where risk and uncertainty can be managed and are best placed with the contractor, SRLA will seek to achieve an appropriate level of cost certainty through the contracting arrangements.</p>
Market capacity and appetite	<p>SRLA will need to develop packaging and procurement strategies that are attractive to the market, resulting in an approach under which the market can successfully deliver the works on a value for money basis.</p> <p>To achieve this, SRLA will need to continually assess the market's appetite and capacity to manage different packages of works and to accept different risk profiles.</p>

16.3.2 SRL precinct development and initiatives

Many of the key issues discussed in section 16.3.1 will be relevant to the packaging and procurement of precinct development activities and initiatives. For example, management of interfaces will be critical to the successful delivery of any over-station developments (OSD) / adjacent-to-station developments (ASD), and it will be important to understand the market's appetite and capacity to deliver potential developments.

SRLA will work closely with the development market, key precinct stakeholders (such as major institutions) and other program partners (such as local councils) to develop packaging and procurement strategies to facilitate the successful delivery of precinct activities. For Critically Interdependent and Complementary initiatives, which will be delivered by program partners (in consultation with SRLA), the procurement and delivery strategies will be developed on a case-by-case basis taking into consideration overall SRL East procurement activities.

In general, precinct development activities and initiatives will be the subject of focused Funding Submissions with tailored packaging and procurement strategies. SRLA will explore opportunities to bundle these activities with major works contracts for the rail line where it makes sense to do so (for example, to minimise interfaces or take advantage of synergies) and will otherwise follow normal government procurement approaches for the relevant types of works.

16.4 Tender processes

As highlighted throughout this chapter, multiple competitive tender processes will be undertaken to identify private sector parties that will work collaboratively with SRLA and other key stakeholders to deliver SRL East and SRL North. These tender processes will be implemented in accordance with relevant government guidelines and frameworks.

In developing and implementing the tender processes for the various packages of works, SRLA will focus on the following key factors:

- **Probity** – Probity is a fundamental principle of Victorian Government’s procurement processes. Probity stands for integrity, fairness and honesty. All SRLA tender processes will be conducted in an ethical manner that ensures impartiality, accountability and transparency. Tender participants will be treated fairly and equally, confidentiality will be maintained and conflicts of interest will be managed
- **Efficiency** – SRLA will seek to ensure that its tender processes are as efficient and streamlined as possible, including through the development of quality tender documentation, undertaking efficient processes and seeking to ensure that tender response requirements are appropriate and that bid costs are minimised where possible (for example, SRLA will seek to limit tender response requirements to the information required for evaluation and avoid requiring the market to do excessive / unnecessary work)
- **Interaction** – SRLA will seek to make its tender processes as interactive as possible, providing the market with opportunities to clarify the Victorian Government’s requirements and test ideas
- **Competition and contestability** – SRLA will seek to achieve an appropriate and efficient level of competition for each package that delivers and demonstrates value for money while also balancing and meeting the needs and expectations of the market
- **Bid costs** – SRLA recognises that industry will be a vital partner in the successful delivery of the SRL East program and that significant costs are incurred in bidding for works of this nature. SRLA will reimburse appropriate levels of bid costs in accordance with government policy
- **Market capacity** – Where possible while managing program constraints and objectives, SRLA will seek to stagger its tender processes and coordinate its procurement activities with other agencies (across Victoria and interstate) to manage industry and government resources. SRLA will also seek to ensure that advance notice is provided to enable the market to plan ahead, and that response periods are reasonable and adequate in the circumstances.

SRLA is seeking feedback on ways to make its tender processes as efficient, effective and attractive as possible as part of its market engagement process.

17 Funding and financing

Chapter Summary

- The scale of investment in SRL is unprecedented in Victoria. It will reshape and transform the future of Melbourne, enabling *Plan Melbourne* outcomes and delivering significant productivity, connectivity and liveability outcomes for all Victorians.
- The Funding and Financing Strategy (F&F Strategy) developed for SRL East reflects the scale of the investment, and that SRL is a city-shaping – and not merely a transport – infrastructure project. The strategy provides a diversified approach to funding SRL East, leveraging the following sources:
 - Victorian Government funding
 - Australian Government funding
 - State enabled land development proceeds
 - New value capture arrangements.
- In keeping with past Victorian Government announcements, an assessment has been undertaken of value capture approaches that leverage the value uplift generated by SRL East (as described in Chapter 10).
- Given the staged approach to deliver SRL, the F&F Strategy has been developed initially in response to SRL East. However, the framework considered in the F&F Strategy is expected to be scalable and could respond to the needs of future stages of SRL.
- The F&F Strategy identifies a range of mechanisms targeted at SRL Precincts. A final decision on the specific mechanisms that will be adopted remains subject to detailed investigation and design.
- As the cost of delivering SRL is to be incurred ahead of the funding being generated, a financing strategy has also been developed.

17.1 Funding strategy

The scale of SRL is unprecedented. It will transform Melbourne, realising the vision set out in *Plan Melbourne* and delivering significant productivity, connectivity and liveability outcomes for all Victorians. SRL will also generate significant value uplift for a range of beneficiaries.

The Victorian Government has developed a strategy for the funding of SRL East and SRL North, first focusing on SRL East, that considers the unprecedented scale and city-shaping nature of the investment and that represents a fairer allocation of funding than if SRL was funded solely from traditional funding sources.

SRL East is expected to cost between \$30.0 to \$34.5 billion and will be delivered by 2035. The nature and scale of SRL, and that it is a city- and state-shaping project which will have multi-generational benefits, requires an innovative approach to funding and financing. SRL will benefit every Victorian but it will see significant benefits accrued to select beneficiaries. There is an opportunity to harness the value and benefit created by this significant investment to contribute to its cost.

The Funding and Financing (F&F) Strategy is a diversified strategy for investment in SRL East, through contributions from the following funding sources:

- Victorian Government funding (State budget)
- Australian Government funding (Commonwealth grants)
- New value capture arrangements including State-enabled land development proceeds.

The funding approach responds to the transformational nature of SRL East and SRL North. State budget funding is, in essence, a broad-based funding model with all Victorians contributing towards the cost of new infrastructure, irrespective of how they might directly benefit. Given the inter-generational benefits expected to accrue from SRL East and SRL North, it is appropriate to consider supplementing this traditional broad-based funding approach with more targeted funding arrangements that reflect the nature and extent of value created by SRL.

This chapter provides further detail on:

- Each source of funding identified above – with attention given to value capture funding from the value uplift to various beneficiaries of SRL East and SRL North, and State-enabled development proceeds
- Principles for designing appropriate mechanisms
- The need for a financing strategy to address the timing mismatch between capital funding and value capture.

17.1.1 Traditional funding sources – State budget

State funding for major public infrastructure is traditionally sourced from State revenues and the general income base such as land taxes, land transfer duties and payroll taxes over time. In the main, major projects are funded through State borrowings, serviced by future general revenues.

The State budget contribution for SRL East will be funded from new State borrowings. These borrowings will be repaid from future existing State revenues, including expected forecast growth in these State revenues.

As set out in Chapters 7 and 12, the economic growth driven by SRL East and SRL North has the potential to increase existing State revenue streams by \$3.2 billion in present value terms, reflecting revenues over the construction and operations phases. This increased revenue is a result of a multiple of factors including increased land tax and land transfer duty income as a result of incremental property development activities and higher property values, along with increased payroll tax revenue as a result of the increase in economic activity and productivity gains brought about by SRL East and SRL North investment.



**\$3.2 billion in
increased state tax
receipts in present
value terms**

17.1.2 Traditional funding sources – Commonwealth grants

The Australian Government has a long history of investing in projects of national significance and, more recently, investing alongside state governments in the delivery of critical infrastructure. Sydney Metro, a comparable transport infrastructure project by scale, cost and objective, has been supported by the Commonwealth. In Victoria, projects like Regional Rail Revival, Geelong Fast Rail and Melbourne Airport Rail have been supported by the Australian Government.

The SRL Business and Investment Case is seeking a Commonwealth contribution for SRL East that matches the funding commitment made by the Victorian Government. Based on recent projects, the contribution from the Australian Government is expected to be a grant made available during the early stages of construction of SRL East.

Similar to the State budget funding commitment, the Australian Government could potentially fund its contribution through existing Commonwealth taxes. SRL East and SRL North is expected to provide an increase to estimated tax receipts for the Australian Government as a result of greater economic activity and productivity. As set out in Chapter 7 and 12, it is estimated that SRL East and SRL North will result in a \$10.9 billion increase in tax receipts to the Australian Government in present value terms.



\$10.9 billion in increased Australian Government tax receipts in present value terms

17.1.3 Funding from State-enabled land development

As discussed in Chapter 10, the Victorian Government is a large landowner in the SRL Precincts and will also have additional land available for development once the SRL Stations are complete (over-station and adjacent-to-station developments). The Victorian Government will seek to leverage these landholdings to activate the SRL Precincts, provide social and amenity benefits and catalyse growth in line with the SRL Program objectives. The F&F Strategy has also explored the potential returns from government undertaking a more expansive role in SRL Precinct development and/or facilitating development across SRL Precincts to contribute to funding SRL East and SRL North.

These factors are further detailed in the table below.

Table 17-1: Potential dimensions of involvement

Criteria	Description
Extent of development	<ul style="list-style-type: none">– The extent of development undertaken could range from a 'light touch', which is limited to government-owned land (e.g. over-station and adjacent-to-station development) to 'highly involved' with extensive development within the precinct (multiple developments, across multiple locations – including both within and outside immediate station areas).– Development could also range across a number of typologies, from commercial and residential developments to affordable developments (e.g. social housing, key worker housing), each offering a different return profile. The eventual mix is subject to detailed consideration of a range of policy and commercial objectives in each precinct.
Role undertaken	<ul style="list-style-type: none">– There are different potential roles that the Victorian Government can play on individual projects through a range of potential commercial models – broadly, these range from divestment, joint venture partnering with the private sector or fully engaged developer. An ownership model could also be considered.– Each model corresponds to increasing levels of risk and control being retained by the State.
Number of precincts	<ul style="list-style-type: none">– The number of precincts across the rail corridor that the Victorian Government decides to develop in (e.g. all the precincts or elected ones).

While the eventual level of State involvement in precinct developments is subject to detailed investigations, the F&F Strategy assumes a level of development returns as part of the funding mix from value capture sources.

17.1.4 New funding sources – value capture mechanisms

The transformational nature of SRL presents an opportunity to introduce fairer funding arrangements and the F&F Strategy for SRL East accordingly incorporates a level of value capture to supplement traditional State and Commonwealth funding sources.

The concept of ‘value capture’ involves sharing a portion of the private gains generated by the infrastructure to help fund its delivery. Inclusion of value capture in the funding mix seeks to ensure a fairer and more equitable allocation of funding than is typical of traditional funding approaches, because those who are expected to benefit the most from SRL contribute proportionately to its costs. This approach can increase the equity and efficiency of infrastructure funding.³⁷⁴

Conceptually, value capture seeks to redirect a share of the value created by a project to directly fund the project, or to offset some of the burdens on general revenues created by the project’s funding requirement.

Value capture is not a new concept, and there are a range of existing levies and charges that seek to capture value created from government investments.

Specific value capture mechanisms have been successfully implemented in Australia (and Victoria) in the past to help fund major infrastructure – such as to raise funds for the Sydney Harbour Bridge in the 1920s and early 1930s, and for the construction of the City Loop.

There are many examples of projects where new funding sources have been created to support infrastructure investment. The case study illustrates the breadth of options that have been used in Australia and internationally to deliver major public transport and precinct projects.

374 Infrastructure Victoria (2016), *Value Capture – Options, Challenges and Opportunities for Victoria* (October 2016)

CASE STUDY

Value capture examples

Australian Capital Territory (ACT)

- *Lease Variation Charges (LVCs)*, a charge on developers benefiting from policy changes that enable them to develop land at higher densities.

New South Wales (NSW)

- *Airport Link station access charges*, supplementary charges on standard train fares that are intended to recover part of the cost of delivering Sydney's airport rail line;
- *Parking space levy*, an annual charge payable by owners of off-street car parks that funds improvements to public transport infrastructure and services.

Queensland (QLD)

- *Transport Improvement Levy (TIL)*, a supplementary charge on municipal rates used to fund the Gold Coast light rail project.

New Zealand

- *Road User Charges*, registration charges for non-petrol (primarily diesel) powered vehicles, based on distance travelled and vehicle class.

United Kingdom

- *Mayoral Community Infrastructure Levy (MCIL)*, a charge on developers that recovers part of the cost of delivering London's Crossrail;
- *Business Rates Supplement (BRS)*, a supplementary charge on municipal rates primarily applied to large non-domestic entities and that recovers part of the cost of delivering London's Crossrail;
- *Business Improvement Districts (BIDs)*, supplementary charges on municipal rates for all businesses in a specific area used to fund infrastructure and service improvements for that area;
- *Development Rights Auction Model (DRAM)*, a proposed government-led approach to land assembly, rezoning and sale in precincts related to major project investments that generates funding to offset the costs of those investments.

France

- *Versement Transport*, a payroll-based levy of medium and large businesses to recover costs of operating the country's public transport system;
- *Local office tax*, a tax charged on office, retail, storage and parking properties at geographically defined rates;
- *Special infrastructure tax*, an ancillary tax levied on existing property taxes in the Greater Paris area collected for the financing of infrastructure works;
- *Flat-rate tax on network businesses*, a tax on rolling stock used by the State-owned public transport operation based on business sector and size;
- *Regional tourist tax*, an additional 15 per cent tax on the existing tourist tax within the Ile-de-France area to benefit the funding of the Grand Paris Express rail project;
- *Regional parking spaces tax*, levied within the Ile-de-France area on parking areas that fall within the scope of the annual local office tax.

Key choices in structuring value capture arrangements

The case studies illustrate a range of value capture approaches that have been adopted and underline that there is no 'one size fits all' approach. Instead, in determining how value capture arrangements can best be designed for SRL East there is a range of important policy choices to be made by government. Five key choices that are instrumental in shaping these arrangements are:

- **Who – which beneficiary groups will contribute to value capture funding?** Value uplift occurs for a range of beneficiaries in different forms. Landlords might benefit from increased demand more immediately than landowners that hold property for the long term. Businesses benefit from improved productivity and access to talent, with those already in the precincts benefiting differently to those choosing to relocate. Road and public transport users benefit from better services and / or reduced congestion. Value capture funding requires an assessment of which beneficiary is best placed to contribute.
- **Where – in which geographic areas will value capture apply?** The choice of geography determines the size of the pool of beneficiaries subject to value capture. The more expansive the geography, the larger the pool. However, this is countered with some beneficiaries being further away from the investment that enabled the uplift. Boundary effects can also occur when parties decide to locate 'just over the border'. Understanding where value uplift accrues and approaches to defining boundaries will influence the design of the value capture mechanism.
- **What – how the mechanism will be structured and to what value will it apply?** The revenue base is the measure against mechanisms are being applied. It can include both value and non-value measures. For example, land-based mechanisms might be levied against Capital Improved Value (a value measure) or Gross Floor Area (a non-value measure). It is also possible to use existing taxes or charges, such as payroll or public transport fares, as a revenue base. The choice of revenue base can influence the degree to which a charge directly links to value created as well as its efficiency and administrative simplicity.
- **How much – what level of contribution should a beneficiary make?** A defining factor is how much of an expected value uplift should contribute to funding the investment. In theory, if less than 100 per cent of the uplift generated by the project is diverted to funding, a beneficiary remains better off. In practice, isolating and accurately estimating value is inherently complex and market distortions can occur. Decisions about how much value uplift to capture ought to reflect this uncertainty.
- **When – over what period should value capture apply?** Financial and other benefits will accrue to beneficiaries at different times and to different degrees over the life of the project, including when the project is announced as speculative investment occurs, during construction as precincts are activated and following operations when the benefits of accessibility and business agglomeration are realised and contribute to continued growth. The decision of when, how often and for how long a value capture model should apply is a critical choice.

The five principles outlined above provided a guiding framework for considering mechanisms, including value capture arrangements for SRL East.

Lessons learned from global precedents

The case studies also provide an illustration of how these choices have been made by other jurisdictions and how important trade-offs in making those choices have been managed. Particular attention has been paid to the arrangements adopted for London Crossrail and the Grand Paris Express, among other more discrete examples, as benchmarks for successfully generating a material contribution to project costs through alternative new funding.

These examples highlight the need for pragmatism in designing value capture arrangements with the approach followed by both projects reliant on a broad range of mechanisms across various beneficiary groups and, for the most part, the use of existing systems and architecture.

Observations from these case studies and their relevance to the SRL Program are described further in the table below.

Table 17-2: International precedents for value capture funding

Issue	Precedence
Adopting a package of value capture mechanisms increases revenue potential, reduces revenue risk, and lowers the burden of value capture on any single beneficiary group	Contemporary projects such as London Crossrail and the Grand Paris Express have adopted packages of three to five revenue mechanisms that have made significant contributions to overall project costs. In the case of Crossrail those charges have recovered around 30 per cent of costs.
Determining the precise value realised by individuals is complex so flat and broad charges may be more practical than highly targeted approaches	While approaches targeted at actual value realised are theoretically more equitable, most value capture case studies adopted flat and relatively broad charges in recognition of this complexity. These include London Crossrail and Grand Paris Express models as well as Gold Coast Light Rail which all adopted relatively flat charges across broad beneficiary groups.
Existing levies and charges can provide a simple and efficient pathway for applying new value capture mechanisms	Adopting existing systems has helped other jurisdictions reduce complexity and increase administrative efficiency of value capture. A supplementary charge was added to municipal rates for Gold Coast Light Rail, and similarly in London Crossrail. In New South Wales, a parking space levy has progressively expanded to new areas of the city to fund public transport. A parking levy in Perth, Western Australia, is applied to fund a range of transport initiatives.

Source: Various project websites

The examples above also adopted dedicated financial structures to ensure that new revenues and the financing raised against them was clearly distinguishable from other government income or borrowing, as further detailed in Section [17.2](#).

17.1.5 Identifying value capture measures

The F&F strategy builds on these observations from successful case studies and identifies how value capture mechanisms could be designed, based on a set of five guiding principles:

- **Value sharing**, ensuring mechanisms that are adopted do not overburden individual beneficiaries and are not disproportionate to the benefits they receive
- **Targeted and timely**, adopting mechanisms that capture value where it is created and when it is realised with a consequent focus on beneficiaries in SRL Precincts
- **New funding**, adopting mechanisms that can create new or incremental revenue rather than redirecting revenue that would have always been received
- **Practical**, adopting mechanisms that are easy to implement, understand, and integrate with existing government taxes and charges
- **Scalable**, adopting mechanisms that can be extended or expanded to support future stages of SRL

The F&F Strategy for SRL East identified a range of options based on the case studies cited and relevant taxes and charges currently applied in Victoria. The following mechanism will be progressed for detailed design and implementation:

- **Non-residential properties in SRL Precincts:** A mechanism that captures a portion of the property value uplifts attributable to SRL for those who choose to buy non-residential property within SRL Precincts.

To align with existing property tax frameworks, it is proposed that this measure will be no more than 1% above the applicable land transfer duty rate on all non-residential property transactions within the SRL Precincts. This is expected to be applied from 2025.

The Funding and Financing Strategy has ruled out the application of value capture measures on residential property transactions.

- **Developments in SRL Precincts:** This mechanism would apply to new developments in SRL Precincts, reflecting the enhanced amenity and ability to develop at higher densities as a result of SRL investment.

Development contributions are currently raised for a number of precincts across Victoria, in recognition of the supply of infrastructure required to meet the future needs of the community.

A SRL Developer Contribution will be payable by proponents of any development in a SRL East precinct and will not be payable for minor works or alterations to existing premises. The contribution is expected to be in place from 2025.

- **Road network:** This mechanism seeks to capture a contribution from road users who benefit from travel time savings, reduced network congestion and improved access to SRL Precincts.

An SRL East Car Parking Levy will be introduced to ensure traffic congestion is managed within the Precincts, encouraging those who live and/or work in SRL East Precincts and those accessing the Precincts to use the public transport services more often.

Private residential car parks will be exempt as per the existing Congestion Levy. The SRL Car Parking Levy would be consistent with the existing Congestion Levy on car parking in central and inner Melbourne areas.

It is expected to be an annual charge, payable by owners of commercial off-street paid car parks within the SRL East Precincts. This measure is expected to be introduced to align with SRL East Day One Operations in 2035.

A final decision on the exact composition and timing of mechanisms that will be applied, and their respective rates, remains subject to detailed investigation. Factors to be considered include the mechanism boundaries, rate setting, payment systems and processes, and any required exemption or concession arrangements. The ultimate package will be structured to realise the principle of value sharing while ensuring that the rates of individual mechanisms are set to raise only the revenue required to achieve the stated funding target.

17.2 Financing strategy

17.2.1 Addressing timing mismatch

Need for a financing strategy

The value generated by SRL and the funding associated with value capture mechanisms will be realised over many years. While some forms of value capture can contribute a portion of direct funding towards capital costs, this is likely to represent a relatively small proportion of overall funding requirements.

In that context, one of the key challenges of using value capture mechanisms as a capital project funding source is the timing mismatch between when funding is required (construction costs) and when funding sources will be received (likely over a much longer term).

Financing upfront capital costs by borrowing can help to address this mismatch and create a source of upfront funding, which requires a financing strategy.

Engagement with various parties including government stakeholders and private investors has been undertaken as part of developing the F&F Strategy. Feedback from this process has informed the identification of potential value capture funding mechanisms and an appropriate financing strategy.

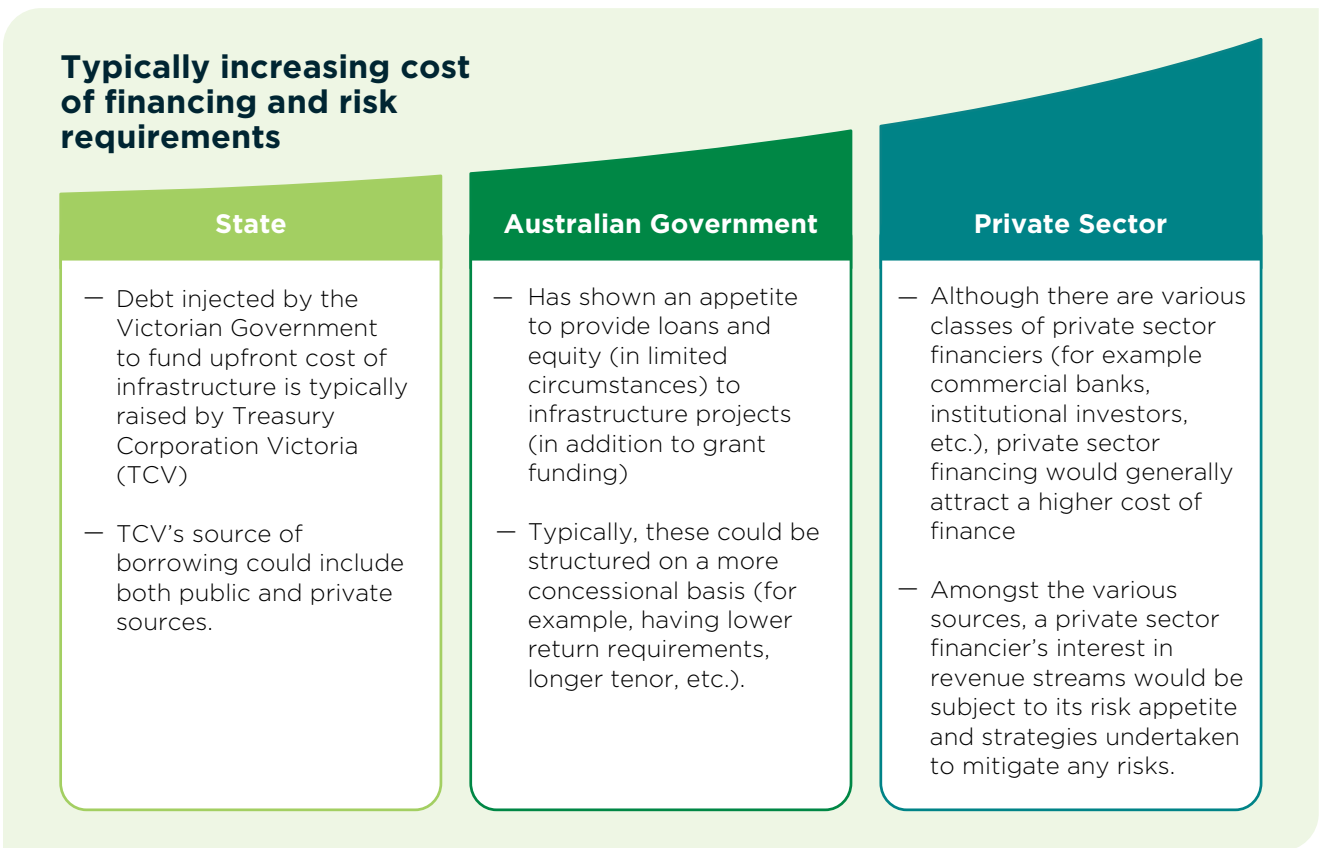
Typical sources of financing

In the normal course, borrowings are raised through traditional government sources (i.e. government bond issues in capital markets, with repayments from tax receipts and other future government revenues).

As noted earlier, there are constraints on the level of borrowings the Victorian Government can undertake. In addition to identifying potential new sources of funding to support additional borrowing capacity, the F&F Strategy has also considered whether different approaches to borrowing could result in a more efficient program financing.

Broadly, there are three main sources of public and private financing typically available for infrastructure delivery. These sources are described in [Figure 17-1](#).

Figure 17-1: Typical sources of finance



Source: DTF

17.2.2 Structures to facilitate financing

Key objective

A key objective of the financing strategy is to demonstrate that any project-specific borrowings as a result of value capture and other sources have manageable implications for the State, including associated budgetary implications.

This can be demonstrated by showing the sustainability, certainty and reliability of the value capture funding streams to repay borrowings and the efficiency and appropriateness of financing, such as pricing, terms of finance and use of public and private sector financing.

Precedent and learnings from local and international infrastructure projects, whereby similar borrowings have been secured off new long-term revenue streams, has suggested that financial structuring could support demonstrating sustainability (by drawing a closer nexus between new revenue streams and financing raised against it) and potentially also facilitate broader commercial outcomes.

In this context, the F&F Strategy considered several financial structures. This consideration drew on:

- Structures and aspects implemented in local and international projects (discussed below)
- Potential development opportunities (as identified above)
- Expected delivery activities and functions to be undertaken by the Victorian Government in relation to SRL, including exploring the use of separate public entities to deliver various activities.

Precedent projects considered

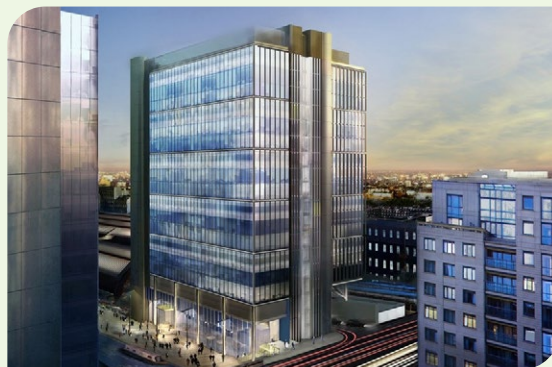
In addition to local projects, an exploration has been undertaken of the financial structures and objectives of four international large-scale projects that similarly raised financing through new long-term funding sources. An overview of these projects is provided below.

CASE STUDY

International projects considered

Crossrail: Project required 42 kilometres of new tunnels, 10 new stations, more than 50km of new track.

- Crossrail Limited (CRL) was established to deliver the project. Two separate entities, Transport for London (TfL) and Greater London Authority (GLA), both local authorities under the Mayor of London, raised financing for CRL activities against fare revenues and new taxes. These revenues were ring-fenced specifically for project uses.
- TfL exposure to the project was limited to a contractual cap.
- The Mayor of London also had some flex to adjust taxes in the event of a shortfall. While no explicit guarantee was provided by central government, it has recently stepped in to support TfL to meet obligations



Grand Paris Express: Construction and extension of several automatic subway lines at a cost of about €35 billion plus €3 billion to modernise the network.

- Société du Grand Paris (SGP) established as separate entity to design, deliver and finance the GPE.
- SGP is funded via three specific taxes and EU funding allowance.
- In event of a shortfall in revenues, the French Government guarantees SGP's funding requirements from general tax revenues.



Hudson Yards: 28-acre real estate development in the Chelsea and Hudson Yards neighbourhoods in Manhattan.

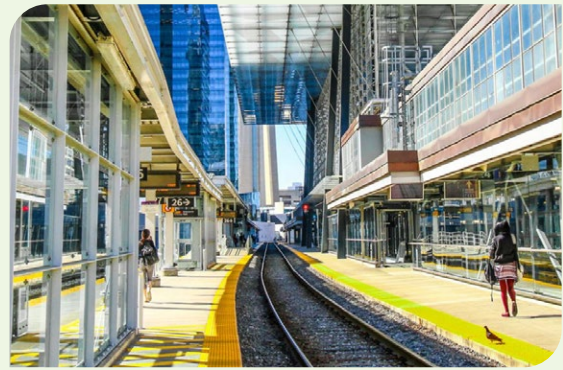
- Two separate entities were set up to develop and finance the project – Hudson Yards Development Corporation (HYDC) and Hudson Yards Infrastructure Corporation (HYIC).
- HYIC provided legislative access to funding from the Mayor of New York to cover interest costs of repayments (in the event of shortfall of revenues).
- HYIC was tasked to borrow against various land/developer charges to finance land and delivery activities of HYDC.



Metrolinx – the Big Move: Construction and upgrades for various public transport projects (encompassing rail, light rail and road) in Toronto, Canada.

- Metrolinx is an agency of the Government of Ontario, focusing on transit delivery and service excellence in the Greater Toronto and Hamilton Area (GHTA). It is the delivery authority for the Big Move (a series of the transport projects) in the GHTA.
- Approximately \$34 billion of financing for the project was proposed to be raised off long-term revenues by the Ontario Financing Authority. Long-term revenues came from a mix of an increase to existing sales taxes and new business levies and development charges.
- These revenues were proposed to be hypothecated in a Transport Trust Fund to be governed by an independent board of trustees.

Source: Various project websites



The sustainability of funding streams to repay borrowings is a common trait in the case studies described above. Aspects to help support this included:

- Creation of new entities – splitting delivery activities and financial and commercial activities
- Combined focus on property developments and leveraging annuity streams
- Ring-fencing project revenues against the repayment of specific project financing
- Some level of either explicit or implicit government support, including the flexibility to raise or access more funding.

Implementation

The eventual structure adopted will be dependent on a number of inter-related considerations such as the overall funding contribution from value capture, the proposed value capture mechanisms and the scale of development opportunities that the Victorian Government adopts.

As such, the F&F strategy is adopting a staged implementation approach based on dedicated funding sources that are 'ring-fenced' for SRL delivery. This approach recognises the scale of SRL and looks to progressively implement relevant aspects that help to demonstrate the sustainability of funding streams to repay borrowings as SRL evolves and develops over time.

18 Strategic communications and engagement

Chapter summary

- A phased approach to stakeholder engagement has been developed by SRLA to facilitate public participation at key points during the planning, design and delivery of SRL, including:
 - Phase One - raise awareness
 - Phase Two - build understanding and seek early input
 - Phase Three - support SRL development and rail design and planning
 - Phase Four - support statutory planning process for rail infrastructure
 - Phase Five - support rail infrastructure procurement, Initial and Early Works delivery, and SRL Structure Planning and precinct development
 - Phase Six - support rail infrastructure main works delivery and SRL Structure Plan implementation.
- SRLA recognises the importance of effective stakeholder engagement and communications, and has developed principles and objectives that provide the foundation for a targeted and strategic approach to engagement throughout the planning and delivery of SRL. Specifically, stakeholder communications and engagement will be guided by four key principles - transparency, inclusiveness, timeliness and meaningfulness.
- Stakeholder engagement and communications objectives include informing and educating the community, understanding community interests, concerns and preferred outcomes, and supporting planning approvals, scoping and development of the transport and precinct components of SRL.
- Key stakeholder groups identified for SRL include decision makers, government partners, local government, commercial landholders and developers, advocacy groups, institutions, technical stakeholders (utilities and transport), residents and businesses, targeted communities and the wider community.
- As SRL progresses, engagement across all aspects and stages of SRL will continue, guided by SRLA's detailed stakeholder mapping and engagement plans.

18.1 Overview

Stakeholder engagement for SRL commenced in mid-2019 and, to date, has been focused primarily on SRL East rail infrastructure. As SRL progresses, engagement across all aspects and stages of SRL including precinct development will continue, guided by SRLA's detailed stakeholder mapping and engagement plans.

To facilitate the successful planning, development and delivery of SRL, a diverse range of stakeholders are being engaged, including residents, businesses, community and interest groups, local government, institutions, utility providers, government departments, commercial landholders and developers.

SRLA's approach to stakeholder engagement is underpinned by six broad phases, designed to facilitate public participation at key points during the planning, design and delivery of SRL. These six engagement phases are summarised in [Table 18-1](#) below.

Table 18-1: Overview of stakeholder engagement phases

Engagement phase	Description	Indicative timing for SRL East [^]
Phase One	Raise awareness	Mid-2019 to late-2019
Phase Two	Build understanding and seek early input	Late-2019 to mid-2020
Phase Three	Support SRL development and rail design and planning	Mid-2020 to mid-2021
Phase Four	Support statutory planning process for rail infrastructure	Mid-2021 to early-2022
Phase Five	Support rail infrastructure procurement, Initial and Early Works delivery, and SRL Structure Planning and precinct development	2021 to 2024
Phase Six	Support rail infrastructure main works delivery and SRL Structure Plan implementation	2024 onwards

Note: The timing of SRLA's targeted engagement program for SRL North will be determined closer to delivery.

At the time of writing, Phase One and Phase Two have been completed for SRL East, with Phase Three currently underway. Feedback captured during stakeholder engagement provides key inputs to program planning, development, design and delivery.

18.2 Stakeholder engagement principles and objectives

SRLA recognises that effective engagement and communications with stakeholders is critical throughout the planning, development and delivery of SRL. In this regard, communications and engagement will be guided by the stakeholder engagement principles outlined in [Table 18-2](#).

Table 18-2: Principles of stakeholder engagement

Principle	Stakeholder engagement approach
Transparency	The SRL East and SRL North scope and decision making processes are clearly articulated to those impacted by the program. Engagement should be clear on the program elements that can be influenced by stakeholders and the community, and is explicit on which program elements are fixed and the reasons for this. The engagement loop is closed with stakeholders and the community by showing how their feedback has been considered.
Inclusiveness	Effort should be made to ensure that all relevant stakeholder groups and the community are included in the stakeholder engagement process. This includes efforts to remove barriers to participation, and to provide reasonable time and resources to support meaningful participation.
Timeliness	Engage early and at all stages of the program, ensuring information is provided to the community and stakeholders as the program develops.
Meaningfulness	The scope and objectives of engagement are clearly articulated to stakeholders and impacted community members, including the engagement promise (level of contribution sought) and how their feedback will be used. Appropriate time and resources should be made available to ensure stakeholder groups and the community can participate in a meaningful way.

A targeted and strategic approach is being applied to communications and stakeholder engagement throughout all stages of SRL East. Consistent with this, the objectives of engagement are to:

- Inform and educate the community and stakeholders about the program scope, including the policy context, objectives and timelines
- Foster support and buy-in for SRL, including informing the community and stakeholders about the program vision, community benefits and proposed funding pathways
- Understand community and stakeholder interests, concerns and preferred outcomes for SRL
- Capture ongoing input and feedback from the community and stakeholders, including important information about technical, social and community issues to inform the planning, design and delivery of SRL
- Strengthen and nurture relationships between SRLA and stakeholders and the community
- Support planning approvals, scoping and development of the transport and precinct components of SRL.

18.3 Stakeholder identification and key issues

Stakeholder identification and analysis is core to developing an engagement approach for SRL. The term ‘stakeholder’ refers to any person, group or organisation with an interest in the program and/or those who can affect (or be affected by) program decisions.

SRLA recognises that stakeholders, and their ideas and attitudes, can change during the life of the program. In this regard, SRLA’s engagement approach will aim to respond to stakeholders’ changing needs.

Detailed stakeholder and issues mapping will be conducted at the commencement of each engagement phase. [Table 18-3](#) presents the key stakeholder groups identified for SRL and an overview of their key interests / issues anticipated throughout the life of the program.

Table 18-3: SRL stakeholder groups and key interests

Stakeholder group	Key stakeholders	Key interests
Decision makers	<ul style="list-style-type: none"> — Australian Government — Victorian Government 	<ul style="list-style-type: none"> — Program planning and delivery meets regulatory requirements — Program objectives support broader Victorian and Australian Government policies — Financial costs of program planning and delivery — Sentiment of stakeholders and the community, including whether the program has public support — Media coverage – positive or negative attention.
Government partners	<ul style="list-style-type: none"> — Department of Transport (DoT) — Major Transport Infrastructure Authority (MTIA) — Department of Jobs, Precincts and Regions (DJPR) — Victorian Planning Authority (VPA) — Development Victoria (DV) — Department of Premier and Cabinet (DPC) — Department of Treasury and Finance (DTF) — Department of Families, Fairness and Housing (DFFH) — Department of Health and Human Services (DHHS) — Department of Environment, Land, Water and Planning (DELWP) — Environment Protection Authority (EPA) — V/Line — Melbourne Water — Department of Education and Training — Department of Justice and Community Safety — Energy Safe Victoria — Infrastructure Victoria 	<ul style="list-style-type: none"> — Interfaces with other projects currently being planned and/or delivered — Program objectives support broader policies relating to economic growth, transport infrastructure, land use planning and environment — Role in supporting the planning and/or delivery of various program elements.

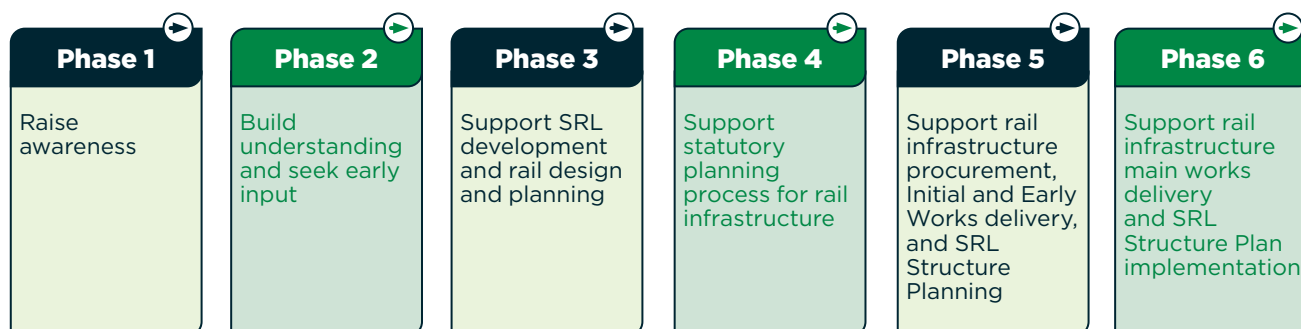
Stakeholder group	Key stakeholders	Key interests
Local government	<ul style="list-style-type: none"> — Councillors — Council Chief Executive Officers (CEOs) and officers — Municipal Association of Victoria 	<ul style="list-style-type: none"> — Opportunities for commercial, industrial and residential growth in and around SRL Precincts — Impact on their local communities (including residents, business owners and visitors), particularly during construction phase — Development of SRL Precincts, including the commercial focus, and precinct look and feel — Opportunities for improvement and integration of other modes of transport, including bus, pedestrian and bike riding infrastructure — Sentiment of their local communities and whether the program is supported.
Commercial and development	<ul style="list-style-type: none"> — Prospectors / developers — Commercial landowners — Delivery industry 	<ul style="list-style-type: none"> — Opportunity to participate in the delivery of the biggest transport project in Australian history — Opportunities for commercial and residential developments in and around SRL stations — Impacts on existing commercial landowners, particularly during construction phase.
Advocacy groups	<ul style="list-style-type: none"> — Industry / peak bodies — Local / community interest groups — Public transport user groups 	<ul style="list-style-type: none"> — Impacts on the local community (including residents and traders), particularly during construction phase — Impacts on the environment — Proposed infrastructure, including look and feel of the precincts — Proposed transport infrastructure, improvements to accessibility and active transport modes — Resident and trader opinions of the program.
Institutions	<ul style="list-style-type: none"> — Health, research and education 	<ul style="list-style-type: none"> — Opportunities for how the program can support their functions through new transport connections and precinct development — Impacts on staff, students and patients during construction phase.
Technical stakeholders – utilities	<ul style="list-style-type: none"> — Energy (AusNet Services, United Energy, Jemena, Australian Gas Networks etc.) — Water (City West Water, Melbourne Water, Yarra Valley Water) — Telstra — NBN Co. 	<ul style="list-style-type: none"> — Impacts on existing utilities infrastructure during construction phase — Utility infrastructure requirements to support the delivery of the program — Increased demand for utilities infrastructure to meet expected growth in and around SRL stations.

Stakeholder group	Key stakeholders	Key interests
Technical stakeholders – transport	<ul style="list-style-type: none"> – EastLink – Transdev Melbourne – Transurban – Metro Trains Melbourne – Yarra Trams – VicTrack 	<ul style="list-style-type: none"> – Interface between existing transport infrastructure and SRL – Impacts on existing transport infrastructure during construction phase – Opportunities for improved links between different modes of transport.
Directly impacted	<ul style="list-style-type: none"> – Residents and businesses 	<ul style="list-style-type: none"> – Impacts during construction phase, particularly in relation to movement, air quality and noise impacts – Impacts of future growth around the precincts, on businesses and residents – Opportunities for improved public transport and other transport-related infrastructure (such as bike paths) – Value uplift created and potentially captured as a consequence of SRL.
Targeted communities	<ul style="list-style-type: none"> – Culturally and Linguistically Diverse (CALD) communities – Traditional Owners and Aboriginal communities – Disability user groups – Innovators 	<ul style="list-style-type: none"> – Opportunity to be involved in precinct development (innovation) – Impacts on existing public transport infrastructure – Opportunity for improved access to other precincts and major train lines.
Wider community	<ul style="list-style-type: none"> – Precinct-based – Whole of Victoria – Media 	<ul style="list-style-type: none"> – Access to SRL Precincts during construction phase – Opportunities for economic growth, particularly jobs in precincts outside of the central business district (CBD) – Improvements to public transport links – Enhancements to the amenity of local areas – Congestion relief for the existing transport network – Media interest in stakeholder and community opinions of the program.

18.4 Engagement program

The engagement focus will change as the SRL moves through the broad phases of planning, development, design and delivery for SRL. As outlined in section 18.1, SRLA has developed a phased approach to stakeholder engagement to support key program milestones and deliverables, including six engagement phases outlined in Figure 18-1. Detailed stakeholder mapping and engagement plans are developed to guide engagement activities during each of these broad phases

Figure 18-1: Engagement phases



18.4.1 SRL East engagement

Stakeholder engagement commenced in mid-2019 and, to date, has focused largely on SRL East rail infrastructure. Table 18-4 outlines the six engagement phases as they relate to SRL East. Phase One and Phase Two are complete, with Phase Three underway.

From late March 2020, as a consequence of the COVID-19 pandemic, engagement activities have been carried out in accordance with health and safety guidelines issued by Victoria's Chief Health Officer, with a focus on digital and online forums. While face-to-face community and stakeholder drop-in sessions and pop ups have since recommenced, it is envisaged that online and digital forums will continue to play a significant role in SRLA's engagement program.

Table 18-4: SRL East engagement phases

Engagement phase	Engagement purpose	Tools and activities	How feedback will be used
PHASE ONE: mid-2019 to late 2019 (completed) Raise awareness	<ul style="list-style-type: none"> — Raise awareness about SRL – including need, rationale and benefits — Understand people's interests and concerns about the program — Understand how people would like to be engaged throughout the program — Introduce the SRL team to key stakeholders and set the scene for future stakeholder engagement — Gather early feedback for SRL design from key stakeholders. 	<ul style="list-style-type: none"> — Online community survey — Pop-up information sessions (face to face) — Introductory stakeholder meetings and briefings — Digital and social media, including SRL videos — Phone and email enquiries — Works notifications — Media announcements and briefings — Program information line — Online 'contact us' feedback form. 	<ul style="list-style-type: none"> — Shaped future engagement — Informed SRL options assessments and design.

Engagement phase	Engagement purpose	Tools and activities	How feedback will be used
PHASE TWO: late 2019 to mid-2020 (completed) Build understanding and seek early input	<ul style="list-style-type: none"> — Continue to raise awareness about the SRL Program — Understand people's values and aspirations for their local neighbourhoods — Gather early inputs from community and stakeholders to inform broader precinct planning — Build effective relationships with community and stakeholders to support future program stages — Build trust and support with community and stakeholders — Gather early inputs for SRL design and capture feedback from stakeholders and the community — Provide regular program updates through a range of communication channels. 	<ul style="list-style-type: none"> — Newsletters and e-news — SRL update letters — Works notifications — Online community survey — Social research — Pop-up information sessions (face to face) — Online interactive mapping tool and survey — Stakeholder workshops and meetings — Peak body and advocacy group briefings — Industry briefings — SRL website created — Digital and social media, including SRL videos — CALD communications — Media announcements and briefings — Program information line — Online 'contact us' feedback form. 	<ul style="list-style-type: none"> — Shaped future engagement — Informed SRL design — Informed Environment Effects Statement (EES) planning and impact assessment program.

Engagement phase	Engagement purpose	Tools and activities	How feedback will be used
PHASE THREE: mid-2020 to mid-2021 (in progress) Support SRL development and rail design and planning	<ul style="list-style-type: none"> — Continue to raise awareness and understanding of SRL — Continue to strengthen relationships with community and stakeholders — Engage directly with potentially impacted residents and businesses (owners and tenants), being sensitive to their needs and concerns — Provide information about SRL design, and encourage and capture feedback from the community and stakeholders — Introduce the EES process and advise how the community and stakeholders can provide inputs to this — Gather information from community and stakeholders to inform impact assessments for the EES — Report back to stakeholders and the community on how their previous feedback has been used — Provide regular program updates through a range of communication channels — Early engagement and communication about value uplift, potential funding and value capture opportunities. 	<ul style="list-style-type: none"> — Membership of Precinct Reference Groups identified — Technical Reference Group — Letters and doorknocks to impacted landowners and tenants — Virtual Engagement Room and feedback tools — Community drop-in sessions (face to face, as appropriate) — Digital and social media, including SRL videos — CALD communications — Media announcements and briefings — Newsletters and e-news — SRL update letters — Stakeholder meetings and workshops — Focus groups — Peak body and advocacy group briefings — Works notifications — Program information line — Online 'contact us' feedback form. 	<ul style="list-style-type: none"> — Shape future engagement — Inform SRL design and construction methodology — Inform EES preparation including understanding of key concerns to feed into impact assessments — Inform urban design

Engagement phase	Engagement purpose	Tools and activities	How feedback will be used
PHASE FOUR: mid-2021 to early 2022 Support statutory planning process for rail infrastructure	<ul style="list-style-type: none"> — Present SRL design and completed impact assessments — Support formal planning approvals and public exhibition processes — Encourage formal feedback from the community and stakeholders on the program, including its potential impacts and proposed mitigation measures — Report back to stakeholders and the community on how their previous feedback has been used — Provide regular program updates through a range of communication channels. 	<ul style="list-style-type: none"> — Precinct Reference Groups — Direct engagement with impacted landowners and tenants — Online engagement forums — Community drop-in sessions (face to face, as appropriate) — Digital and social media, including SRL videos — CALD communications — Media announcements and briefings — Newsletters and e-news — SRL update letters — Stakeholder meetings — Peak body and advocacy group briefings — Works notifications — Program information line — Online 'contact us' feedback form. 	<ul style="list-style-type: none"> — Identify priority areas of interest to be included in future engagement — Inform construction methodologies and mitigation methods — Inform urban design — Inform the development of monitoring and management plans for contractor(s) to build rail infrastructure — Inform the development of protocols for community engagement during construction

Engagement phase	Engagement purpose	Tools and activities	How feedback will be used
PHASE FIVE: 2021 to 2024 Support rail infrastructure procurement, Initial and Early Works delivery and SRL Structure Planning and precinct development	<ul style="list-style-type: none"> — Inform stakeholders and community about procurement progress — Facilitate a smooth transition of stakeholder and community relationships, knowledge and lessons learned to awarded contractors — Provide strategic guidance to Initial Works and Early Works contractors on communications and engagement activities — Work closely with local government, the community and other stakeholders to prepare SRL Structure Plans — Support the statutory planning process for SRL Structure Plans and associated Planning Scheme Amendments, encouraging formal feedback from the community and stakeholders — Work closely with communities in SRL Precincts to develop appropriate, inclusive and tailored ambitions and visions for the future of each precinct — Report back to stakeholders and the community on how their previous feedback has been used — Continue to provide channels and opportunities for stakeholders and the community to engage with the program, raise issues and receive updates — Provide regular program updates through a range of communication channels. 	<ul style="list-style-type: none"> — Precinct Reference Groups — Standing Advisory Committee — Stakeholder and community workshops — Market and social research — Direct engagement with impacted landowners and tenants — Online engagement forums and feedback tools — Community drop-in sessions and workshops (face to face, as appropriate) — Digital and social media, including SRL videos — CALD communications — Media announcements and briefings — Discussion and Issues Paper — Newsletters and e-news — SRL update letters — Stakeholder meetings and workshops — Peak body and advocacy group briefings — Works notifications — Program information line — Online 'contact us' feedback form. 	<ul style="list-style-type: none"> — Inform tender evaluation for SRL rail infrastructure works — Inform the development of monitoring and management plans for contractor(s) to build rail infrastructure — Inform the preparation of SRL Structure Plans.

Engagement phase	Engagement purpose	Tools and activities	How feedback will be used
PHASE SIX: 2024 onwards Support rail infrastructure main works delivery and SRL Structure Plan implementation	<ul style="list-style-type: none"> — Continue to build community and stakeholder understanding of SRL and its benefits — Provide opportunities for stakeholder and community input and feedback on the detailed design of SRL rail and precincts — Introduce main works contractors to stakeholders and the community — Provide strategic guidance to contractors on communications and engagement activities — Ensure contractors continue to manage stakeholder and community relationships and meet related performance requirements — Continue to provide channels and opportunities for stakeholders and the community to engage with the program, raise issues and receive updates — Celebrate key program milestones — Support the transition from main works delivery to operations of the SRL East rail infrastructure. 	<ul style="list-style-type: none"> — Precinct Reference Groups — Market and social research — Direct engagement with impacted landowners and tenants — Online engagement forums and feedback tools — Community drop-in sessions (face to face, as appropriate) — Digital and social media, including SRL videos — CALD communications — Media announcements and briefings — Newsletters and e-news — SRL update letters — Stakeholder meetings — Peak body and advocacy group briefings — Works notifications — Program information line — Online 'contact us' feedback form. 	<ul style="list-style-type: none"> — Inform the development of monitoring and management plans for contractor(s) to build rail infrastructure — Inform the detailed design of SRL rail and precincts — Inform development and implementation of SRL Structure Plans

18.4.2 Summary of feedback captured to date

Phase One: Raise awareness (mid-2019 to late 2019) – complete

During this early phase of engagement, the focus was on raising general awareness about SRL, explaining its benefits and understanding people's thoughts about the program and what they would like to hear more about. This phase of engagement showed strong support and interest in SRL. Stakeholders and community members provided valuable feedback on their initial perceptions and identified elements of the program that are of interest, as well as how they want to be engaged. Stakeholder workshops focused on station location options within each precinct, as well as exploring precinct opportunities beyond rail infrastructure. Feedback from these sessions informed the options assessment process, concept design and early precinct planning.

Key areas of interest from the community included route and station locations, connections and access, program timelines and staging, cost and benefit realisation, environment and impacts, and community input and engagement. Some of the key program benefits identified by community and stakeholders included less congestion and traffic, easier and faster travel, more job opportunities and easier access to shopping, dining and leisure.

Phase Two: Build understanding and seek early input (late 2019 to mid-2020) – complete

Engagement during this phase continued to raise general awareness about SRL East, while beginning to educate the community about the broader precinct development possibilities of the program and capturing feedback about people's values and aspirations for their local neighbourhoods. Engagement with stakeholders continued, updating them on station location assessments, and progressing discussions on associated precinct opportunities.

Feedback captured during this phase continued to inform the concept design, precinct planning and impact assessments to prepare for planning approvals for the rail infrastructure.

Online engagement (consisting of an interactive mapping tool and survey) commenced, capturing feedback about people's values and aspirations for the local areas around the new stations. Community feedback highlighted the different strengths and opportunities across the SRL East Precincts, as well as the differences in the local communities: from Cheltenham participants who value the green open spaces and local community atmosphere, to Monash participants who place education, research and innovation at the heart of the precinct, to Box Hill participants who value the area's rich cultural diversity, access to services and public transport.

While each precinct is different, there appears to be general consensus across participants that SRL offers the opportunity to enhance these areas, creating better places for people to live, work and study.

Phase Three: Support SRL development and rail design and planning (mid-2020 to mid-2021) – underway

During this phase, the online engagement with interactive mapping tool and survey continued, eliciting more useful information about people's aspirations for their local areas. After a period of limited engagement due to the COVID-19 pandemic, SRLA also re-engaged with key stakeholders and began sharing further information regarding the design and planning approvals required for SRL East rail infrastructure.

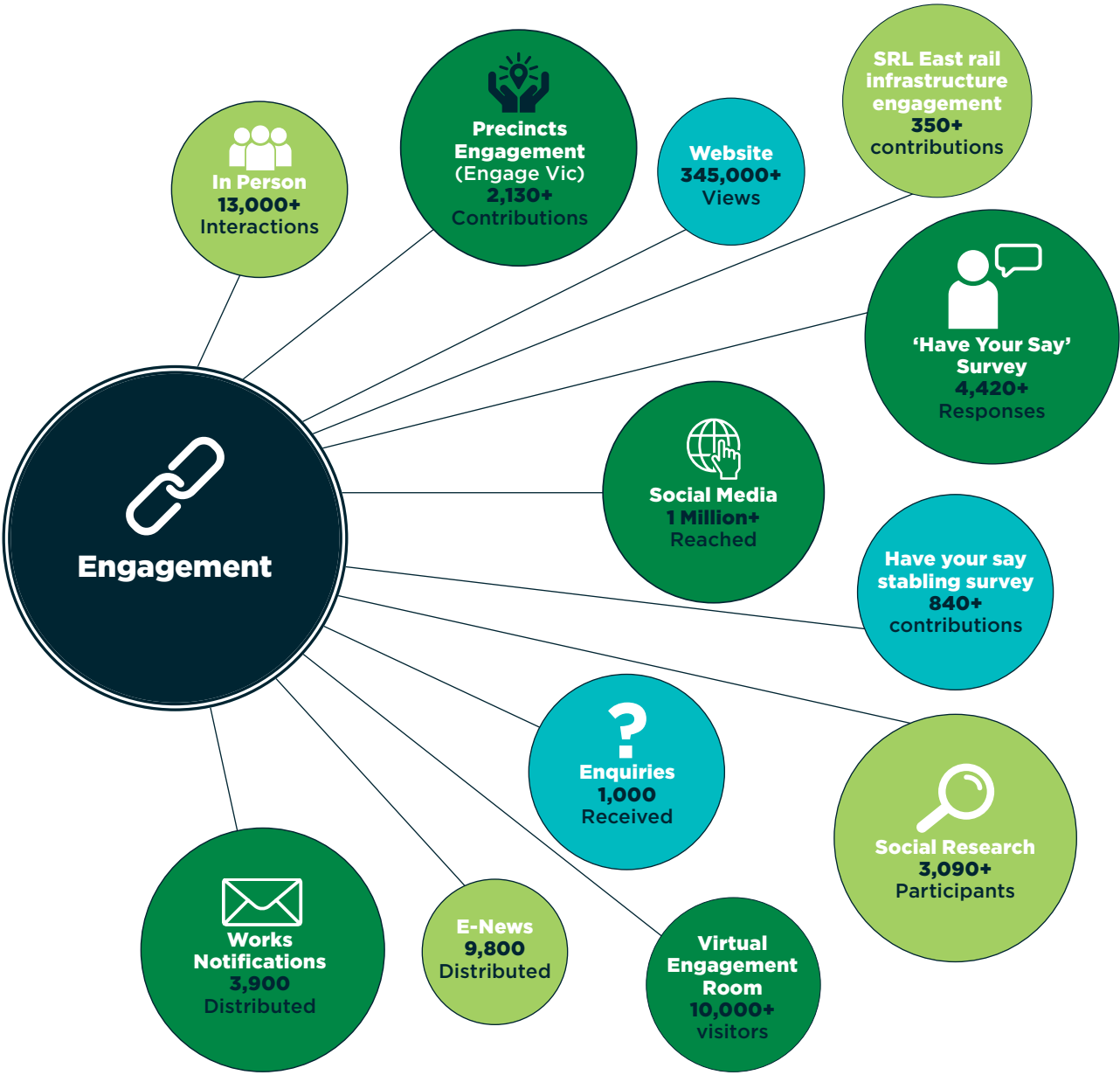
Initial engagement commenced with landowners and tenants in 'areas of interest' for the stations, as well as those in the broader general vicinity of the stations. The purpose of this engagement was to ensure people were aware of SRL East and that there would be increased activity in their areas as site investigations ramped up.

This engagement phase is underway and feedback captured will continue to inform program design, as well as assist in the preparation of the EES and inform impact assessments.

18.4.3 Engagement to date

As noted above, at the time of writing, Phase One and Phase Two have been completed and Phase Three is underway. A snapshot of engagement activities and reach to May 2020 is illustrated in [Figure 18-2](#).

Figure 18-2: SRL engagement activities at a glance

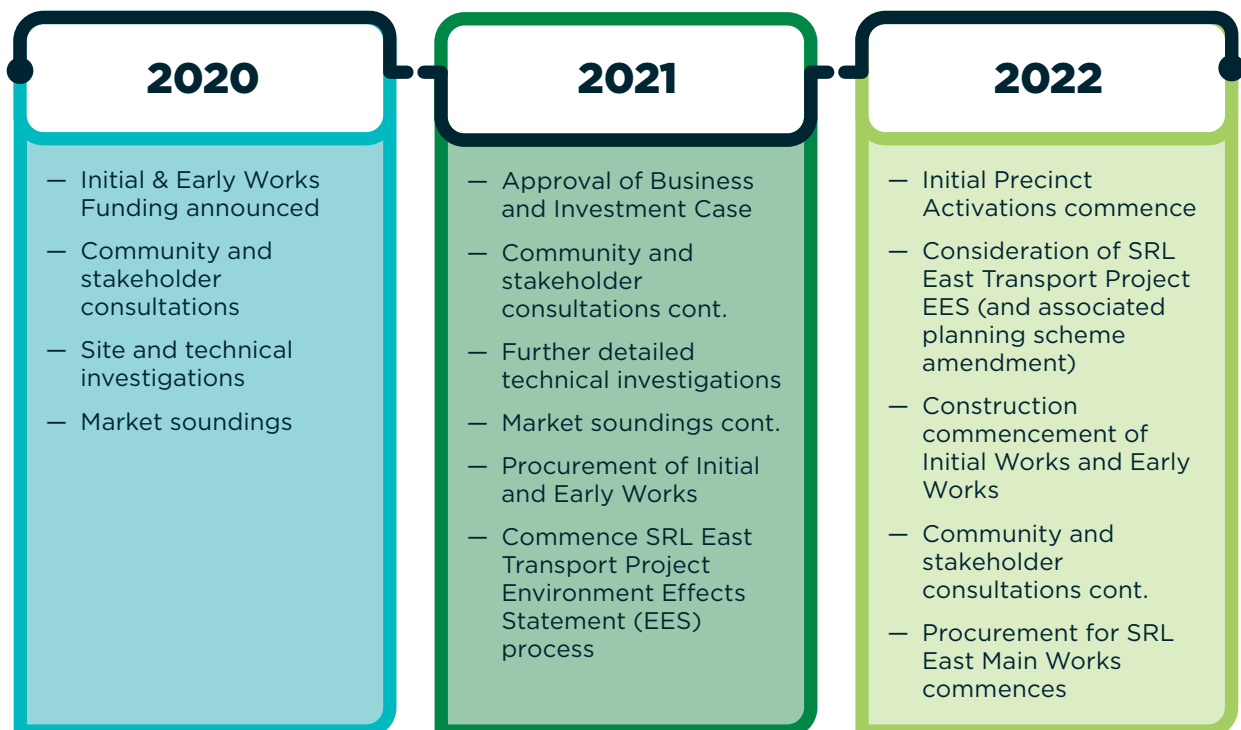


19 Implementation considerations

Chapter summary

- As highlighted throughout this Business and Investment Case, SRL encompasses a series of transport and precinct investments and activities to be delivered over multiple decades, which means that a staged approach to implementation is required. A series of Funding Submissions will be developed over time for various components of SRL East and SRL North for detailed consideration and funding approval by government.
- Key upcoming target milestones for SRL are provided in [Figure 19-1](#). More detailed information on timelines and program implementation will be documented as part of further design development.

Figure 19-1: Indicative target milestones to 2022



19.1 Development of Funding Submissions

SRL encompasses a series of transport and precinct investments and activities over multiple decades, which means that a tailored, staged approach is needed to deliver the program of works. Suburban Rail Loop Authority (SRLA) has formulated a two-tiered approach, prescribing a single SRL East and SRL North program-wide Business and Investment Case (this document), supplemented by separate Funding Submissions to be developed progressively over time for government consideration of funding for various SRL components.

An overview of the delineation of content and scope between this Business and Investment Case and the Funding Submissions is provided in [Figure 19-2](#).

Figure 19-2: Delineation of content between Business and Investment Case vs. Funding Submissions



Business and Investment Case

- Overarching strategic rationale for the SRL Program, and establishes the specific case for investment in SRL East and SRL North
- Integrated options analyses to document the basis for the SRL route, selection of precincts and other key decisions
- Definition of scope and overview of the program of works and approach to sequencing
- Information on transport solution and outcomes
- Information on precinct ambitions and outcomes
- Holistic economic appraisal capturing benefits across the SRL East and SRL North program of works, inclusive of all transport and precinct investments and activities
- High level information on Value Creation and Capture
- Information on SRLA's approach to risk management
- Information on land, planning and environmental matters
- Information on SRLA's ongoing approach to stakeholder engagement and communications
- Information on SRLA's approach to program implementation.



Funding Submissions

The precise coverage of each Funding Submission will be tailored based on the nature of the relevant investment, however it is envisaged that each will provide:

- Explanation as to how the proposed investment contributes to the overall program objectives and is consistent with the Business and Investment Case
- Detailed information in relation to the recommended scope of the relevant investment, including detailed project options analyses where required
- An assessment of risks and opportunities (including risk quantification)
- Detailed cost estimates, including cash flows and budget impacts
- Packaging and procurement options analysis and recommendations
- Information on land, planning and environmental requirements and the approvals processes
- Schedule (program) information and key milestones
- Other information relevant to the implementation of the proposed investment.

SRLA will be responsible for developing Funding Submissions for Core scope items and Enabling works (as defined by the Scope Framework described in section 5.4). SRLA will also work closely and coordinate activities with program partners to assist in the development of business cases and/or funding submissions for Critically Interdependent and Complementary investments.

Together, the series of Funding Submissions provide the basis for the Victorian Government's detailed consideration and approval of the SRL East and SRL North works, and facilitate the progressive release of funding over decades in alignment with the program's delivery timeframes.

19.1.1 Approach to SRL East

As part of the 2020-21 State Budget, the Victorian Government committed \$2.2 billion for Initial Works and Early Works for SRL East – laying the groundwork for tunnelling, including preparation of tunnel boring machine launch sites and geotechnical investigations.³⁷⁵ The funding will be used to purchase land, upgrade roads and power supply, build new sub-stations, relocate and protect gas, water and other utilities, and deliver other vital works to prepare for major construction. As highlighted in earlier chapters, these are preparatory works to be delivered ahead of the Stage One Main Works and are viewed as critical to de-risking and optimising the overall Stage One delivery program.

19.1.2 Approach to Future Stages

The scope, funding and packaging of SRL North works will be identified and documented in Funding Submissions closer to delivery. Some future-proofing activities for SRL North's precinct and rail plans may be undertaken earlier; however, these will be considered and confirmed at the appropriate time.

19.2 Assurance processes

19.2.1 Investment lifecycle and HVHR processes

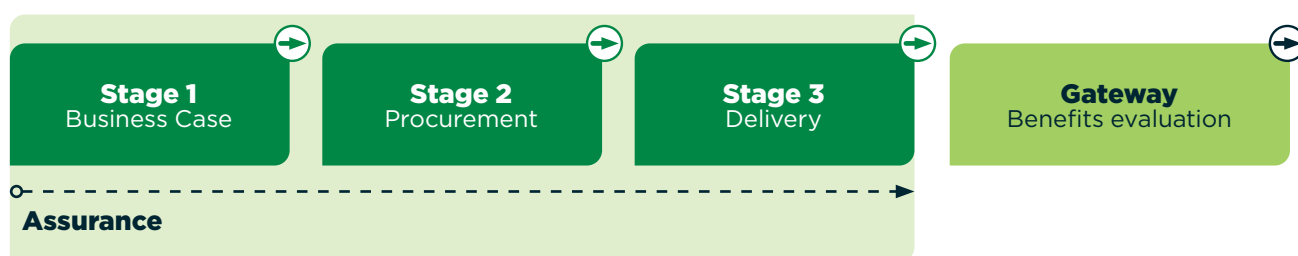
SRL is subject to the Victorian Government's High Value High Risk (HVHR) Project Assurance Framework, which comprises various assurance checks and processes to provide greater scrutiny of major infrastructure investments. The HVHR Framework seeks to:

- Increase the likelihood that HVHR projects will achieve their stated benefits and be delivered successfully, on time and to budget
- Verify that robust processes have been followed to support quality project planning and procurement processes and documentation
- Provide impartial and informed advice to government on deliverability risks.

The Department of Treasury and Finance's (DTF) Investment Lifecycle and HVHR Guideline recognises a three-staged investment management process (depicted in [Figure 19-3](#)), followed by an evaluation of benefits as part of the department's Gateway Review Process.

³⁷⁵ Victorian Budget 2020/21, Budget Overview.

Figure 19-3: Assurance throughout the investment lifecycle



There are two key parts to the first 'Business Case' stage of the standard HVHR assurance process:

- The 'investment case', which focuses on examining problems and/or opportunities that agencies consider warrant attention from government, and the evidence to support them
- The 'delivery case', which demonstrates the solution can be delivered as planned.

For SRL East and SRL North, the HVHR Framework requirements pertaining to the investment case are addressed in this Business and Investment Case document, while the delivery case (along with other detailed project information) will be provided in SRLA-led Funding Submissions.

SRLA and DTF have worked together to develop a tailored assurance process (including the Gateway Review Process) that reflects the size and complexity of SRL, accommodates the programmatic approach to delivery and leverages existing DTF assurance policies and processes.

19.2.2 SRLA assurance (internal)

SRLA's internal assurance processes (including internal audits) will supplement broader Victorian Government program assurance requirements such as DTF's Gateway Review Process, Project Assurance Reviews, Department of Transport (DoT) peer reviews and external audits. These internal assurance activities are designed to be undertaken at a program, works package and sub-package level across various phases of SRL East. More detail of SRLA's assurance processes will be provided in Funding Submissions.

19.2.3 Independent reviews

As part of the HVHR Framework, Project Assurance Reviews aim to give timely independent advice to SRLA and DTF on the current progress of the program and provide an opportunity to advise government of any areas of concern to improve program deliverability. In relation to Project Assurance Reviews, DTF is responsible for developing the 'terms of reference' in partnership with SRLA, based on key decision points and any emerging issues / risks that are identified.

19.2.4 Other assurance processes

HVHR investments are subject to additional scrutiny and ongoing involvement of the Treasurer and DTF. Each program component will have its own Project Assurance Plan, which requires SRLA to assess risks at each program phase in consultation with DTF (and other departments as relevant).

Other review and assurance processes include DoT peer reviews (including independent third-party cost reviews, technical reviews etc.), and external audits (such as the Victorian Auditor-General's Office (VAGO) audits). The specific assurance requirements for each stage and/or package of works will be considered in Funding Submissions, as relevant.

19.3 Managing delivery

19.3.1 Organisational strategies, policies and management plans

In respect to SRL East and SRL North, SRLA is responsible for all aspects of the program of works – from planning and development, stakeholder engagement and procurement through to construction and delivery.

An overview of SRLA's governance arrangements is provided in Chapter 13. SRLA is governed by a multi disciplinary board with the breadth of knowledge, experience and skills required to provide effective oversight and stewardship of SRL. The overarching decision making structure and organisational composition are presented in section 13.2.

SRLA has developed (and will continue to develop) a suite of organisational strategies, policies and plans to manage the delivery of SRL. All critical strategies, policies and plans are required to be approved by the SRLA Board, and the SRLA Executive Leadership Team will be responsible for ensuring that these documents are well understood by, accessible to and complied with by all SRLA personnel.

19.3.2 Project management

A robust project control environment is of paramount importance to facilitate the successful delivery of SRL over multiple decades. To establish and sustain such an environment, the following strategies and approaches will be in place from the outset:

- Clearly defined roles and responsibilities for program governance and management
- An internal framework that details all SRL policies, plans and procedures, which is well understood and accessible by SRLA staff (as described above)
- A strong focus on appropriate procurement practices (including probity requirements)
- Best practice risk management
- A disciplined approach to program reporting, including financial forecasting, risk management and regular formal management reviews
- Documentation of the entire organisational decision making structure by maintaining a 'delegations and authorities matrix' across all authority functions.

19.3.3 Performance measures

As discussed in Chapter 3, a preliminary Benefits Management Plan (BMP) has been developed for SRL East and SRL North. The BMP provides a framework to identify, track and measure benefits delivered by government investments in SRL East and SRL North. The key performance indicators (KPIs), measures and targets incorporated in the BMP will be used to monitor and assess whether the full benefits have been delivered.

The benefits and KPIs from the BMP are the primary inputs in developing detailed output specifications for SRL East and SRL North. These output specifications represent the operational requirements that SRL East and SRL North will need to meet to realise the program's benefits.

Detailed operational plans that drive the delivery of SRL benefits will continue to be developed and refined as the technical solution is being finalised. The performance measures will be developed in line with relevant DTF guidance and will be used to assess the effectiveness of delivery management against the BMP.

19.4 Cross-agency engagement

19.4.1 Whole-of-government approach

SRL will transform Melbourne's transport network and reshape the city's urban form. A whole-of-government approach will be required to bring the program's vision and ambitions to fruition and manage its size, complexity and timeframe. Specifically, delivery of SRL East and SRL North requires collaboration across Victorian Government agencies and departments, as well as engagement with the Australian Government and local governments.

An overview of Victorian Government stakeholders is provided in section 13.3, including a description of their respective roles and responsibilities and interfaces with SRLA. The decision making structure for SRL East and SRL North is provided in section 13.2, which includes representation from key Victorian Government departments and agencies.

A broader description of government partners is presented in Chapter 18 through the lens of communications and engagement, with a focus on approaches to strengthen relationships between SRLA and stakeholders and to foster collaboration.

19.4.2 Enabling, Critically Interdependent and Complementary investments

As described in section 5.4, SRLA is responsible for delivering Core scope items and some Enabling works in accordance with the Scope Framework. Critically Interdependent and Complementary investments will be delivered by other parties and generally funded by other parts of government and/or precinct stakeholders (such as local government, institutions and the private sector). Some Enabling works will also be delivered by program partners (or jointly delivered by SRLA and program partners).

Managing these investments to ensure they contribute to realising the full potential and benefits of SRL requires a whole-of-government approach and collaboration across agencies and departments (noting that Complementary initiatives are not required to deliver the benefits and are not included in the SRL East and SRL North economic appraisal presented in Chapter 12). The division of delivery responsibilities for SRL East and SRL North is outlined in Table 19-1.

Table 19-1: SRL delivery responsibility between SRLA vs. Others

Scope categories	Delivery responsibility	
	Delivered by SRLA	Delivered by others
Core	✓	
Enabling	✓	✓
Critically Interdependent		✓
Complementary		✓

SRLA will work collaboratively with program partners and other stakeholders during the planning and delivery of SRL East and SRL North. The Scope Framework is documented in Chapter 5. This Framework outlines high-level scope elements identified under various scope categories and highlights the agency responsible for delivering and/or funding of various scope elements.

19.4.3 Working with local governments

Local governments are key precinct stakeholders with an important role to play in realising the ambitions for each SRL Precinct. They can also provide invaluable insights into the challenges and opportunities facing each local neighbourhood. As discussed in section 5.4.2, SRLA and other Victorian Government agencies and departments will partner with local governments to enable the successful planning and delivery of SRL Precincts. Specifically, SRLA will develop SRL Structure Plans in close consultation with local governments (and other stakeholders), as well as partnering to deliver some Enabling and Critically Interdependent works (such as urban realm improvements).

Moreover, local governments will have a direct role in the delivery of some Complementary projects such as social / community facilities, which are important to unlocking the full suite of potential benefits created by SRL East and SRL North. In relation to funding pathways, local councils may also be engaged to consider and potentially implement certain value capture mechanisms (e.g. property development levies and charges).

19.4.4 Working with the Australian Government

As outlined in Chapter 17, SRLA and other relevant government departments will work with the Australian Government to determine an equitable contribution towards the delivery of SRL East, recognising the program's national significance and its role in supporting Victoria's growth over the long term. Consistent with the programmatic nature of SRL East and SRL North, any Australian Government funding drawdowns are expected to occur over time, correlating with the program's capital investment needs.

In accordance with the National Partnership Agreement on Land Transport Infrastructure Projects, SRLA will work with the Department of Infrastructure, Regional Development and Cities to develop (or otherwise satisfy the requirements of) 'Project Proposal Reports' for relevant aspects of SRL East and SRL North to secure Australian Government funding.

19.5 Readiness and next steps

19.5.1 Next steps

SRL East from Cheltenham to Box Hill will commence Initial and Early Work from 2022. The immediate next steps required prior to construction commencement of SRL East involve:

- Initial land assembly to enable Initial Works and Early Works to be undertaken
- Ongoing technical investigations and environmental assessment
- Ongoing community and stakeholder consultations
- Timely commencement and approval of the SRL East Transport Project EES and associated PSA (refer to Chapter 14 for details)
- Government consideration of the SRL East Main Works Funding Submission
- Ongoing market soundings
- Commence implementation of initial precinct activations
- Successful procurement of Initial Works and Early Works contracts
- Successful procurement of the main works packages.

19.5.2 SRLA resourcing

SRLA has recruited an experienced team with a broad-range of skills and expertise to meet the requirements of SRL, organised into five divisions: Rail and Infrastructure; Planning and Precincts; Strategic Communications and Engagement; Corporate Services; and Commercial. The SRLA organisational structure is illustrated in [Figure 13-2](#) in Chapter 13.

In the coming months and years, SRLA will continue to scale up its team (and engage consultants and advisors) in line with program requirements to ensure it has appropriate and sufficient resources and capability to successfully deliver SRL.

19.5.3 Indicative timeline and target milestones

Recognising the scale, complexity and staging of SRL, SRLA will develop detailed timelines for various program components progressively over time.

Key upcoming milestones for SRL East are provided in [Table 19-2](#), highlighting the indicative forward program and target milestones over the next two years to enable construction commencement of SRL East works during 2022.

Table 19-2: Upcoming target milestones (indicative)

Target milestones	Indicative status / timing
Investment Case / Funding Submissions	
Approval of Initial and Early Works Funding Submission as part of 2020-21 State Budget process	Q4 2020 (completed)
Consideration of the SRL East Business and Investment Case (this document)	Q3 2021
Consideration of SRL East Main Works Funding Submission	Following approval of the SRL Business and Investment Case
Land, planning and environment	
SRL East Transport Project EES Scoping Directions and documentation	In progress
Approval of SRL East Transport Project EES and associated PSA	Early 2022 (estimate)
SRL Structure Plans	To be developed post-EES
Stakeholder engagement and communication	
Community and stakeholder engagement (including councils, universities, health & research institutions; statutory authorities etc.)	Ongoing
Procurement activities	
Market soundings (a multi-phased process)	In progress
Procurement of SRL Initial Works and Early Works & contract award	In progress
Procurement of SRL East Main Works packages (1st tranche) & contract award	Contract award expected in 2022
Construction / Delivery	
Initial precinct initiatives	During 2022
Construction commencement of SRL East (Initial Works and Early Works)	Q2 2022

More details of the target forward program and timelines will be documented in Funding Submissions for the relevant scope of works.

19.6 Exit strategy

The Victorian Government announced its commitment to deliver SRL in August 2018, and it continues to be regarded as a key catalyst for realising the visions and objectives of *Plan Melbourne*. SRL is also expected to be a key lever for economic stimulus as part of Victoria's post COVID-19 recovery and to contribute to a more sustainable pattern of urban development as Melbourne continues to grow. Accordingly, SRL will remain a key transport priority for Victoria for many years to come.

Nevertheless, as the SRL Program (including SRL East, SRL North and SRL West) comprises a series of works packages to be procured and delivered over multiple decades, the Victorian Government will have multiple opportunities at various strategic junctures to exit from (all or part of) the program if, for example, further investments can no longer be justified. The implications of an exit will be considered in detail as part of any future decision to discontinue with the program (or elements of the program).

Given the opportunities to exit SRL East or SRL North could occur at different junctures of the program, a tailored exit strategy will be required to reflect the unique circumstances at the point of exit. Some potential exit strategies are outlined in [Table 19-3](#) for certain scenarios (non-exhaustive), highlighting the need to develop different approaches under different situations.

Table 19-3: Potential exit strategies under some scenarios

Scenario (non-exhaustive)	Description and potential exit strategy
If SRL East main works funding or EES is not obtained	If the SRL East main works are not approved or funded as expected, any land assembled / acquired could be returned to government as an upgraded asset, re-purposed for alternative public uses, or considered for disposal in accordance with the Victorian Government Land Monitor requirements.
If SRL East main works do not proceed (after construction of Initial Works has commenced)	<p>The Initial Works scope was developed to comprise works that could be re-purposed to fulfil other public functions and/or objectives.</p> <p>In the event SRL East main works are deferred or do not proceed after construction of Initial Works has already commenced, the Initial Works undertaken (and associated capital investment) would still benefit the public and government. For example, utility relocations could benefit future development activities and any construction power upgrades may benefit the network generally.</p>
If SRL North does not proceed (after construction / delivery of SRL East)	<p>The rail infrastructure and precinct solutions are designed to enable SRL East between Cheltenham and Box Hill to be commissioned into operations once completed. Accordingly, this line will already be operating train services during the years when SRL North are programmed to be under construction. It is also an option to commence construction of SRL North sooner.</p> <p>In the event SRL North is delayed or does not proceed, the SRL East train services could continue to operate as a standalone service.</p>

More detailed exit strategies will be considered during the development of Funding Submissions. In any event, land disposal in accordance with precinct requirements and/or Victorian Government Land Monitor requirements would apply to any surplus land (as applicable), including at the completion of Initial Works, SRL East works and other relevant program milestones.

Glossary

Term	Definition
ABS	Australian Bureau of Statistics
Agglomeration	Agglomeration relates to the benefits which flow to firms and households from locating in areas which have a high density of economic activity (measured by employment)
ALI	Affordable Living Index
AM Peak	The two-hour peak period between 7:00am to 9:00am on a typical weekday, unless stated otherwise
Anchor tenant	A business that attracts further investment in a specific location
ANZIC	Australian and New Zealand Standard Industrial Classification
ANZSCO	Australian and New Zealand Standard Classification of Occupations
ASD	Adjacent-to-station development
ATAP	Australian Transport Assessment and Planning Guidelines
ATO	Automatic Train Operation
ATP	Automatic Train Protection
Base Case	The Base Case, without SRL, as defined in Appendix C.1: Demand Modelling Report
BCC	Backup Control Centre
BCR	Benefit-cost ratio
BMP	Benefits Management Plan
bn	Billion
BRT	Bus Rapid Transit
CALD	Culturally and linguistically diverse communities
CBA	Cost-benefit analysis
CBD	Central business district of Greater Melbourne, bordered by Spencer Street to the west, La Trobe Street to the north, Spring Street to the east and Flinders Street to the south
CCA	<i>Climate Change Act 2017 (Vic)</i>
CCF	Climate Change Framework
Central city	Area of Melbourne that incorporates the CBD, Docklands and Southbank. Refers to the central city of Melbourne, extending further than the Melbourne CBD boundaries
CGE	Computable General Equilibrium
CHaPs	Community Hubs and Partnerships
CHMP	Cultural heritage management plan
CityPlan	Land Use Transport Interaction Model
Complementary	A scope category under the Scope Framework, described in section 5.4

Term	Definition
Concept Design	The Concept Design provides a coordinated design baseline for the railway, infrastructure and associated equipment of SRL East and SRL North, prepared to a nominal 5-10 per cent Level of Detail and aligned to a Preliminary System Requirements Specification (SRS). The purpose of the Concept Design is to provide a technically feasible solution to inform the Environment Effects Statement, SRL Business and Investment Case, Packaging Strategy and future project planning.
Concept of Operations	The SRL East and SRL North operations strategies, which provide the operational basis for the development of the design of the railway, infrastructure and associated equipment
Core	A scope category under the Scope Framework, described in section 5.4
CRA	Cambridge Redevelopment Authority
Critically Interdependent	A scope category under the Scope Framework, described in section 5.4
D&C	Design and Construct
DELWP	Department of Environment, Land, Water and Planning
DFFH	Department of Families, Fairness and Housing (Victoria)
Discount rate	The percentage rate at which future values are reduced to bring them into line with today's values. This is done to compare the costs and benefits of a project over time
DJPR	Department of Jobs, Precincts and Regions (Victoria)
DPC	Department of Premier and Cabinet (Victoria)
DSAPT	Disability Standards for Accessible Public Transport
DTF	Department of Treasury and Finance (Victoria)
DV	Development Victoria
Early Works	Early Works are priority works planned to be delivered ahead of the SRL East Main Works; however, these works can only commence once the Environment Effects Statement for the SRL East Transport Project has been approved
EE Act	<i>Environment Effects Act 1978</i>
EES	Environment Effects Statement
EIRR	Economic internal rate of return
EMU	Electric multiple unit
Enabling	A scope category under the Scope Framework, described in section 5.4
Environment Effects Statement	The Environment Effects Statement is prepared to support the Minister for Planning's assessment of the potential environmental and social effects of a proposed project, pursuant to the <i>Environment Effects Act 1978</i>
EP Act	<i>Environment Protection Act 2017</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERP	Estimated Resident Population
FLS	Fire and Life Safety
FTE	Full time equivalent

Term	Definition
Funding and Financing Strategy	Strategy for the funding and financing of SRL East and SRL North currently under development by DTF
Funding Submissions	Individual Funding Submissions that will be developed for specific works and investments, aligned with the overarching Business and Investment Case
SRL North	The rail connection from Box Hill to Melbourne Airport, together with a series of integrated initiatives to create value and improve the precincts (relevant precincts include Doncaster to Broadmeadows)
GBCA	Green Building Council Australia
GDP	Gross Domestic Product
Greater Melbourne	Covers the entirety of suburban Melbourne including as yet unreleased growth areas in outer suburbs, including 31 LGAs. For the purpose of this Business and Investment Case, Greater Melbourne has been conceptualised in three geographic rings (inner, middle and outer) as defined in Chapter 2
GSP	Gross State Product
GVA	Gross Value Added measures the contribution to an economy, producer, sector or region
HEPs	Health and Education Precincts, as identified in <i>Plan Melbourne</i>
HVHR	High value high risk. In Victoria, infrastructure and ICT projects identified as being high value or high risk are subject to more rigorous scrutiny and approval processes
IA	Infrastructure Australia
ILM	Investment Logic Map which outlines the problems to be addressed and expected benefits to be realised if an investment in SRL East and SRL North is pursued
Infrastructure Strategy	Victoria's 30-Year Infrastructure Strategy
Initial Works	Priority preparatory works that may proceed independent of the primary planning approval process for SRL East works (i.e. the EES process)
Inner ring	As defined in Chapter 2 of the Investment Case
Interpeak	The six-hour period between 9:00am to 3:00pm on a typical weekday, unless stated otherwise
Investigation Zone	For the purpose of the SRL East and SRL North precinct options assessment process, 17 investigation zones were identified to enable the grouping of identified precinct options
Business and Investment Case	This document
IRSAD	The Index of Relative Socio-Economic Advantage and Disadvantage which summarises information about the economic and social conditions of people and households within an area. This includes both relative advantage and disadvantage measures <i>Source: Australian Bureau of Statistics</i>
ISCA	Infrastructure Sustainability Council Australia
IV	Infrastructure Victoria
IV Infrastructure Strategy	IV's 30-Year Infrastructure Strategy

Term	Definition
JTW	Journey to Work – Part of the Victorian Integrated Survey of Travel Activity (VISTA) data that assesses transport patterns for Victoria
Knowledge-based	Following industries as defined by ANZIC: Information media & Telecommunications Financial & Insurance Services Rental, Hiring & Real State Services Professional, Scientific & Technical Services Administrative & Support Services Public Administration & Safety Education & Training Health Care & Social Assistance
KPI	Key Performance Indicator
KSURP	Kendall Square Urban Renewal Plan
LAC Act	<i>Land Acquisition and Compensation Act 1986</i>
LGA	Local Government Area
LP&E	Land, Planning and Environment
MABM	Melbourne Activity and Agent Based Model
MAC	Metropolitan Activity Centre, as identified in <i>Plan Melbourne</i>
Main Works	The main works package(s) to be procured and delivered for SRL East and SRL North, excluding preparatory works identified as either Initial Works or Early Works
MAR	Melbourne Airport Rail project
MCA	Multi-criteria assessment
MCRS	Medium capacity rolling stock
Metro Tunnel	Melbourne Metro Tunnel project
Middle ring	Spatial area of Greater Melbourne, as defined in Chapter 2 of the SRL Business and Investment Case
MIT	Massachusetts Institute of Technology
Monte Carlo Analysis	A method of simulation modelling using a large number of random samples of risk and uncertainty distributions, to quantify the range of cost and/or schedule risk exposures
MTPF Act	<i>Major Transport Projects Facilitation Act 2009</i>
MTIA	Major Transport Infrastructure Authority
MTM	Metro Trains Melbourne
Multi-Criteria Assessment	The options assessment process, which is based on detailed analysis and assessment against multiple criteria
NEICs	National Employment and Innovation Clusters, as identified in <i>Plan Melbourne</i>
Nodes	Points of intersection in a transport network
NOM	Net Overseas Migration
Northern Stabling and Maintenance Yard	The stabling and maintenance depot facility to be designed and delivered at the northern end of SRL North

Term	Definition
NPV	Net present value
OCC	Operational Control Centre
Offpeak	The 13-hour period between 6:00pm to 7:00am on a typical weekday, unless stated otherwise
OPV	Office of Projects Victoria
OSD	Over-station developments
Outer ring	As defined in Chapter 2 of the Investment Case
P&E Act	<i>Planning and Environment Act 1987</i>
PAR	Project assurance reviews
<i>Plan Melbourne</i>	<i>Plan Melbourne 2017-2050</i> is a strategic planning policy document published by the Victorian Government in 2017, with the aim of providing a policy blueprint for the state's growth and development over the next 30-35 years
<i>Plan Melbourne Outcomes</i>	The seven overarching outcomes set out in <i>Plan Melbourne</i>
PM Peak	The three-hour peak period between 3:00pm to 6:00pm on a typical weekday, unless stated otherwise
PNFC	Public Non-Financial Corporation
PPF	Planning Policy Framework
Precinct Ambitions	Forward-looking ambition statements developed for each SRL Precinct
Precinct Principles	The nine principles outlined in section 5.1.1, which were developed by SRLA to guide the planning, design and development of precincts
Project case	The predicted impact of SRL East and SRL North, as defined in Appendix C.1: Demand Modelling Report
PSA	Planning Scheme Amendment
PSDs	Platform screen doors
PSS	Places of State Significance, as identified by <i>Plan Melbourne</i>
PTV	Public Transport Victoria
QRA	Quantitative risk assessment
RBA	Reserve Bank of Australia
RCC	Resource cost correction
RMIT	Royal Melbourne Institute of Technology
Rolling stock	Railway vehicle components
RPV	Rail Projects Victoria
RRL	Regional Rail Link
SA2	Statistical Areas Level 2 - as defined by the ABS, medium-sized general purpose areas built up from whole Statistical Areas Level 1
SA3	Statistical Areas Level 3 - as defined by the ABS, geographical areas designed for the output of regional data and built from whole Statistical Areas Level 2
SAC	SRLA's Standing Advisory Committee, that will oversee and facilitate a consistent approach to the assessment of SRL Structure Plans

Term	Definition
SALUP	Small Area Land Use Projections
Scope Development Approach	The scope development methodology for SRL East and SRL North, as described in section 4.2
Scope Framework	The framework developed by SRLA to guide the scope development process and define the combined SRL East and SRL North program, including to define and categorise scope elements to be delivered; this is presented in section 5.4.
SEIFA	Socio-Economic Indexes for Areas
SRL	Suburban Rail Loop (see definition of SRL Program)
SRL Alignment	(Defined as the rail alignment between Cheltenham and Melbourne Airport)
SRL East	The south east section of SRL from Cheltenham to Box Hill, together with a series of integrated initiatives to create value and improve the precincts around the new stations
SRL East Main Works	The main works package(s) to be procured and delivered for SRL East, excluding preparatory works identified as either Initial Works or Early Works
SRL East Structure Planning	The framework and structure planning of the six SRL East Precincts, including development of SRL Structure Plans and associated Planning Scheme Amendments
SRL East Transport Project	Construction and operation of the SRL East rail connection, including tunnels from Cheltenham to Box Hill, six stations and the Southern Stabling and Maintenance Yard
SRL Entities	Entities established by SRLA for a range of purposes including to hold assets, hold debt, manage service operations and undertake works
SRL IDC	SRL Inter-Departmental Committee
SRL North	The section of the SRL Program between Box Hill and Melbourne Airport
SRL Precincts	<p>The 1600 metre radius area around an SRL Station. The SRL East Precincts are:</p> <p>Cheltenham Precinct Clayton Precinct Monash Precinct Glen Waverley Precinct Burwood Precinct Box Hill Precinct</p> <p>The SRL North Precincts are:</p> <p>Doncaster Precinct Heidelberg Precinct Bundoora Precinct Reservoir Precinct Fawkner Precinct Broadmeadows Precinct Melbourne Airport (anchor precinct)</p>
SRL Program	An orbital rail loop connecting Melbourne's middle suburbs stretching from Cheltenham to Werribee, together with a series of integrated initiatives to create value and improve the precincts around the new stations
SRL Objectives	Objectives of the SRL Program, as detailed in Chapter 1
SRL Stations	(defined as both SRL East and SRL North rail stations)

Term	Definition
SRL Structure Plans	The SRL Structure Plans establish the precinct boundary, as well as outline sub-precinct uses and development objectives, strategies and desired development outcomes
SRL West	The section of SRL from Melbourne Airport to Werribee, together with a series of integrated initiatives to create value and improve the precincts in and around the new stations
SRLA	Suburban Rail Loop Authority
SRLA Risk Framework	SRLA's Risk Management Framework, which guides the risk management processes during the planning, development and delivery of SRL East
SSIP	State Significant Industrial Precincts, as identified by <i>Plan Melbourne</i>
Stabling and Maintenance Yard	Stabling and maintenance depot facilities and infrastructure
Strategic Assessment	The SRL Strategic Assessment report released publicly in 2018, which provides high-level rationale and analysis supporting further investigation of the concept as an orbital rail line through Melbourne's middle suburbs together with precinct development initiatives
Southern Stabling and Maintenance Yard	Primary stabling and maintenance depot facility to be designed and delivered at the southern end of SRL East
Suburban Rail Loop	New orbital rail line from Cheltenham to Werribee
Suburban Rail Loop Authority	An Administrative Office in relation to the Department of Transport, which is responsible for overseeing the delivery of SRL East and SRL North
Surface transport	Includes active travel modes (walking and cycling), surface public transport (buses, trams), as well as private vehicle modes
TBM	Tunnel boring machine
TCS	Train Control System
TIA	<i>Transport Integration Act 2010</i> (Vic)
UCB	Urban consolidation benefits
UHI	Urban heat island
Urban fringe	The border between regional and metropolitan areas
V/Line	A government-owned corporation that operates regional passenger train and coach services in Victoria
VCC Framework	Victoria's Value Creation and Capture Framework
VCC	Value Creation and Capture
VGRMF	Victorian Government Risk Management Framework
VGv	Valuer-General Victoria
VISTA	Victorian Integrated Survey of Travel and Activity
VITM	Victorian Integrated Transport Model
VKT	Vehicle kilometres travelled
VOT	Value of travel time
VPA	Victorian Planning Authority
VPP	Victoria Planning Provisions

Term	Definition
WEBs	Wider economic benefits

Index of Figures

Figure ES-1: Suburban Rail Loop network plan	9
Figure ES-2: Intersection between the three SRL Objectives	11
Figure ES-3: Historical and projected population in Victoria by major regions, 1976-2056	14
Figure ES-4: Melbourne's projected change in employment density, 2018-2056	16
Figure ES-5: Melbourne population growth rate, 2021-2056	17
Figure ES-6: Affordable Living Index, 2018	19
Figure ES-7: Pipeline of major infrastructure projects in Victoria	20
Figure ES-8: <i>Plan Melbourne</i> guiding principles	21
Figure ES-9: Change in travel speed for all types for journeys due to SRL East and SRL North, 2056	25
Figure ES-10: Public transport travel time savings (minutes) between SRL Precincts due to SRL East and SRL North (AM peak), 2056	28
Figure ES-11: Change in Affordable Living Index (ALI) with SRL East and SRL North, 2056	30
Figure ES-12: Economic benefits	32
Figure ES-13: High-level delivery program timeline	33
Figure ES-14: Indicative target milestones to 2022	35
Figure 1-1: Melbourne's history of strategic and long term planning	42
Figure 1-2: Recent precinct development in Melbourne	44
Figure 1-3: Historical and projected population in Victoria by major regions, 1976-2056	46
Figure 1-4: Annual change in GDP and productivity (quality adjusted labour), 1995-2016	47
Figure 1-5: Historical and projected older population (65+) in Victoria, 1976-2036	48
Figure 1-6: Categories of migrants by visa type, 2004-2019	49
Figure 1-7: <i>Plan Melbourne</i> guiding principles	52
Figure 1-8: Transport infrastructure categories	56
Figure 1-9: Regional Rail Link influence on housing development, 2021	57
Figure 1-10: Description of the intersection between SRL Objectives	65
Figure 1-11: Suburban Rail Loop network plan	67
Figure 2-1: SRL East's high-level program timeline	76
Figure 2-2: Melbourne's three rings: Inner, Middle and Outer	77
Figure 3-1: Investment Logic Map	88
Figure 3-2: Melbourne's employment density, 2018	90
Figure 3-3: Melbourne's job growth by industry, 2016-2056	91
Figure 3-4: Melbourne's projected change in employment density, 2018-2056	92
Figure 3-5: Average journey time to work projected change, 2018-2056	94
Figure 3-6: Projected change in average journey time to work destination, 2018-2056	95
Figure 3-7: Accessible workforce catchment for Monash NEIC by public transport and car, 2018	96
Figure 3-8: Accessible workforce catchment for La Trobe NEIC by public transport and car, 2018	97
Figure 3-9: Population and employment growth in Parramatta	98
Figure 3-10: Employment-generated transport demand between Melbourne's rings, 2016	100
Figure 3-11: Melbourne's radial and orbital travel demand, 2018	101
Figure 3-12: Mode share by ring, 2018	102

Figure 3-13: Road network congestion in AM Peak, 2031	103
Figure 3-14: Crowding on train network in AM peak, 2031	104
Figure 3-15: Number of people travelling on average weekday by time of day, 2008 vs. 2018	105
Figure 3-16: Melbourne population growth rate, 2006-2018	106
Figure 3-17: Melbourne population growth rate, 2021-2056	108
Figure 3-18: Current projections on the share of Greater Melbourne's population in inner, middle and outer rings, 2006, 2018 and 2056, prior to any changes introduced by SRL	109
Figure 3-19: Rail and tram network accessible areas of Melbourne, 2018	110
Figure 3-20: Percentage of households that have less than one car per adult resident, 2016	111
Figure 3-21: Housing affordability, 2018	115
Figure 3-22: Dwellings in Greater Melbourne by type, 2001-2016	116
Figure 3-23: Historical housing approvals in Victoria, 1992-2019	117
Figure 3-24: Affordable Living Index, 2018	119
Figure 3-25: Socio-economic Indexes for Areas – Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) by SA2, 2016	120
Figure 3-26: Change in employment less change in population, by distance from CBD, 2011-2016	121
Figure 3-27: Proportion of employees in less productive work by place of usual residence, 2016	122
Figure 3-28: Features of a 20-minute neighbourhood	123
Figure 3-29: Proportion of trips undertaken that are under 5km, by SA2, 2018	124
Figure 3-30: Benefits Management Plan	128
Figure 4-1: Program Development Process	136
Figure 4-2: Corridor options (inner, middle, outer) identified in the 2018 <i>Strategic Assessment</i>	137
Figure 4-3: SRL sequencing	141
Figure 4-4: Existing employment and population catchment potential in middle and outer ring by intersecting rail line, 2018	142
Figure 4-5: Precinct location options assessment criteria	144
Figure 4-6: SRL Precinct location options (long list) and investigation zones	145
Figure 4-7: Stabling site options assessment criteria	153
Figure 4-8: Baseline SRL alignment	157
Figure 5-1: SRL East and SRL North rail corridor with SRL Precinct ambition statements	158
Figure 5-2: SRL Precinct Principles	160
Figure 5-3: SRL train features (indicative)	168
Figure 5-4: User journey through a station	169
Figure 5-5: Scope Framework – categorisation of scope items (non-exhaustive)	182
Figure 6-1: Contributing to <i>Plan Melbourne's</i> outcomes and policy directions	185
Figure 6-2: Regional Victoria areas with improved access to employment in Melbourne's middle ring, 2056	193
Figure 7-1: Change in commuter accessibility to jobs, 2056	198
Figure 7-2: Potential workforce catchment pool by public transport by precinct across Melbourne, 2036 and 2056	200
Figure 7-3: SRL Precinct activity density, 2018 and 2056	202
Figure 7-4: Concentration of agglomeration benefits attributable to SRL East and SRL North for model year 2056	203
Figure 7-5: Knowledge-based versus total employment within SRL Precincts, with SRL East and SRL North, 2018-2056	207

Figure 7-6: Change in business-to-business accessibility, 2056	210
Figure 8-1: Transport benefits of SRL	213
Figure 8-2: Public transport travel time savings (minutes) between SRL Precincts due to SRL East and SRL North (AM peak), 2056	216
Figure 8-3: Daily number of station transfers between one rail service and other public transport services, 2056	217
Figure 8-4: Change in travel speed due to SRL East and SRL North, 2056	218
Figure 8-5: Change in rail passenger volumes across the rail network due to SRL East and SRL North (AM peak), 2056	220
Figure 8-6: Change in road network congestion due to SRL East and SRL North (AM peak), 2056	223
Figure 9-1: Change in Affordable Living Index with SRL East and SRL North, 2056	233
Figure 9-2: SRL East and SRL North users and beneficiaries, 2056	234
Figure 9-3: Projected household composition across Greater Melbourne, 2056	236
Figure 9-4: Projected distribution of households by income across Greater Melbourne, 2056	237
Figure 10-1: Redistribution of jobs in SRL East and SRL North Precincts	251
Figure 10-2: Redistribution of property demand to SRL Precincts (SRL East and SRL North Option A versus base case)	254
Figure 10-3: Change in property mix over time by gross floor area in square metres for SRL Precincts	255
Figure 10-4: Illustrative development scenario	257
Figure 10-5: Value to land owners in SRL East Precincts from development from 2018 to 2056 due to SRL East and SRL North (not including value to surrounding areas)	257
Figure 10-6: Percentage of land value uplift driven by accessibility and amenity improvements as a result of SRL East and SRL North with sequenced delivery vs. without SRL East and SRL North	258
Figure 10-7: Potential unique landowners	260
Figure 10-8: Observed changes in value during key project stages	262
Figure 11-1: Embedding value creation within SRL	265
Figure 11-2: Categories of value creation mechanisms	267
Figure 12-1: Economic benefits of SRL East and SRL North, 2056 (Program Case Option A)	290
Figure 12-2: Monte Carlo simulation results – Program Case Option A	291
Figure 12-3: Monte Carlo simulation results – Program Case Option B	292
Figure 12-4: SRL East and SRL North economic appraisal framework	299
Figure 12-5: Base Case rail network changes, 2018-2051	301
Figure 12-6: Base Case road network changes, 2018-2051	302
Figure 12-7: SRL East and SRL North network	303
Figure 12-8: Groups of people who benefit from SRL East and SRL North based on their work status	309
Figure 12-9: Groups of people who benefit from SRL East and SRL North based on their age	309
Figure 12-10: Groups of workers who benefit from SRL East and SRL North based on their household income	310
Figure 12-11: Monte Carlo simulation results – Program Case Option A	311
Figure 12-12: Monte Carlo simulation results – Program Case Option B	312
Figure 12-13: SRL East and SRL North borrowing cost against tax receipt – Program Case Option A	316
Figure 12-14: SRL East and SRL North borrowing cost against tax receipt – Program Case Option B	316
Figure 13-1: SRL East decision making structure	322
Figure 13-2: SRLA internal structure	324
Figure 14-1: SRL East Transport Project EES and PSA steps	329

Figure 14-2: Structure Planning and PSA steps	330
Figure 15-1: SRLA risk management process	336
Figure 15-2: Risk quantification process and methodology	338
Figure 16-1: Process for developing packaging and procurement strategy	348
Figure 17-1: Typical sources of finance	360
Figure 18-1: Engagement phases	370
Figure 18-2: SRL engagement activities at a glance	377
Figure 19-1: Indicative target milestones to 2022	378
Figure 19-2: Delineation of content between Business and Investment Case vs. Funding Submissions	379
Figure 19-3: Assurance throughout the investment lifecycle	381

Index of Tables

Table ES-1: Ambitions for SRL East and SRL North Precincts	23
Table 1-1: Detailed descriptions of the SRL Objectives	64
Table 2-1: Infrastructure Victoria: strategy and response	80
Table 2-2: Key Victorian Government policies	81
Table 2-3: Key Australian Government policies	82
Table 3-1: KPIs, measures and sources	130
Table 4-1: Alignment of Places of State Significance with SRL Objectives	139
Table 4-2: Summary of precinct location options assessment outcomes	146
Table 4-3: Summary of stabling site options assessment outcomes	154
Table 5-1: SRL East and SRL North Precinct ambition statements	161
Table 5-2: SRL East baseline station locations	163
Table 5-3: SRL East and SRL North indicative journey times	167
Table 5-4: Key station components	170
Table 5-5: Summary of Scope Framework categories	180
Table 6-1: SRL East Precinct activity	189
Table 6-2: SRL North Precinct activity	190
Table 8-1: Road improvements between strategic precincts (AM peak), 2056	222
Table 12-1: SRL East and SRL North are not standard transport projects	294
Table 12-2: City Loop economic appraisal results (7 per cent discount rate, 1972 price and discount year)	295
Table 12-3: Key elements of the economic evaluation framework for SRL East and SRL North	297
Table 12-4: Key input parameters	305
Table 12-5: Economic evaluation results for SRL Program Case Option A and B discounted at 4 per cent	307
Table 12-6: Economy wide impact using a 4 per cent discount rate	314
Table 12-7: CGE KPIs	315
Table 12-8: Other economic effects of the Program Case	317
Table 13-1: Roles and interfaces of key Victorian Government stakeholders	325
Table 15-1: Three lines of defence	337
Table 15-2: Summary of selected key risks	341
Table 16-1: Packaging and procurement considerations – rail	349
Table 17-1: Potential dimensions of involvement	354
Table 17-2: International precedents for value capture funding	358
Table 18-1: Overview of stakeholder engagement phases	365
Table 18-2: Principles of stakeholder engagement	366
Table 18-3: SRL stakeholder groups and key interests	367
Table 18-4: SRL East engagement phases	370
Table 19-1: SRL delivery responsibility between SRLA vs. Others	383
Table 19-2: Upcoming target milestones (indicative)	385
Table 19-3: Potential exit strategies under some scenarios	386

Appendix

Appendix B1 - SRL Precinct Location Options Assessment Summary

Appendix B2 - Station Location Options Assessment Summary (SRL East)

Appendix B3 Part A - SRL Precinct Development Framework

Appendix B3 Part B - SRL Precinct Development Framework Case Study Compendium

Appendix B4 - Urban Design Framework

Appendix C1 - Demand Modelling Report

Appendix C2 - Economic Appraisal Report

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