



MELBOURNE METRO

Business Case — Key Findings

FEBRUARY 2016



Economic Development,
Jobs, Transport
and Resources

Major investments
in **transport infrastructure**
lay the foundation for
a **highly liveable** and
well-connected city.





Melbourne Metro
represents a **generational
change** to the Melbourne
metropolitan rail network.

A compelling case

Melbourne is Australia's fastest-growing city with a population of 4.4 million expected to grow to around 8 million people by 2051.

Accessibility and connectivity are the hallmarks of a successful city. Creating better connections for people to access jobs, health and education services is critical for social and economic wellbeing.

With population and demand for public transport ever-increasing, Melbourne's rail network needs to be expanded to safeguard the city's liveability and economic prosperity.

Infrastructure Australia considers constrained public transport systems under pressure from rising patronage and population growth to be a "nationally significant problem". Limiting access to high value employment in Melbourne's CBD negatively impacts liveability, productivity, urban renewal opportunities and economic growth. Accordingly, significantly increasing public transport capacity in the context of urban renewal is a priority for the Victorian Government and agreed by Infrastructure Australia.

The need for a rail project of the scale and scope of Melbourne Metro was first identified as part of the 2008 report *Investing in Transport; East West Link Needs Assessment* prepared by Sir Rod Eddington. Capacity on Melbourne's metropolitan rail network was identified as a key challenge in the *Australian Infrastructure Audit* in April 2015. Infrastructure Australia subsequently released the *Australian Infrastructure Plan* in February 2016 and Melbourne Metro was classified as a "High Priority Initiative".

Melbourne Metro represents a generational change to the metropolitan rail network. Melbourne Metro will provide capacity on the rail network to move an additional 39,000 passengers in each peak period from the first day of operation.

Without Melbourne Metro, the ability of people to commute to the CBD - the most productive area in Victoria and second most productive area in the whole of Australia - will be constrained and the future of Victoria's economic prosperity put at risk.

Melbourne Metro is expected to be a **transformational** project that will achieve **long-term reshaping** of the city.

Office of National Infrastructure Coordinator
Infrastructure Australia, July 2013.

Economy wide impact on employment

Melbourne Metro		Construction period (2016-2025)
Jobs, number created in peak year	Victoria	3,900
	Australia	4,700



Business Case Recommendation

The Business Case finds that the \$10.9 billion Melbourne Metro has strong economic credentials and offers the best investment pathway for expanding the inner core of Melbourne’s rail network.

The Business Case for Melbourne Metro presents an analysis into whether a significant investment in rail is the best approach to meet Melbourne and Victoria’s growth and if so, whether Melbourne Metro is the optimal solution.

The Business Case finds that Melbourne Metro:

- + Meets a pressing need to increase capacity of the metropolitan rail network
- + Represents the best option identified to deliver the objectives of rail investment
- + Has strong economic credentials and is backed by a compelling strategic case
- + Is deliverable within the cost and timeframes proposed
- + Fits with the strategic policy objectives of Federal, State and Local Governments
- + Delivers substantial social, environmental and economic benefits, and
- + Is widely supported by stakeholders and the community.

The Business Case finds that Melbourne Metro has strong economic credentials, with a Benefit to Cost Ratio (BCR) of 1.1. The economic case for Melbourne Metro is further strengthened with a BCR of 1.5 when wider economic benefits (WEBs) are included. It offers the best investment pathway for expanding the core of the Melbourne rail network to meet current and expected growth in the north, west and south-east of the city.

The economy-wide modelling demonstrates that Melbourne Metro is expected to create 3,900 additional jobs across Victoria and approximately 4,700 jobs nationwide at the peak of construction.

The construction and operation of Melbourne Metro is expected to increase Victoria’s Gross State Product (GSP) by between \$7 billion and \$14 billion (using a 7 per cent and 4 per cent discount rate respectively) in present value terms.

Economic evaluation results

Melbourne Metro	7% Discount rate	4% Discount rate
Benefit cost ratio (excl WEBs)	1.1	2.4
Benefit cost ratio (incl WEBs)	1.5	3.3

Challenges facing Melbourne

Why do we need Melbourne Metro?

Across the network, the number of people travelling into the city in the morning peak period is expected to grow by 65 per cent between 2015 and 2031.

In a modern city, commuters need to get to and from their places of work, education and health care each day. In addition, services need to be delivered and goods need to be moved via roads, ports, airports and freight terminals.

Melbourne's population is expected to reach 6 million by 2031 and around 8 million by 2051 from a current population of 4.4 million. More than 40 per cent of Melbourne's population growth in the next 15 years is expected to occur in greenfield residential developments in the north, west and south-eastern growth corridors.

Melbourne's population is expected to reach **6 million** by **2031** and around **8 million** by **2051** from a current population of 4.4 million.

As Melbourne's population increases, so does the demand for reliable and convenient travel. Rail patronage has been growing strongly from 89 million trips in FY1980-81 to 227.5 million trips in FY2014-15. Morning peak train loads have increased by over 50 per cent over the last decade while the level of private vehicle kilometres in inner Melbourne remained static.

The number of people using the rail system in Melbourne continues to rise, with average weekday boardings on metropolitan trains forecast to increase from 750,000 in 2011 to 1.5 million by 2031.

Overcrowding during peak commuting periods, restricted access to the CBD and little incentive for people to reduce their car travel; these are symptoms of a public transport system in urgent need of significant investment. Without investment the existing network of inner city rail infrastructure in Melbourne is incapable of meeting forecast demand.



The importance of Central Melbourne

Melbourne's economy is evolving from its traditional reliance on suburban-based manufacturing towards inner-city, knowledge-based services.

The distribution of employment across the city is also changing, with the growth of service-based jobs concentrated in the CBD and manufacturing-based industries relocating to the western suburbs of Melbourne.

More than half of Melbourne's total economic output and the highest levels of employment growth are produced in Central Melbourne, which includes the CBD. Central Melbourne is set to become Australia's largest business centre with jobs projected to grow from 435,000 in 2011 to almost 900,000 jobs by 2051.

The financial, insurance, professional, scientific, technical services, healthcare and social assistance industries account for 25 per cent of Victoria's Gross State Product (GSP) but contributed 46 per cent of GSP growth from FY2009-10 to FY2014-15.

As a result, Central Melbourne needs to continue to grow and realise its full job growth potential. Melbourne Metro has an integral role to play and represents a step change in public transport.

Melbourne Metro will be one of the largest public transport projects ever undertaken in Australia and the first major investment in Melbourne's CBD rail capacity since the City Loop was completed 30 years ago.

Melbourne Metro will increase the frequency of train services on the new Sunshine - Dandenong Line as well as increase capacity on the Werribee, Craigieburn, Upfield, Sandringham and Frankston lines.

The improved frequency and reliability of services on the network enabled by Melbourne Metro will encourage travellers to choose the rail system ahead of the road network, reducing traffic congestion in the north, west and south-east.

By enabling more workers to locate in a highly productive and employment-dense area, the benefits of Melbourne Metro will flow to businesses, employees, and the economy at large. Melbourne Metro will be the catalyst for unprecedented connectivity for Melbourne in one of the world's most liveable cities and will underpin Melbourne's growth for decades to come.

Flinders Street Station

Flinders Street Station is under considerable pressure and will continue to be, even when the current upgrade of the station is completed. During peak periods, many platforms are crowded as passengers wait for their services. Melbourne Metro's CBD South station will ease the load on Flinders Street Station and relieve congestion.



Melbourne's population
now at 4.4 million,
expected to rise to

8 million
by **2051**

Knowledge
based services
now make up
21.6%
of the State's
economic output

Population in the **west** will **grow** at
double the pace of the rest of Melbourne



900,000
jobs in
Central Melbourne
by **2051**

Boardings on
metro trains
to double to
1.5m
every weekday
by **2031**

What Melbourne Metro delivers

Transforming the rail network

The \$10.9 billion Melbourne Metro joins the Sunbury and Cranbourne / Pakenham lines that service two of Melbourne's largest growth corridors in the north-west and south-east to create a stand-alone rail line (Sunshine - Dandenong).

Dedicated end-to-end lines with separate train fleets, maintenance and stabling facilities ensure that trains can run more frequently, and service disruptions on one line don't impact other lines, creating a reliable and resilient rail system.

By creating a new dedicated pathway through the inner core for Sunbury, Cranbourne and Pakenham services, more trains will be able to run more often on five other lines across the metropolitan rail network. The Craigieburn, Upfield, Frankston, Sandringham, and Werribee lines will benefit directly from this unlocked capacity.

As a result, there will be capacity created on the network to allow 39,000 more passengers to use the rail system during each peak period from the first day of operation.

Melbourne Metro platforms are longer to enable the future introduction of extended **High-Capacity Metro Trains (HCMTs)** which carry **75 per cent more** passengers (1,570 passengers per train) than today's trains.

In order to deliver this transformation of the rail network, Melbourne Metro will comprise:

- + Twin nine-kilometre rail tunnels
- + Five new underground stations at Arden, Parkville, CBD North, CBD South and Domain with longer platforms to accommodate HCMTs and extended HCMTs
- + Train / tram interchange at Domain
- + High Capacity Signalling (HCS).

Support initiatives include:

- + Signalling upgrades on other lines and other works.
- + Tram network changes.
- + An additional 25 HCMTs and associated stabling, maintenance facilities and power upgrades.
- + The Government has committed \$1.3 billion to build a new fleet of 37 HCMTs which will operate on the Cranbourne / Pakenham Line.

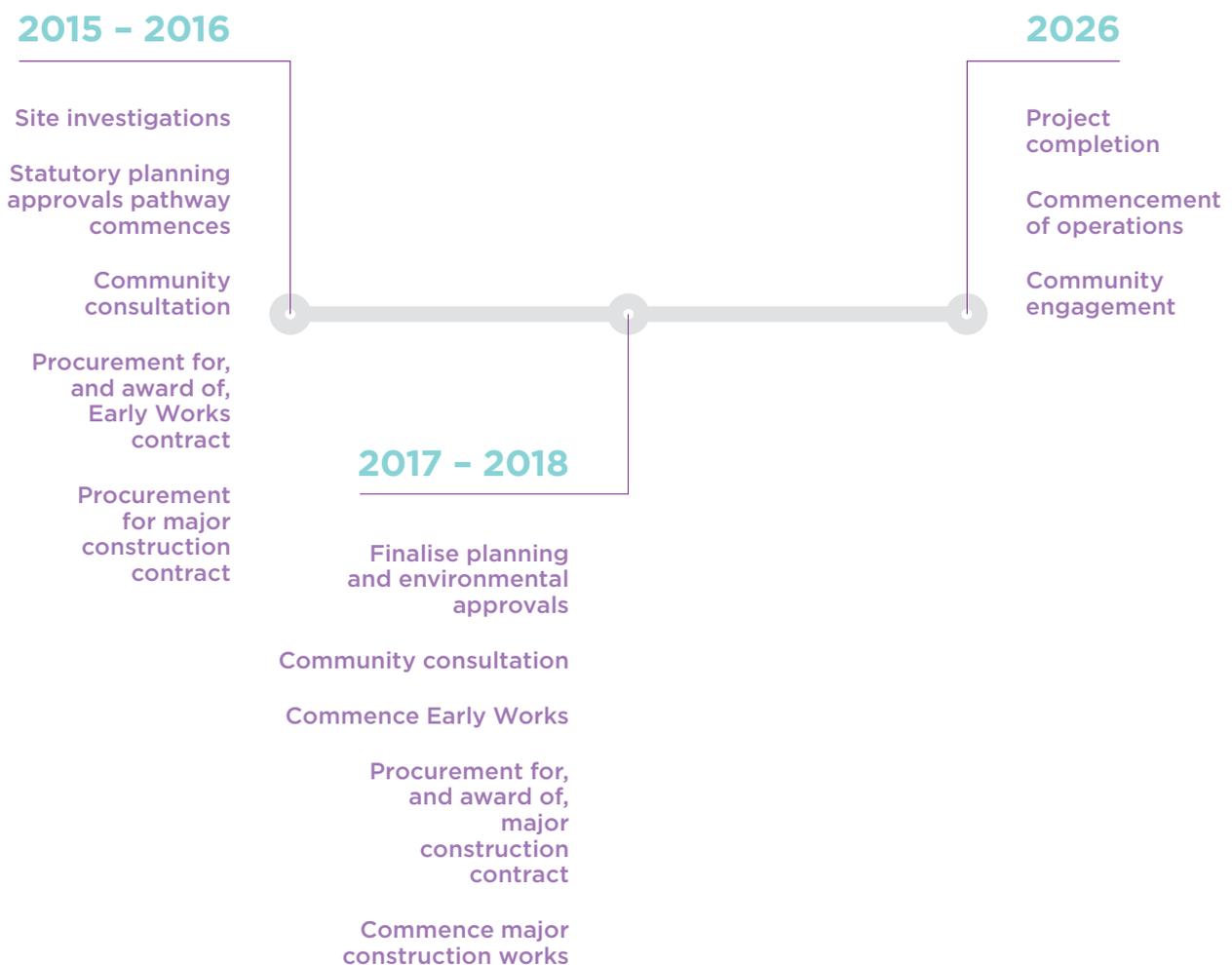


Melbourne Metro is a transformative project providing capacity on opening for 39,000 additional passengers in each peak period and enabling further capacity increases in the future.

Timeline

Projects of the scale and complexity of Melbourne Metro require long lead times to develop and construct which make it imperative to make this investment now.

Subject to the necessary planning and environmental approvals, major works are expected to commence in 2017 and be completed by 2026. Community consultation will occur throughout the process.



Investing in a network solution

The Victorian Government's plans and policies support investment in both the public transport system and the road network.

Melbourne Metro will provide the foundation for transforming Melbourne's rail network into an international-style metro system that will ultimately operate as six independent lines across the network.

As a result, the resilience, punctuality and overall reliability of the public transport system for passengers to travel to and around Central Melbourne will be considerably improved.

Other major public transport and road initiatives also underway:

- + Removing 50 level crossings.
- + \$2 billion investment in new trams and trains including HCMTs.
- + Mernda Rail Extension Project.
- + Cranbourne / Pakenham Line Upgrade.
- + Expanding the High Productivity Freight Vehicle Network.
- + CityLink - Tulla Widening.
- + M80 Ring Road Upgrade.
- + Western Distributor.

CASE STUDY

Crossrail (UK)

In 2001, the Greater London Authority recognised the need to boost the number of jobs in Central London to remain internationally competitive and knew that its rail network did not have the capacity to support that growth.

The £14.8 billion (A\$30 billion) Crossrail project, now nearing completion, was the response.

Crossrail will enable workers to more easily commute to the CBD, provide businesses located in Central London with access to a wider pool of workers and act as a catalyst for urban renewal opportunities along the rail corridor.

Melbourne faces similar challenges and Melbourne Metro is designed to address them.

Access to strategic locations

A number of station location options were analysed as part of Melbourne Metro. It was determined the five new underground stations located at Arden, Parkville, CBD North, CBD South and Domain offer the greatest passenger benefits and transport outcomes for the associated costs and impacts.

CBD North and CBD South will enhance public transport connectivity to the Melbourne CBD. The new Melbourne Metro stations at Arden, Domain and Parkville support heavy rail access to a combined catchment of approximately 200,000 jobs, student enrolments and residents.

Each of the new Melbourne Metro stations will:

- + Enhance transport access to strategic locations in Melbourne
- + Improve passenger experiences through reduced congestion on the rail network
- + Provide interchange opportunities with other modes of transport
- + Lead to the creation of new urban landmarks and precincts, and
- + Be a catalyst for new residential and commercial developments.

Arden

The Arden-Macaulay Precinct has been highlighted as a key urban renewal area by the City of Melbourne and the Metropolitan Planning Authority.

Melbourne Metro's Arden station provides the opportunity to connect the growth in Melbourne's west to the growing knowledge workforces and residential communities in Docklands and E-Gate, as well as established areas including the Parkville National Employment Precinct, CBD and existing communities in North Melbourne and West Melbourne.

Arden station is expected to provide heavy rail access to 12,000 jobs and 7,000 residents within 800 metres of its location in 2031.

The broader Arden-Macaulay Precinct has the potential to facilitate in excess of 43,000 jobs and 25,000 residents and is estimated to stimulate over \$7 billion in today's dollars of end development value.

Parkville

Parkville is a designated national employment cluster and a world-class education, health and research precinct. The Parkville precinct is critical to Victoria's and Australia's leadership in biotechnology, medical research, education and health services, and draws people from across the metropolitan area and regional Victoria.

Melbourne Metro's Parkville station is expected to provide access to around 45,000 jobs, 14,000 residents and 70,000 tertiary students within 800 metres of its location in 2031. It will be used by nearly 60,000 passengers each day in 2031, making it busier than Flagstaff station today.



CBD North and CBD South

The CBD is Melbourne's business and financial centre and in recent years has experienced high-density residential development.

CBD stations are currently enduring intense crowding problems at peak times. The use of the five City Loop stations is projected to almost double from 580,000 passengers a day in 2011 to 1.1 million in 2031.

Flinders Street Station and Melbourne Central station will experience the biggest relief in congestion as a result of Melbourne Metro.

Melbourne Metro's CBD North and CBD South stations will more evenly distribute passenger flow and interchange movements in the inner core of the Melbourne rail network, with crowding across all City Loop stations expected to decrease by about 20 per cent.

The two new CBD stations will serve as vital interchange points for many public transport users, particularly those with destinations in the broader Central Melbourne area including St Kilda Road, Parkville and Docklands.

Domain

The Domain precinct is of significant strategic importance to Melbourne and currently serviced by a well-developed tram network. St Kilda Road - Swanston Street is the busiest tram corridor in the world and currently experiencing significant crowding issues.

The new station will be located under St Kilda Road near the intersection with Albert Road and Domain Road. It will support existing business, tourism and cultural uses and provide significant congestion relief to the St Kilda Road - Swanston Street tram corridor, generating a range of productivity, liveability and customer experience benefits.

It will also be an important interchange station between train and tram services for the area's residential and business catchment, providing access to existing business precincts on St Kilda Road, Kings Way and in South Melbourne, Southbank and the growing western CBD.

33,000 jobs and 17,000 residents will be located within 800 metres of the station and it will be used by approximately 36,000 people per day in 2031.

The use of the City Loop stations is projected to increase from **580,000** passengers a day in **2011** to **1.1 million** in **2031**.

CASE STUDY

London – Paris – New York Singapore – Melbourne

Melbourne is one of the world's most liveable cities and it needs a modern metro rail system to match. London, Paris, New York and Singapore are all global cities that rely on 'turn up and go' rail networks. Melbourne Metro will be the catalyst for a metro style system for Melbourne.

Metro-style systems have a strong focus on frequency, reliability and resilience. They are characterised by:

- + Stand-alone, end-to-end lines where service disruptions on one line don't impact other lines.
- + Simple timetables with 'turn up and go' frequency and consistent stopping patterns.
- + Frequent services which interact seamlessly with other train lines, trams and buses, enabling convenient interchange.
- + Separate train fleets, maintenance and stabling facilities for each line.
- + Modern high-capacity signalling technology to maximise the number of trains that can operate on each line.
- + HCMTs designed to maximise the number of passengers and minimise wait times.
- + Grade separations of level crossings for an integrated and efficient transport network.

Melbourne Metro is the first step in transforming Melbourne's rail network into an international-style metro system that uses independent line operations across the network. The outcome will be a more reliable rail network that delivers more efficient travel and a better customer experience for passengers travelling to, from and around Central Melbourne every day.





Image: Courtesy of Crossrail London.

Station precincts



Arden

- + Arden-Macaulay is a key urban renewal area.
- + Links to Parkville, the CBD and existing communities in North Melbourne and West Melbourne.
- + Access to 12,000 jobs and 7,000 residents within 800 metres of the station in 2031.
- + Opportunity for end development value of more than \$7 billion.

Parkville

- + Critical to Victoria's and Australia's leadership in biotechnology, medical research, education and health services.
- + Designated national employment cluster, generating significant economic activity.
- + Access to 45,000 jobs, 14,000 residents and 70,000 tertiary students within 800 metres of the station in 2031.

Legend

- Proposed underground rail
- Proposed underground station
- Proposed tunnel entrance
- Existing rail
- Existing station



A better connected Melbourne

The key benefits of Melbourne Metro include:





Increasing capacity of the network by an additional

39,000 passengers in each peak period from Day One of operation

Providing three new stations (Arden, Parkville and Domain) in areas not currently serviced by heavy rail with a combined catchment of over

200,000 jobs, student enrolments and residents

Stimulating significant **urban renewal** in inner city areas such as Arden-Macaulay

Creating

3,900

additional jobs across Victoria during construction

A more reliable and less crowded rail network

Melbourne Metro will fundamentally lift the capacity and reliability of the train network to accommodate Melbourne's growing population. Melbourne Metro is also an enabling investment, providing the backbone for the future expansion of the rail network.

From Day One of operation, an additional 39,000 passengers will be able to travel on the Melbourne rail network during each peak period.

Around 12,000 of the extra 39,000 passengers will be accommodated on the new stand-alone Sunshine - Dandenong Line with the remaining 27,000 capacity uplift achieved on other lines.

The improved network capacity will ease crowding and increase service frequency and reliability. Melbourne Metro will enable more people to travel more comfortably to reach jobs and education opportunities in Central Melbourne and other activity centres along these corridors, including Sunshine, Footscray and Monash.

Flinders Street Station and Melbourne Central station will have direct pedestrian connections to Melbourne Metro's CBD North and CBD South stations giving passengers greater route choice.

The number of passengers entering and exiting at Southern Cross Station, Parliament and Flagstaff stations will decrease, with many of these movements now occurring at the new Melbourne Metro CBD stations.

Melbourne Metro Extended Program

Melbourne Metro provides the backbone for a number of enabled investments to further improve the network in the future by incorporating features such as long platforms and high capacity signalling that allow a staged approach to expanding the metropolitan rail network.

These investments that will only be possible with Melbourne Metro in place include extended HCMTs (10 car), longer platforms, Melton electrification (including quad track between Sunshine and Deer Park, power and stabling works).

Funding for these investments is not sought as part of the Business Case.

The enabled investments will extend the suburban rail network to Melton and increase the capacity of services provided by Melbourne Metro on the Sunshine - Dandenong Line by a further 41,000 passengers per peak period.

These lines will benefit from increased capacity:

- + Craigieburn / Upfield
- + Frankston
- + Sandringham
- + Sunbury
- + Dandenong
- + Werribee

Changes in CBD station use due to Melbourne Metro (2031)

Station	Daily Use (without Melbourne Metro)	Daily Use (with Melbourne Metro)	% Change in Daily Use
Flinders Street	345,000	257,000	-26
CBD South	-	95,000	-
Melbourne Central	149,000	115,000	-23
CBD North	-	88,000	-
Southern Cross	428,000	342,000	-20
Parliament	135,000	108,000	-20
Flagstaff	74,000	66,000	-11

Integrated development opportunities

Opportunities exist to offset some of the capital cost of Melbourne Metro using value capture, through integrated development and other commercial opportunities. The Business Case does not consider potential value capture mechanisms such as tax increment financing, new levies or new contributions.

Investigations have been carried out to ensure that relevant direct value capture opportunities associated with Melbourne Metro are identified, evaluated and, where appropriate, implemented. Advice has been sought from technical, commercial, financial, property development and other specialist advisers to ensure all options are considered.

The following opportunities could include the sale of surplus land, over site developments at CBD North and CBD South and in-station retail and advertising.

Private sector innovation will be sought in relation to value capture opportunities as part of the competitive tender process, with bidders encouraged to develop innovative solutions to offset the cost of the project.

The assessment of integrated development opportunities in this Business Case should be considered preliminary in nature and will continue to be monitored, assessed and managed over the life of Melbourne Metro.

Capacity uplift benefits (2 hour peak period)

Line / Corridor Melbourne	Metro Opening	Extended Program	Other	Total
Sunshine - Dandenong	12,000	41,000*	35,000 **	88,000
Werribee, Craigieburn, Upfield, Frankston, Sandringham	27,000	Extra capacity uplift beyond Melbourne Metro Day One enabled by future projects (HCS, rolling stock etc.)		
Total	39,000			

* Future uplift in capacity to be realised with investment in the Extended Program.

** Future uplift in capacity would be realised with further investment in rolling stock and associated works.

Economic Benefits Assessment

Community wide benefits

Economic analysis found that Melbourne Metro will generate substantial benefits for Victorian commuters, and economy-wide benefits for Victoria and Australia.

Improvements in the transport network as a result of Melbourne Metro will create new concentrations of residential development and employment and boost existing national employment clusters (Melbourne CBD, Monash and Dandenong South), emerging employment clusters (East Werribee and Sunshine) and existing activity centres (Sunshine, Footscray, Broadmeadows, Frankston, Dandenong, Narre Warren and Fountain Gate).

The economy wide modelling demonstrates that Melbourne Metro is expected to create 3,900 additional jobs across Victoria and approximately 4,700 jobs nationwide at the peak of construction.

The construction and operation of Melbourne Metro is expected to increase Victoria's Gross State Product (GSP) by between \$7 billion and \$14 billion (using a 7 per cent and 4 per cent discount rate respectively) in present value terms.

A combination of **tunnel boring machines** and **roadheaders** will be used for the excavation of the **Melbourne Metro** tunnels and stations.

Trains, Trams, Jobs

Over the last decade, annual patronage on trains and trams has risen by 118 million, an increase of over 40 per cent. Annual patronage on public transport is forecast to grow to more than one billion passengers in 2031.

Rolling Stock Strategy: Trains, Trams, Jobs 2015-2025 sets out the ten-year plan for 100 new metropolitan trains, 100 new trams, and a massive expansion of the regional train fleet in Victoria. The Government's investment of more than \$2 billion in a pipeline of local train and tram building and maintenance will deliver next generation, high capacity trains, new trams and more regional carriages.

Victoria's wider rolling stock supply chain is estimated to employ up to 10,000 people.

Industry Skills Attainment

The Victorian Government has previously announced a number of initiatives to support training and developments in the context of major infrastructure projects.

These targets include:

- + the Skills Guarantee requiring 10 per cent of labour hours to be undertaken by apprentices or trainees, and
- + the Aboriginal Employment Target of 2.5 per cent of total work hours.

Local content targets will also apply in relation to Melbourne Metro.

Economic analysis

A Benefit Cost Ratio of 1.1 without Wider Economic Benefits (WEBs) and 1.5 with WEBs indicates benefits outweigh costs for every dollar spent; Melbourne Metro will deliver a net benefit to the Victorian community.

Benefit Cost Analysis

A comparison of the benefits and costs shows Melbourne Metro has strong economic credentials and results in an anticipated Benefit Cost Ratio (BCR) of 1.1.

The economic case for Melbourne Metro is further strengthened with a BCR of 1.5 when WEBs are included.

Transport is an enabler of economic growth and the additional capacity provided by Melbourne Metro enables people to travel to Central Melbourne and allows businesses to access a wider pool of workers. As a result, the WEBs can be attributed to agglomeration economies, labour market deepening and increased output.

When the costs and benefits of the Melbourne Metro Extended Program are considered (including further service capacity for around 41,000 additional passengers per peak period), the BCR increases to 1.5 and 2.1 including WEBs.

Economic evaluation results

Melbourne Metro	7% Discount rate	4% Discount rate
Benefit cost ratio (excl WEBs)	1.1	2.4
Benefit cost ratio (incl WEBs)	1.5	3.3

Sustaining population and jobs growth

Better transport connections to education, health and employment opportunities underpin sustainable population and jobs growth. Melbourne Metro improves access to Central Melbourne and enables communities in key population corridors in the west and north to be better connected with knowledge based jobs.

Without Melbourne Metro, access between areas of expected residential growth and areas of expected future job growth (much of which is projected to occur in Central Melbourne) will be limited.

Melbourne Metro will:

- + Generate user benefits for both public transport and private vehicle users
- + Provide an alternative to private transport which in turn supports climate change initiatives and continues the evolution of Melbourne into a sustainable and efficient city
- + Produce social benefits such as reducing the number of road crashes, lowering the level of greenhouse gas emissions and improving health, due to increased walking, as people switch from car travel to public transport.

Economic evaluation results

	Melbourne Metro		Extended Program	
	7% Discount Rate	4% Discount Rate	7% Discount Rate	4% Discount Rate
Net Present Value (excl WEBS)	\$0.6bn	\$10.6bn	\$3.7bn	\$20.5bn
Net Present Value (incl WEBS)	\$3.7bn	\$18.0bn	\$8.7bn	\$32.5bn
Benefit Cost Ratio (excl WEBS)	1.1	2.4	1.5	3.2
Benefit Cost Ratio (incl WEBS)	1.5	3.3	2.1	4.5

Melbourne Metro offers significant transport and network benefits, can drive higher levels of **productivity** to support economic and employment **growth**, and improves **liveability** by giving people greater access to social and economic opportunities.

Economy wide impact of Melbourne Metro using 7 per cent discount rate

Melbourne Metro		Construction period (2016-2025)	Operating period (2026-2056)	Total (2016-2056)
Gross State Product / Gross Domestic Product	Victoria	\$1.9bn	\$5.3bn	\$7.2bn
	Australia	\$3.0bn	\$4.2bn	\$7.2bn
Jobs, number created in peak year	Victoria	3,900	470	n/a
	Australia	4,700	410	n/a

Economy wide impact of Melbourne Metro using 4 per cent discount rate

Melbourne Metro		Construction period (2016-2025)	Operating period (2026-2056)	Total (2016-2056)
Gross State Product / Gross Domestic Product	Victoria	\$2.2bn	\$11.7bn	\$13.9bn
	Australia	\$3.4bn	\$9.8bn	\$13.2bn
Jobs, number created in peak year	Victoria	3,900	470	n/a
	Australia	4,700	410	n/a

Melbourne Metro will enable communities in key population growth corridors in the west and north to be better connected to a greater range and number of **job opportunities** in Central Melbourne.

Managing Melbourne Metro

Achieving sustainable outcomes

Melbourne Metro will give rise to positive environmental and social effects for Melbourne, Victoria and Australia in the long term and there is a focus on achieving excellence in sustainability and climate change resilience.

Melbourne Metro will create:

- + improved accessibility to key services, health, education, jobs and opportunities
- + stronger retail and commercial development opportunities through higher density residential development in and around train stations and activity centres
- + increased residential development opportunities and greater housing choice in Melbourne's established areas

The main short-term disruption impacts are confined largely to the construction phase. Disruption to residents and businesses during construction, operational changes to train and tram services, and land and property impacts will be mitigated and managed.

Delivery partners will be required to use best practice environmental management and community consultation techniques during construction, and leave a high quality urban design legacy.

The Melbourne Metro Rail Authority (MMRA) and its delivery partners have committed to achieving excellent environmental, social and economic outcomes across all phases of delivery.

Community engagement

The Melbourne Metro concept has a strong history of constructive stakeholder engagement between 2008 and 2013. Since early 2015, this stakeholder engagement has been built upon.

A wide variety of stakeholders including local residents, businesses, utility providers, community groups, interest groups, and government departments and agencies have been consulted with, not only about this project, but also the future of Melbourne's rail network more generally.

The results of the stakeholder engagement process are key inputs to project design development and planning and finalising the Environmental Effects Statement (EES) for the tunnel and stations.

Communications and stakeholder approach

- + **Phase 1** (February to September 2015): Raising awareness and early engagement (complete).
- + **Phase 2** (October to December 2015): Supporting development of planning and reference design (complete).
- + **Phase 3** (Early 2016 to early 2017): Statutory planning process (underway).
- + **Phase 4** (2016 to 2018): Procurement and early works.
- + **Phase 5** (2017 – 2026): Major works.

Delivering Melbourne Metro

The Department of Economic Development, Jobs, Transport and Resources (Department) has developed the Business Case in consultation with Public Transport Victoria (PTV) and MMRA and input from the Department of Treasury and Finance and the Department of Premier and Cabinet.

A strong governance framework is in place to manage and deliver Melbourne Metro. MMRA is managing the delivery of Melbourne Metro and is an Administrative Office in relation to the Department. The Coordinator-General is Head of MMRA and has appointed the Chief Executive Officer of MMRA to lead the delivery.

Through the Secretary and the Department, the Victorian Government has established the Major Transport Infrastructure Board to provide stewardship of Melbourne Metro and the Level Crossing Removal Project.

Works Package	Procurement Model
<p>Early Works</p> <p>Utility service relocations, tram infrastructure works, construction power, and works to prepare construction sites</p>	Combination of managing contractor, Yarra Trams led and State led
<p>Tunnel and Stations</p> <p>Main tunnelling works, five underground stations, station fit-out, mechanical and electrical systems, specific operation and maintenance services for the infrastructure delivered by the package and commercial opportunities at the new stations</p>	Availability based Public Private Partnership
<p>Rail Infrastructure</p> <p>Works at the eastern and western portals including cut and cover tunnelling, decline structures and local reconfiguration and realignment of existing lines</p>	Competitive alliance
<p>Rail Systems</p> <p>Rail systems design (including conventional signalling, HCS, train and power control systems and ICT), installation works, rail systems integration and commissioning</p>	Competitive alliance
<p>Wider Network Enhancements</p> <p>Proposed to include works which are required across the wider network including track modifications, station upgrades and signalling system upgrades</p>	Case by case

Next steps

Following consideration of the Business Case, the next phase of Melbourne Metro will include progressing planning approvals and the procurement process for each work package.

The EES will examine the potential impacts of the Melbourne Metro tunnel and stations, capture and respond to stakeholder feedback, provide guidance on how adverse impacts can be mitigated and inform planning consultation and approval decisions.

Community and stakeholder feedback has played an important role in the project's planning and development, informing specialist studies and contributing to the preparation of the EES. Throughout the formal EES exhibition and review process, the community will continue to have the opportunity to comment on construction impacts including property requirements, noise, vibration, transport and traffic.

Major works are expected to commence in 2017, subject to planning approvals, and be operational by 2026.

The Government will work closely with the private sector to apply global best practice and experience to the construction and delivery of the project and achieve optimal outcomes for the Victorian community in the short, medium and long term.



This publication is copyright. No part may be reproduced by any process except in accordance with the provisions of the *Copyright Act 1968*.

© State of Victoria 2016

Authorised by the Victorian Government,
1 Treasury Place, Melbourne Victoria 3000.



Economic Development,
Jobs, Transport
and Resources