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Department of Transport

VICTORIA'S BUS PLAN

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Introduction

Victoria's bus network is an essential part of our integrated transport system, carrying over 135 million passengers a year – 21 per cent of all trips taken on metropolitan public transport.

Over 80 per cent of those living in urban areas across the state are within walking distance of a bus stop, over 400 bus routes operate in metropolitan Melbourne and more than 50 regional towns and cities have a local bus network. There is also a large network of intertown regional bus services that complements V/Line's coach and rail services. That's why our buses are great connectors, getting Victorians to work, to school, to services and to the shops.

Around 34 per cent of bus trips also involve a tram or train connection and the bus network carries 50 per cent of the annual passenger load on the train network.

Buses can go where rail can't. In our growing suburbs and regional centres buses are central to local public transport, providing another option to a car. For the young, the elderly and others for whom driving is not an option, buses are often the only way to get around.

The indispensable role of the bus network was highlighted as Victoria grappled with the COVID-19 pandemic. Bus patronage levels remained much higher than all other public transport modes as the community changed how and where they chose to work and live.

With more people travelling than ever before, every trip taken by bus means one less car on the road and this will be critical to ensuring people can continue to travel as Victoria begins to grow.

The Victorian Government continues to invest in bus services critically important to serve our growing communities, to leverage Big Build opportunities and to ensure that students can travel to school.

We have an opportunity to ensure that existing bus services and future investment are more targeted and effective as possible.

Emerging transport technologies and the innovation that is driven by our commitment to net-zero emissions by 2050 has been kick-started with the commitment that all new buses purchased in Victoria will be zero emissions vehicles from 2025.



A three-year trial of zero emissions bus technologies has also started to help move us to a cleaner and greener fleet.

Improved gender diversity and equality are also important to transforming the bus industry. That's why the Victorian Government has invested in scholarships and initiatives that encourage women of all ages and backgrounds to join and develop a career in the bus industry.

Victoria's Bus Plan sets out a vision for the state's bus network. It considers new options that better reflect the travel patterns of passengers, enabling new technology like demand-responsive travel, better data, and a broader range of buses that are suited to the route they take and the passengers they carry. These changes will provide a bus system that is more attractive and useful for all Victorians.

Around 34 per cent of bus trips also involve a tram or train connection.



About Victoria's Bus Plan

Victoria's Bus Plan sets out how we will start to deliver a modern, productive, environmentally sustainable bus network that increases the number of people choosing to take the bus by delivering simple, safe, reliable and comfortable journeys.

Our Bus Plan doesn't just focus on bus network changes, it prioritises the system as a whole, bringing together opportunities across the networks, bus fleet, performance, commercial, innovation and customer experience.



The plan has six objectives, each representing a step-change in bus network reform, investment and innovation. They set out the actions we will take to deliver a future bus network that makes the most of the Big Build, helps us cut emissions and deliver services where they are needed in response to a growing population and changing demographics.

It builds on initiatives already underway through a series of actions to ensure our buses play a stronger role in a transport network critical to growing a more prosperous, more liveable and more connected Victoria.

Actions within each objective are phased across the coming years:

- Years 2021-23 leverages the Big Build and tests new approaches, processes and plans to support a reform agenda
- Years 2023-30 transforms the bus network and aligns it to meet growing demand
- Years 2030+ embeds new practices and long-term initiatives.

Although we know the direction we want to move in and have some key actions to work on delivering, we don't know all of the answers yet. We will work with industry to develop a Bus Reform Implementation Plan to chart a way forward measured against the Bus Plan framework and outcomes.



What we know

Younger people, particularly students are more likely to use bus as a mode of travel (compared to other modes within that age cohort).





Bus users overwhelmingly access the service by walking to the bus stop.

Factors such as the **frequency** of services, the timeliness of arrivals and departures, reliability of journey times and span of service over the day are the primary drivers for customer satisfaction, with security on buses as a secondary driver.

Bus users primarily access information about their services at either **bus stops**



or via the internet or apps





Bus passengers are less likely to have a drivers' license, including a large cohort of student and elderly users. Often users are among the most vulnerable members of society.

What we aim to achieve

A bus network that better meets public transport needs and demand, including new networks of routes and service models like on-demand and demand responsive services that make the most of innovation and new ideas.



Network reforms and innovation that make the most of Victoria's \$80 billion Big Build and provide a pathway to effective and efficient future investments.



Cleaner, smarter fleets with more bus types that best suit the passengers who use them and the routes they take.



Improve information delivery to passengers to let them know about their real-time services and changes to their services due to network disruptions.



A better managed, more efficient and fit-for-purpose bus network with services that deliver great value for money.



Improved accessibility and safety.



The challenges and opportunities on our bus system

WE HAVE A LARGE AND COMPLEX BUS NETWORK

Melbourne's bus network is extensive and reaches a large proportion of our population. However many of our bus routes have evolved incrementally over many years, and this means that many do not have a clear purpose and do not serve a distinct travel need. They become overly complex and that deters potential bus passengers.

There is also often a mismatch between demand and frequency with low service frequency on some high-patronage routes or high frequency on low-demand routes.

Many people use buses to connect to trains or other bus services, and it can be frustrating when these services don't connect.

We need to un-scramble these routes and provide networks that have clear distinctive purposes, going where people need them to and connecting them to more places and services.

NEW INFRASTRUCTURE IS CHANGING TRAVEL PATTERNS

The \$80 billion Big Build investment in transport infrastructure will transform the way Victorians travel.

The Level Crossing Removal Program, North East Link (including the Doncaster Busway), Metro Tunnel, Regional Rail Revival, Major Road Projects Victoria and Suburban Rail Loop all present significant opportunities for a modern bus network.

Well-planned, complementary bus networks can boost the benefits and economic outcomes of our major projects. Bus network improvements can also enhance a major project's adjacent land-use objectives like the development of activity centres or 20-minute neighbourhoods.

The growth of activity centres identified in Plan Melbourne and supported through the delivery of Suburban Rail Loop and other infrastructure projects will provide alternative journey options that do not require people to travel into the city first and instead offer cross-town connections. This will grow the role of middle-suburbs activity centres and drive more distributed patterns of travel.

THE POPULATION IS GROWING

By 2050, Melbourne's projected population of 8 million people will make it Australia's largest city. Victoria's population is expected to exceed 10 million. The population in outer metropolitan growth areas and regional centres is expected to almost double, creating new demands for transport in more locations.

This growth will result in an additional 13 million trips on Melbourne's transport network every day. The way people travel will also respond to changes in technology and business models.

Over the next 30 years, buses can play a role in cutting congestion and boosting the reliability of the transport system by significantly increasing its share of trips – particularly commuter trips.

We are also building new schools across Victoria, and we want students to be able to get there by bus, bike or walking rather than relying on car travel.

Strong transport connections between smaller regional towns and larger centres will help ensure these towns remain great places to live and visit.



REACHING OUR TARGET OF NET-ZERO EMISSIONS BY 2050

Under the *Climate Change Act 2017 (Vic)*, the Victorian Government has committed to reaching net zero greenhouse gas emissions by 2050.

The transport sector accounts for approximately 20 per cent of total state emissions, growing at the fastest rate of all sectors due to increases in population and associated economic activity.

While buses account for a small proportion, Government has more direct influence on this sector as bus procurement is effectively funded through bus service contracts.

That's why the Victorian Government has pledged that all new bus purchases will be zero emission buses (ZEBs) from 2025 as part of the transport sector pledge. The Government has also funded a \$20 million ZEB trial to inform the network and infrastructure requirements for a shift to ZEBs, explore industry development opportunities in the manufacturing and energy sectors, and enable the State to develop policies and strategies to achieve its emissions commitments.

ZEBs also create better public environments and passenger perceptions of the mode. ZEBs will contribute to making bus travel more attractive for users.

By taking mode share from greenhouse-intensive modes like private transport and the adoption of ZEB technology, buses have the potential to deliver a double-edged benefit in cutting tailpipe emissions.

The Victorian bus industry has shown its enthusiasm for the shift to ZEB technology and the opportunities for innovation that come from the commitment to 100 percent new bus purchases as zero-emission vehicles from 2025.

ROAD CONGESTION AND BUS PERFORMANCE

While average speeds reduce depending on the number of times a bus stops, congestion can impact bus journey times. Bus passengers tell us that slow and variable travel times can turn them off taking the bus.

Unlike train and an increasing proportion of the tram network, buses do not always have dedicated rights of way or priority measures to keep the buses on time and reliable.

Some bus routes such as the SmartBus network have traffic signal priority but it's a relatively low proportion of the overall network.

A lot of the bus network operates in shared traffic with other vehicles and relies on roads operated by different authorities, different planning rules and different management practices.

Upgrading suburban arterial roads and adding bus lanes, improving signalling and prioritising buses can all improve the travel times and reliability of buses.

PLANNING YOUR BUS TRAVEL CAN BE COMPLICATED

How much you need to think about your trip is often higher for buses than other modes.

For regular bus passengers, navigating the system has become second nature – knowing the exact spot to stand at a busy interchange to get onto the bus, and remembering that buses run from your local stop twice at 10 past and 20 past the hour to make trips easier. Taking an unfamiliar trip may require more effort.

More real-time information and better access to intuitive journey planning tools can help make planning easier, and more on-board information will help passengers know when to press the bell and when to disembark. More direct bus routes can also make journeys easier to understand.

Reform objectives



MAKE THE NETWORK SIMPLER, FASTER AND MORE RELIABLE

Current and future transport demand means buses have a big role to play in an integrated mass transport system. Buses carry 50 per cent of the annual passenger load of the train network while 34 per cent of bus trips connect with train or tram journeys.

Many opportunities exist to restructure the network to provide faster, more reliable journeys, enabling travellers to get to more destinations and save time, improving their overall experience. Optimising services will also ensure best possible use of existing and future assets.

Network reform will be guided by new bus network categories that clearly define the role, purpose and function of a route within a network. They will enable better investment decisions and allocating resources where they are needed the most. Bus services can also be complemented by community transport services for specialised journeys.

We will identify opportunities for investment, so buses perform an increasing mass transit role, attracting more passengers and connecting to more places. Opportunities will also be undertaken to trial and test emerging technologies including Demand Responsive Transport. Using smaller vehicles, such as midi buses, that can access difficult to serve areas and operate to schedules that may be able to respond more rapidly to changing demand such as in growth areas.

CASE STUDY – WYNDHAM BUS NETWORK REFORM

Patronage on buses performs strongly when routes are reformed to best-practice standard and designed to meet current travel needs.

In 2015, a comprehensive reform of the City of Wyndham's bus network unwound complex and confusing routes and integrated new routes with the recently completed Regional Rail Link stations at Tarneit and Wyndham Vale.

The new network introduced a hierarchy of reconfigured bus routes that boosted service levels. Major trunk routes were straightened, poorly performing routes restructured and merged and frequencies improved.

Patronage grew. By 2019, weekday patronage was up 25 per cent. Patronage on other days grew by 40 per cent and the average loading per bus increased. While population growth drove some of the increase, reform of the network was the main driver of increased patronage.

New bus services continue to be delivered in Wyndham. Two new routes servicing Tarneit and Williams Landing started in May 2021 and the 2021/22 Victorian State Budget allocated funding for further bus services in the area.

BY 2019 PATRONAGE GREW BY

40%

NEW BUS ROUTE CATEGORIES

Category 1 RAPID ROUTES

Bus Rapid Transit (BRT) routes will deliver faster, more frequent and more reliable journeys on busy public transport corridors. They will be characterised by extensive on-road priority, premium stop infrastructure and a rail-like experience for passengers. The Doncaster Busway will be Melbourne's first dedicated busway – providing separated lanes for buses along the Eastern Freeway.

Shuttle Routes will provide direct point-to-point service, connecting rail stations with universities and other high-demand destinations. They will be characterised by dedicated lanes and a limited number of stops with frequencies, operating hours and stop spacing carefully designed to respond to the market for which the service is being designed.

Category 2 CONNECTOR ROUTES

Trunk routes will connect suburbs to key transport nodes and employment and shopping centres. Services are frequent and direct and will feature road priority measures, including bus lanes, where feasible. Trunk routes will normally operate in mixed traffic and provide greater integration with homes and destinations.

Connector routes are the basic building blocks of urban transit. They provide easy access to the rail network as well as local employment and shopping centres. These services balance route directness with the need to provide catchment coverage of residential suburbs. Diversions are minimised to ensure competitive travel times and to attract passengers away from private vehicle use.

Neighbourhood routes offer greater access while being as direct as possible and providing coverage. Services are low frequency and have a shorter span of hours but are often strongly patronised.

Category 3: LOCAL ROUTES

Local routes provide local access for passengers. These services are targeted to provide a minimum level of service to enable access to nearby shops and services.

Demand responsive transport will be trialled initially in two primary contexts – areas of low demand where regular bus services might not be efficient and in growth areas where road networks are still developing and communities are in the process of settling.

Category 4 SCHOOL ROUTES

School routes meet the demand spike created mostly by high school students travelling to and from school. School services can be unique routes that otherwise wouldn't generate demand.

Network reform will be guided by new bus network categories that clearly define the role, purpose and function of a route within a network.



INTRODUCE A CLEANER, SMARTER FLEET – THE RIGHT BUSES FOR THE RIGHT ROUTES

Buses we buy in the future will be safer, more comfortable and easier to access for those with limited mobility. They will have improved safety and passenger flow, and better data gathering using vehicle telemetry and digital passenger counters.

They will also be greener. All new bus purchases will be zero emissions from 2025 and the \$20 million three-year ZEB trial will help us understand the requirements to meet this target.

The design of buses is rapidly evolving. Along with network hierarchy it will ensure buses meet demand and are right for the routes they travel. Articulated buses will provide greater capacity on high-demand corridors while mid-sized vehicles in low demand and growth areas can deliver services where local road networks are not suited to big buses. Bus depots play an integral role in keeping buses running. Depot infrastructure and new maintenance capabilities will be required to support ZEBs. That's why the ZEB bus trial is so important.

Victoria will harness technology and innovation to transform buses to meet our current and future needs. Opportunities, including Intelligent Technology Solutions (ITS), will be leveraged to improve network operations and reduce congestion, while also improving customer experience through better service information and a better ride.

The transition to ZEB cannot be done by government alone and will require close collaboration with manufacturers and bus operators. The ZEB trials will inform the development of a shared transition roadmap addressing issues such as depot and charging infrastructure, fleet cascade plans, workforce upskilling and retraining.

CASE STUDY – ZERO EMISSION BUS TRIAL





A three-year trial of zero emissions bus technologies has started. The trial encourages industry collaboration and innovation as the State transitions to a sustainable bus fleet.

From 2025, all new buses in Victoria will be zero emissions – achieving zero emissions across the State's 4,000-strong bus fleet is critical to Victoria meeting its legislated commitment of zero net emissions by 2050.

Industry participants are being selected through an EOI process to test operational aspects of various zero emission bus technologies across Melbourne and regional Victoria's bus network.

The trials will answer critical questions including depot charging needs and capacity, infrastructure and energy network requirements, environmental outcomes, customer expectations, and commercial arrangements.

The State Government's \$20 million investment in the Zero Emissions Bus Project will create and support Victorian jobs, improve the skills of the local workforce and increase demand for local materials.

WE'RE TESTING BATTERY-ELECTRIC AND BATTERY-HYDROGEN TECHNOLOGIES

BETTER PERFORMING BUSES

The more buses can move efficiently and without delays from traffic and congestion on the road, the more attractive they become for existing as well as new passengers. Simple and direct network structures will be supported by measures such as bus lanes and priority traffic signals to keep buses moving on the road. Innovative approaches through the harnessing of new technologies will be trialled and tested.

The recent introduction of prepaid all-door boarding has sped up journeys, improved reliability and provides opportunities for further improvements like rapid running (running buses in real time to no scheduled timetable on high-frequency routes).

We want to upgrade interchanges by making them more accessible and more efficient - getting buses through faster and easier for people to navigate.

The recent introduction of prepaid all-door boarding has sped up journeys, improved reliability and provides opportunities for further improvements like rapid running.



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A BETTER CUSTOMER EXPERIENCE

To attract more passengers, bus services not only need to provide competitive journey times and frequencies to destinations they need to be simple to use. Simple network/route design, passenger information and stop infrastructure all work together to make buses intuitive for passengers.

Better passenger information helps travellers understand their options, plan their journey and navigate during their trip.

Bus stops and interchanges should be designed to match the streets they are located in, making a positive contribution to attractive and accessible transport precincts.

Bus journeys must provide accessible and safe journeys for all passengers from the time they plan their journey to the time they arrive at their destination, through vehicles, infrastructure and information.



SmartBus, rolled out from 2002, shows that passengers respond strongly to direct and high-frequency services supported by real-time information and great stop infrastructure. Annual patronage grew by 44 million between 2006 and 2012, with 17 million added following the introduction of Doncaster Area Rapid Transit in 2011.



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BETTER GOVERNANCE AND SYSTEMS MANAGEMENT

Improved collection and management of bus data will drive better planning and performance management. Modernising bus data puts key performance measures at the disposal of planners, contract managers and operators.

Emerging technology will improve scheduling and management of the bus network and our ability to evaluate performance. Clarity on passenger experience outcomes will allow the Government to navigate and integrate emerging systems for maximum passenger benefit at minimal additional cost. Improved capacity and capability within government to plan, implement and manage bus reform will be critical in ensuring that we have the ability to implement a program of bus system reform.

DELIVERING BETTER VALUE FOR MONEY

Taking a holistic view of reform allows us to make sure that we are providing the best value bus network for the state and for bus users. Attracting more passengers to bus provides an immediate opportunity to improve the efficiency of the bus network.

Over 400 operators are involved in delivering bus services across Victoria, as well as manufacturers and partners in the delivery and maintenance of infrastructure. There is an opportunity to better partner across industry to ensure value for money and continual service improvement under existing and new contracts. Effective coordination, management and processes, where possible, will leverage reform investment to benefit passengers.



There is an opportunity to better partner across industry to ensure value for money and continual service improvement under existing and new contracts.

Investment projections and key actions

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YEARS 2021-23 LEVERAGES THE BIG BUILD, ADDRESSES PRIORITIES AND GETS READY FOR FURTHER REFORM

Years 2021-23 includes low cost actions focused on improving the user experience and establishing the pipeline of packages for the following years. In years 2021-23 we will respond to pressing areas of network reform and on road performance, develop tactical plans and programs and undertake trials. We will deliver more attractive networks in high need areas and build the evidence base to inform Years 2023-30+. Years 2021-23 will also leverage existing Government investment to deliver simpler and faster bus routes, more reliable journeys, and smarter and greener buses.

The following actions will be taken as part of Years 2021-23. We're already doing a variety of things to progress these actions.

ACTION 1	Develop the Bus Reform Implementation Plan
What are we doing?	We will develop a Bus Reform Implementation Plan, which will set out the pathway to reform under each of the six objectives. We are seeking a collaborative approach to ensure the foundations for reform are solid and supported. We will engage bus operators and manufacturers, government agencies, new energy investors, disability and public transport advocacy groups and the community, where appropriate, for their ideas and feedback on bus reform.
ACTION 2	Work with the bus industry to develop a pathway to a zero-emission fleet
What are we doing?	We have started with the Victorian Government's \$20 million investment in a three-year trial of zero emissions bus technologies that aims to encourage industry collaboration and innovation as the bus fleet transitions to zero emission from 2025. The ZEB trials will inform the development of a shared transition roadmap addressing issues such as depot and charging infrastructure, fleet cascade plans, workforce upskilling and retraining as well as environmental outcomes, passenger expectations and commercial arrangements.
ACTION 3	Implement changes to routes to transform our bus networks into modern networks that meet the needs of users
What are we doing?	We are implementing network changes that will begin to shape our network to where we want it to be. To start, we are introducing network reform in the Mornington Peninsula, Fishermens Bend and Yarra Valley. We're also introducing a shuttle between Victoria Park and Melbourne University, and new services in Clyde and Tarneit North.
	We are adding services to new and growing schools across Victoria, including The Lakes South Morang College, St Helena Secondary College, Officer Secondary College, Elevation Secondary College, Oberon High School and the new secondary college in Shepparton.
	The route changes as part of the Doncaster Busway are planned to become the first large-scale network reform.
	We are trialling the use of on-demand transport to understand how it can best fit within our future bus networks. A trial for FlexiRide is underway in Rowville, with more to follow.
ACTION 4	Implement systems and technology that deliver better data to passengers, operators and planners.
What are we doing?	We're making more bus real-time data available to help passengers access information they need in the ways they prefer. Passengers will soon be able to see real-time bus location, arrival information across more apps. We're also investigating and will progressively provide real-time passenger volumes on buses, like we currently do for the metropolitan train network via the RideSpace free online tool, accessed via the PTV app and Google Maps.

ACTION 5	Plan, test and implement measures to improve customer experience
What are we doing?	 We're trialling 'rapid running'. Timetable points along the route are eliminated allowing for a faster journey time. The first route trialling rapid running is Route 246 (Clifton Hill to Elsternwick), which operates on Punt Road and Hoddle Street, and has a 10-minute frequency. Bus stop timetables mirror high frequency tram services and list the frequency of services, rather than departure times. We are introducing all door boarding to make bus journeys quicker and easier for drivers and passengers. This means that passengers can enter and touch on at any door, just like on trams, reducing congestion and reducing wait times at bus stops. We are delivering new bus interchanges, particularly as part of the Level Crossing Removal Program, and are making improvements at other interchanges. We are also developing an Accessibility Strategy to ensure that we deliver universally accessible public transport outcomes.
ACTION 6	Plan, test and implement measures to improve the reliability and performance of the bus fleet
What are we doing?	We are delivering bus priority infrastructure and developing new bus priority solutions at pain points on the road network. Bus priority detector loops have already been installed on Doncaster Road and trials will soon start to test on-road priority measures. The Creating More Road Space Action Plan is already delivering a range of initiatives to improve the use of existing road space. We are using technology and monitoring systems to give priority to buses, for example, through intersections to improve travel times for passengers and potentially cutting operating costs as buses move more efficiently.

YEARS 2023-30 IMPLEMENTS REFORMS THAT TRANSFORM VICTORIA'S BUS NETWORK AND ALIGNS IT WITH GROWING DEMAND

Years 2023-30 will see the implementation of reform planned in Years 2021-23, including successfully trialled initiatives. This will include reforming bus networks in line with the Bus Reform Implementation Plan, including elevating the use of bus as mass transit.

These reforms will ensure we are making the most of our Big Build opportunities including Doncaster Busway and Metro Tunnel Project. We will begin to transition to a greener and more flexible fleet and will begin to see outcomes from improvement in commercial efficiency, and in data and technologies. It will also see a broader roll out of measures to maintain and improve performance of the bus network.

YEARS 2030+ EMBEDS LONG-TERM ACTIONS INCLUDING EXPANDING AND FURTHER DEVELOPING THE NETWORK

Years 2030+ will support the growth of activity centres, employment clusters and population growth in urban renewal areas and growth areas and make the most of longer term investments such as the Suburban Rail Loop.

The role of bus as mass rapid transit will expand, and Big Build initiatives will come online requiring network change to ensure seamless journeys for travellers. Emerging modes and technologies will be implemented, and the fleet will become more efficient and environmentally friendly. This will mean the bus network is able to meet the needs of Victorians into the future.



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