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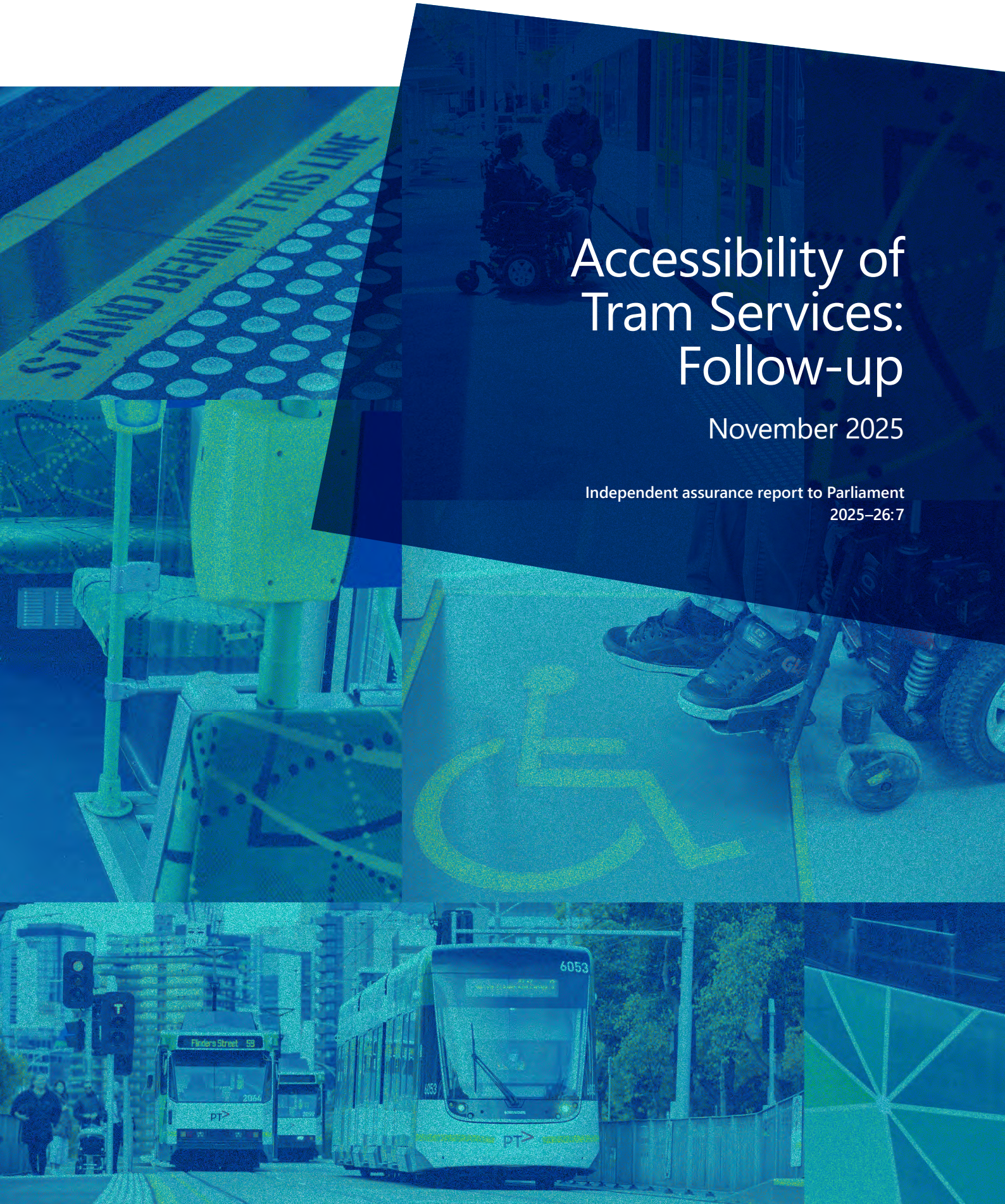

Accessibility of Tram Services: Follow-up

November 2025

Independent assurance report to Parliament
2025–26:7

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Accessibility of Tram Services: Follow-up

Independent assurance report to Parliament
Published by order, or under the authority,
of the Parliament of Victoria
November 2025

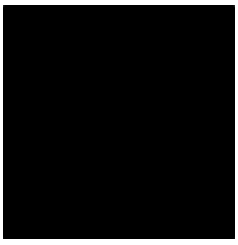
The Hon Shaun Leane MLC
President
Legislative Council
Parliament House
Melbourne

The Hon Maree Edwards MP
Speaker
Legislative Assembly
Parliament House
Melbourne

Dear Presiding Officers

Under the provisions of the *Audit Act 1994*, I transmit my report *Accessibility of Tram Services: Follow-up*.

Yours faithfully



Andrew Greaves
Auditor-General
19 November 2025

The Victorian Auditor-General's Office (VAGO) acknowledges the Traditional Custodians of the lands and waters throughout Victoria. We pay our respects to Aboriginal and Torres Strait Islander communities, their continuing culture, and to Elders past and present.

Contents

Review snapshot

Has the Department of Transport and Planning implemented the action plan it developed to respond to the 10 recommendations in VAGO's 2020 audit *Accessibility of Tram Services* and improved compliance with accessibility standards?

Why we did this follow-up review

People with disability make up 17 per cent of Victoria's population. People without disability can also have temporary or ongoing mobility restrictions that affect their ability to access tram services.

The state government is legally required to make public transport accessible in line with the Australian *Disability Standards for Accessible Public Transport 2002* (DSAPT). Melbourne's tram network is a crucial public transport mode.

In our 2020 audit *Accessibility of Tram Services*, we found that tram services were not meeting the needs of passengers with mobility restrictions. We made 10 recommendations to the then Department of Transport about improving the network's accessibility. It accepted 7 in full, 2 in principle and one in part.

We did this review to see if the Department of Transport and Planning (the department) improved the tram network's accessibility and implemented the action plan it developed in response to our 2020 recommendations.

We also assessed if the department's planned actions addressed the risks identified in our 2020 recommendations.

Key background information

160 million
tram trips taken each year

Relevant legislation:
- Australian *Disability Discrimination Act 1992*
- Victorian *Equal Opportunity Act 2010*
- Australian *Disability Standards for Accessible Public Transport 2002*

In 2023–24,
only 18%
of tram services were accessible

5 out of 10
agreed actions from our 2020 report completed

Source: VAGO.

What we concluded

There has been little improvement in tram network accessibility in the 5 years since our 2020 audit.

In 2023–24, only 18 per cent of tram services were accessible. This means they provided a low-floor tram at a level-access stop. This is an increase of 3 percentage points since 2018–19.

The department did not meet the 2022 deadline for tram stop compliance legislated by the DSAPT. Based on current plans, the department will also miss the 2032 compliance deadline for low-floor trams. The department has not set a new deadline to deliver an accessible and DSAPT-compliant tram network and cannot forecast when it will be compliant.

Since our 2020 audit, the department has produced several tram plans and strategies that include a focus on accessibility. These do not include targets or timeframes and have not been funded.

Out of the department's 10 actions, it has completed 5, partially completed 3 and did not complete 2.

We also assessed if the department's actions addressed our 2020 audit recommendations. We found that most of them did not.

1.
Our key findings

What we examined

Our follow-up review followed one line of inquiry:

1. Has the Department of Transport and Planning implemented the action plan it developed to respond to the 10 recommendations in VAGO's 2020 audit *Accessibility of Tram Services* and improved compliance with accessibility standards?

To answer this question, we examined:

- the Department of Transport and Planning (previously the Department of Transport)
- Yarra Trams.

In January 2023, the Department of Transport and Planning replaced the Department of Transport. In this report we use 'the department' to refer to the department that was in place at the time.

This review is focused on accessibility for people with mobility restrictions. However, anyone's mobility may be temporarily restricted by an injury, or by travelling with a pram or luggage. Universal design principles recognise that accessible infrastructure benefits everyone.

Identifying what is working well

In our engagements we look for what is working well – not only areas for improvement.

Sharing positive outcomes allows other public agencies to learn from and adopt good practices. This is an important part of our commitment to better public services for Victorians.

Terms used in this report

Recommendations

At the end of an audit or review, we table a report in Parliament that outlines our findings and recommendations to agencies about how they can improve their performance.

We give agencies the opportunity to respond to our recommendations before we table our reports. We publish their responses in our reports. Agencies can accept each recommendation:

- in full
- in part
- in principle
- not at all.

When an agency accepts a recommendation in part, it specifies which part(s) of the recommendation it accepts. When an agency accepts a recommendation in principle, it proposes a different way of addressing the issues identified in the recommendation.

Actions

Along with their response to our recommendations, some agencies also provide an action plan that outlines how they will address each recommendation with target completion dates. Agencies report on progress against each action in our annual Responses to Performance Engagement Recommendations review.

Background information

Melbourne's tram network

Melbourne has the world's largest tram network. The network covers 250 kilometres and has:

- 486 trams
- 1,628 tram stops
- 23 tram routes (not including the City Circle heritage tourist tram service).

The tram network connects Melbourne's suburbs to the city. It mainly runs in mixed traffic alongside trucks, cars, pedestrians and cyclists.

The department is responsible for planning, building, operating and maintaining Victoria's transport and planning system. It oversees the state's public transport operators, including Yarra Trams, and is responsible for providing accessible trams and tram stops.

Yarra Trams is Melbourne's tram network operator and manages day-to-day operations and maintenance.

Legislative requirements for accessibility

The Victorian Government is legally required to provide accessible public transport under:

- the Australian *Disability Discrimination Act 1992*
- the Victorian *Equal Opportunity Act 2010*.

The Australian *Disability Standards for Accessible Public Transport 2002* (DSAPT) set 31 legally binding accessibility standards for bus, train, tram and ferry services and infrastructure. These standards cover all parts of a transport network including boarding and waiting areas, surfaces, doors and doorways, handrails and grabrails, information and lighting. Not all DSAPT standards apply to the tram network.

The Australian Human Rights Commission can grant temporary exemptions from the *Disability Discrimination Act 1992* and DSAPT requirements. The Australian Human Rights Commission can decide whether to grant or reject exemptions, but exemptions are typically granted on the condition that the applicant makes and meets commitments to improve access within a reasonable period.

The Australian Human Rights Commission is responsible for disability discrimination complaints.

Tram network accessibility

From a practical perspective, the most basic requirement for a person with a mobility restriction to catch a tram is the combination of a level-access stop and a low-floor tram available when and where they want to travel.

Where we use the term 'accessible', we mean at a minimum having both a low-floor tram and a level-access stop. This is not always the same as being DSAPT-compliant, which is the government's legislative obligation to provide a network that meets all applicable DSAPT standards.

Figure 1: Components of an accessible tram service

Source: VAGO.

Our 2020 audit

In our 2020 audit we looked at whether tram services were meeting the accessibility needs of passengers with mobility restrictions. We found that:

- the tram network was not meeting the needs of passengers with mobility restrictions
- in 2018–19, only 15 per cent of tram services delivered a low-floor tram at a level-access stop
- the department had not met legislated DSAPT targets for tram infrastructure and could not comply by the 31 December 2022 deadline. It was also at risk of not meeting the 31 December 2032 DSAPT deadline for trams
- the department did not have a finalised strategy or a funded plan to achieve network-wide compliance with the *Disability Discrimination Act 1992* and DSAPT. This meant it did not know when all tram services would be fully compliant.

Noncompliance posed a financial and reputational risk for the state due to possible legal rulings against it for not meeting legislative requirements.

What we found

This section focuses on our key findings from this review, which fall into 4 areas:

1. Tram network accessibility has only improved slightly since our 2020 audit.
2. The department cannot accurately measure network compliance with relevant standards.
3. The department's plans and strategies do not include targets or timeframes.
4. The department has improved the way it informs passengers about accessible services, but more work is needed.

We have refined the interactive dashboard we published with our 2020 report and updated the data to 2023–24. The updated dashboard uses the department's actual tram service runtime data to provide a real-time wait time analysis. This data was not available in 2020. The dashboard is available on our website.

The full list of our 2020 audit recommendations, including the department's action plan, is available in Appendix D.

Consultation with agencies

When reaching our conclusions, we consulted with the reviewed agencies and considered their views.

You can read their full responses in Appendix A.

Key finding 1: Tram network accessibility has only improved slightly since our 2020 audit

As of March 2025, the department and Yarra Trams have delivered 15 more low-floor trams and 20 more level-access stops across the network since our 2020 audit. This includes 12 level-access stops added since 2023–24.

In 2023–24, 18 per cent of tram services offered a low-floor tram at a level-access stop compared to 15 per cent in 2018–19.

Figure 2: Tram accessibility

	Tram stops with level access	Trams with low floors
In April 2020	27%	38%
In March 2025	29%	41%
Improvement	2 percentage points	3 percentage points

Source: VAGO, based on department and Yarra Trams data.

Delivery of level-access stops

The department's delivery of level-access stops has slowed since our 2020 audit.

Over the past 10 years, the department has built an average of 8.2 stops per year. This is down from an average of 13.2 stops built each year from 2010 to 2020.

The department's Tram Forward Program shows that, based on currently funded works, the rate of tram stop delivery will not speed up and may slow further over the next 5 years. The majority of network funding and effort will be directed toward the delivery and rollout of Next Generation Trams. In 2022, the Victorian Government invested $1.85 billion to design and deliver 100 Next Generation Trams and a dedicated tram maintenance and stabling facility in Maidstone.

Rollout of low-floor trams

Since our 2020 audit, the department has delivered 15 more low-floor E Class trams, with the 100th and final E Class tram entering service in October 2021.

While all of Melbourne's low-floor tram fleet offers level-access boarding and can be considered broadly accessible for people with mobility restrictions, the existing low-floor C Class, D Class and E Class trams do not fully comply with all relevant DSAPT standards. Next Generation Trams will be Melbourne's first fully DSAPT-compliant tram model.

To have a fully low-floor tram fleet in service by the 2032 DSAPT milestone, the department needs to replace 286 high-floor trams with low-floor trams within 7 years. To be fully DSAPT compliant, the department would have to replace all trams with Next Generation Trams or another DSAPT-compliant tram model.

On current planning, the department will miss DSAPT's 2032 deadline.

Wait times for low-floor trams

Users with mobility restrictions typically wait longer for a tram. Our 2020 audit found that in 2018–19, out of 23 routes only 11 were serviced by low-floor trams.

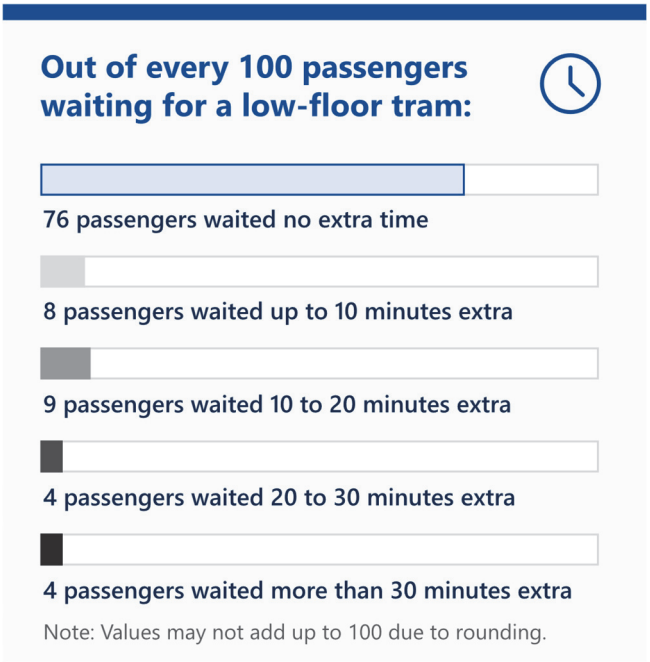
For 2023–24, we found:

- out of 23 routes, 12 were serviced by low-floor trams, which is an increase of one route
- of the 12 routes, 3 routes across the network were fully serviced by low-floor trams
- 9 routes were serviced by a mixture of high-floor and low-floor trams.

This means that a person with a mobility restriction who needs a low-floor tram often needs to wait longer than other passengers if the next scheduled service is a high-floor tram.

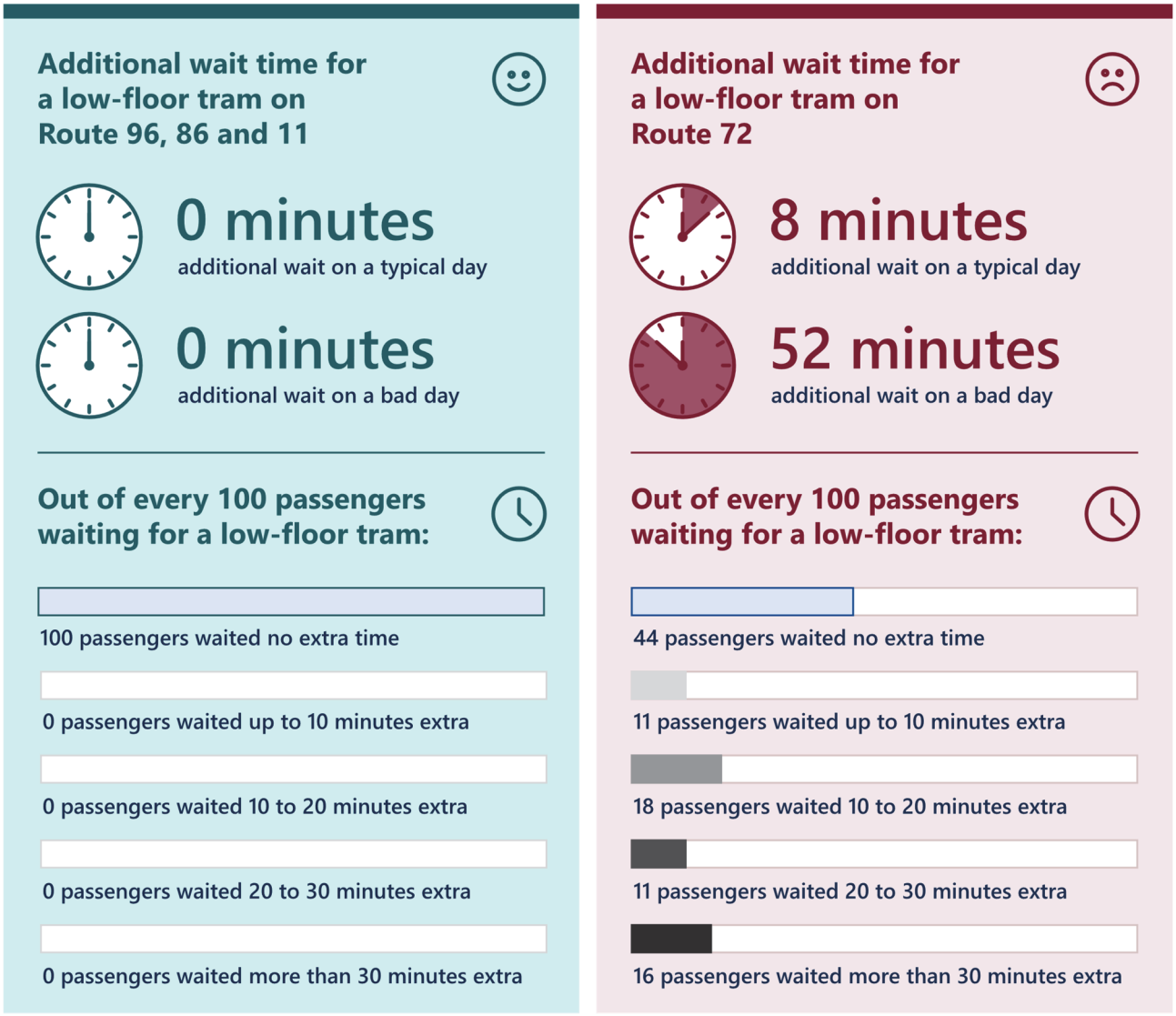
We analysed tram service data from 2023–24 and calculated the additional time a person with a mobility restriction requiring a low-floor tram would have waited for a service that met their needs. Passengers on routes 96, 86 and 11 did not need to wait longer for a low-floor tram. On route 72, 56 out of every 100 passengers who needed a low-floor tram could not catch the first tram that arrived.

Figure 3: Additional wait time for a low-floor tram on all routes with low-floor trams



Source: VAGO, based on data from the department and Yarra Trams.

Figure 4: Additional wait time comparison between the best and worst performing routes



Source: VAGO, based on data from the department and Yarra Trams.

Key finding 2: The department cannot accurately measure network compliance with relevant standards

Our 2020 audit found that the department did not know when it would achieve full compliance with DSAPT because of limitations in the accuracy, completeness and reliability of its data.

Without being able to quantify the extent of the compliance gap between the current and desired network state, the department cannot make fully informed decisions about planning, prioritising and seeking funding for network upgrades. Based on this, we made 5 recommendations to the department about understanding and addressing the compliance gap.

This review found that the department has missed the 2022 deadline for tram stops and, based on current planning, it will miss the 2032 deadline for trams. Passengers who need accessible stops and trams are still excluded from most of the network.

The department has completed minor upgrades to its DSAPT compliance database for tram stops to address some of the issues we identified in 2020. The database still:

- does not capture data for all applicable DSAPT standards
- only captures DSAPT elements relevant to a stop's current design (for example, an inaccessible kerbside stop that does not include a ramp is not recorded as needing one)
- does not capture compliance data for trams
- only gets reviewed and updated when a stop is upgraded.

Although the department uses the information currently recorded in its database to inform planning, it does not have a reliable source of information about total network compliance to inform upgrade works or monitor its progress. It cannot produce detailed costings based on the compliance gap and cannot forecast when it will be able to achieve a fully accessible network that meets DSAPT requirements.

Key finding 3: The department's plans and strategies do not include targets or timeframes

Our 2020 audit found the department did not have a clear strategy or plan for delivering accessible trams and tram stops. We made 4 recommendations to the department about planning for and delivering an accessible tram network that meets legislative requirements.

This review found that, 23 years after DSAPT was established, the department still does not have an overarching strategy for how it will deliver an accessible tram network that meets DSAPT requirements.

Tram Stop Rollout Strategy

The department finalised its Tram Stop Rollout Strategy in 2021. It provides:

- a comprehensive plan to upgrade tram stops, including standardised level-access stop designs
- a scalable delivery model
- a prioritisation framework for ranking planned upgrades.

However, the Tram Stop Rollout Strategy does not set a target date to achieve DSAPT compliance or set interim goals or timeframes. It includes a strategic framework outlining objectives and outcomes, but we did not see evidence showing how the department will measure and report on progress. It does not identify accountable business areas for each outcome.

Without specific goals, timeframes, accountable business areas, or funding for its implementation, the Tram Stop Rollout Strategy has not yet meaningfully accelerated the delivery of level-access tram stops or improved accessibility.

Tram Forward Program

The department has also developed other plans and strategies that address different elements of tram network infrastructure and accessibility. This includes the recent internal Tram Forward Program, which brings together the different tram sub-programs for the first time, including the Tram Stop Rollout Strategy. The Tram Forward Program is intended to ensure all areas of the department involved with tram investment are informed and contribute to the program, including future business cases development.

The Tram Forward Program does not establish overarching deadlines or a whole-of-program implementation strategy to achieve DSAPT compliance. It identifies a constrained fiscal environment as one of the main barriers to delivery.

Transport Accessibility Strategic Framework

The department released the *Transport Accessibility Strategic Framework* in October 2024. People with disability co-designed the framework.

The framework sets out the approach the department will take to make public transport more accessible in Victoria. It provides guidance on prioritisation and considers accessibility more broadly than DSAPT compliance. It embeds accessibility considerations across asset planning, design and delivery for all modes of public transport.

The framework does not include funding commitments or set timeframes for achieving DSAPT compliance. However, it may help to support the state's position in the event its compliance with DSAPT is challenged.

Key finding 4: The department has improved the way it informs passengers about accessible services, but more work is needed

Our 2020 audit found that the department's public information and mobile application (app) did not show accessible service patterns at chosen stops at a particular time or a specified day. Based on this, we made one recommendation to the department about informing the public about accessible tram services.

This review found that accessibility information is integrated into the Public Transport Victoria (PTV) app's journey-planning features, but this information is not always timely, reliable or clearly presented.

The PTV app complied with the Victorian Government's minimum digital accessibility requirements at the time of its release. However, the department has not upgraded the PTV app in line with updated Web Content Accessibility Guidelines (WCAG). This means it no longer meets the government's minimum digital accessibility requirements. The department plans to address this in late 2025.

2.
Actions' status

Status of the department's actions

In our 2020 audit *Accessibility of Tram Services* we made 10 recommendations to the then Department of Transport. It accepted 7 in full, 2 in principle and one in part.

The department has completed 5 actions and partially completed 3 actions since 2020. Two actions have not yet been completed.

Figure 5: Status of the recommendations from our 2020 audit

	Recommendation theme	Agency response	Did the department's action plan address the issue?	Action status
1	Legal risk of noncompliance	Accepted	Partially	Complete
2	Complete and accurate compliance data	Accepted in principle	No	On track (noting action is still in progress)
3	Cost of achieving full compliance	Accepted in principle	No	Not complete
4	Aligning DSAPT funding with renewal works	Accepted	No	Not complete
5	Making travel planning app accessible	Accepted	Partially	Partially complete
6	Cost–benefit analysis of full compliance	Accepted in part	No	Complete
7	An overarching plan for DSAPT compliance	Accepted	No	Partially complete
8	Prioritising stops for upgrades	Accepted	No	Complete
9	Buying accessible trams	Accepted	Partially	Partially complete
10	Building accessible stops	Accepted	Partially	Complete

Note: Actions in response to recommendation 2 are ongoing.
Source: VAGO.

Our 2020 recommendations, the department's action plan and our conclusions are listed in full in Appendix D.

3.

Understanding the compliance gap

In our 2020 report we made 5 recommendations to the department about understanding the extent of work needed to deliver an accessible tram network and the legal risk associated with failing to meet legislative accessibility requirements.

In response to our recommendations, the department committed to completing 5 actions. It has since completed 3 of them.

Covered in this section:

- The department sought legal advice about failing to meet accessibility requirements
- The department made minor upgrades to its compliance database but cannot accurately measure network compliance
- The department cannot quantify the scope of work and cost to close the compliance gap
- The department considered the costs and benefits of improving accessibility

The department sought legal advice about failing to meet accessibility requirements

Action 1

In 2020, we recommended that the department seek comprehensive legal advice and explicitly advise the government on the implications of not meeting DSAPT and other legislative requirements. See Appendix D for the full recommendation.

The department accepted the recommendation and committed to implementing action 1.

Action 1: Completed

Legal advice has been received and the Minister will be briefed in relation to this matter.
Due 31 December 2020.

Legal advice and ministerial briefing

The department completed its planned action.

The department obtained legal advice in June and July 2020 in response to our audit findings.

The department briefed the Minister for Public Transport in February 2021. The brief contained a summary of the legal advice and did not recommend any action in response.

The legal advice was not comprehensive in nature. It related only to DSAPT obligations and did not consider other legislation that may have been relevant. Accordingly, the department's action only partially addressed our 2020 recommendation.

The department has noted that its failure to meet DSAPT and other legislative obligations could increase the risk that people with disability make complaints to the Australian Human Rights Commission or Victorian Equal Opportunity and Human Rights Commission.

If a complaint is not successfully resolved, the person making the complaint may take legal action. If a court finds that unlawful discrimination has occurred, the state could be required to pay compensation and fix the issue. Legal action could also harm the state's reputation.

Managing legal risks

The department's planning and strategy documents show it acknowledges its noncompliance with DSAPT and is working with people with disability to develop and prioritise a response. These documents include the:

- *Transport Accessibility Strategic Framework* and its prioritisation method
- Tram Stop Rollout Strategy.

The documents are drafted in a way that does not commit government to defined outcomes.

By proactively engaging with people with disability and its Accessible Transport Advisory Committee, the department can identify and prioritise the issues that impact people with disability the most and build confidence in its response.

It also raises people with disability's awareness about the department's operating environment and the factors affecting progress, such as limited funding, to manage their expectations. This may reduce the likelihood of someone lodging a complaint.

The department made minor upgrades to its compliance database but cannot accurately measure network compliance

Action 2

It is important that the department measures and tracks its compliance against DSAPT requirements so it can:

- identify and prioritise tram network upgrades
- take advantage of emerging work programs.

Our 2020 audit found that the department did not know the full extent of its compliance with DSAPT because the accuracy, completeness and reliability of its data was limited.

In 2020, we made one recommendation to the department about upgrading its compliance database so that it could quantify the extent of noncompliance and plan to fix it.

The department accepted the recommendation in principle and committed to implementing action 2.

Action 2: Completed

Enhancements to the reporting from the department's DSAPT compliance database were initiated in early 2020 and are expected to be completed by the end of the calendar year.

Whilst the database has limitations in capturing all of the accessibility features required by the current DSAPT, upgrades will be considered as a future enhancement of our compliance database to align with any changes to the current DSAPT that result from the current modernisation process underway.

Due 31 December 2020.

Minor database upgrades

The department completed its planned action.

The department completed the planned enhancements to its DSAPT compliance database. It is now able to generate compliance reports for individual stops and can exclude decommissioned stops from reporting.

The department's DSAPT compliance database still has limitations that impact the completeness, accuracy and reliability of its data. This means the department's action has not addressed our 2020 audit recommendation.

The department told us it will not do further upgrades until the Australian Government has concluded the ongoing DSAPT reform process.

In our 2024 Reponses to Performance Engagement Recommendations review the department extended the deadline to complete the action to 30 June 2025. The DSAPT reform process is ongoing, so this revised deadline has not been met.

The department's compliance database

Due to its limitations, the database cannot be used to accurately assess the compliance gap for a stop, route, tram or the network. The department's database still:

- does not capture data for all applicable DSAPT standards
- only captures DSAPT elements that are part of a stop's current design (for example, an inaccessible kerbside stop that does not include a ramp is not recorded as needing one)
- does not capture compliance data for trams
- only gets reviewed and updated when a stop is upgraded.

This means the data in the department's database is still not complete, accurate or reliable. The department cannot use this information to:

- develop detailed costings based on the compliance gap
- forecast when full network compliance will be achieved
- monitor progress towards full compliance.

The department uses the information currently recorded in the database to inform network planning. The department is also working on a prioritisation method for tram stop upgrades, which will be able to generate more accurate and up-to-date lists of stop upgrade opportunities.

Progress in DSAPT compliance

DSAPT requires that all stops be fully compliant by 31 December 2022. The information in Figure 6 shows how the department records its compliance levels, and the progress made since the 2020 audit.

Some data is missing given the limitations of the department's database.

Figure 6: Tram stop DSAPT compliance

Standard	Does the department track this?	Compliance April 2020 (%)	Compliance March 2025 (%)	Change (percentage points)
2 Access paths	In part	63	66	+3
3 Manoeuvring areas	In full	93	90	-3
4 Passing areas	In full	74	76	+2
5 Resting points	In part	35	35	0
6 Ramps	In part	6	14	+8
7 Waiting areas	In part	35	36	+1
8 Boarding	In part	54	58	+4
9 Allocated space	In full	61	63	+2
10 Surfaces	In full	86	86	0
11 Handrails and grabrails	In part	22	28	+6
12 Doorways and doors	Not applicable	Not applicable	Not applicable	Not applicable
13 Lifts	In part	0	0	0
14 Stairs	In part	1	6	+5
16 Symbols	In part	97	97	0
17 Signs	In part	16	20	+4
18 Tactile ground surface indicators	In part	No data	14	Not applicable
19 Alarms	Not applicable	Not applicable	Not applicable	Not applicable
20 Lighting	Not tracked	No data	No data	No data
21 Controls	Not tracked	No data	No data	No data
22 Furniture and fitments	Not tracked	No data	No data	No data
23 Street furniture	In part	76	78	+2
24 Gateways	Not tracked	No data	No data	No data
25 Payment of fares	In part	94	94	0
26 Hearing augmentation-listening systems	Not tracked	No data	No data	No data
27 Information	Not tracked	No data	No data	No data

Note: Where a standard is tracked in part, the percentage is calculated against the tracked components only. Change is calculated against standards already tracked in April 2020.
Source: VAGO, based on department information.

The department cannot quantify the scope of work and cost to close the compliance gap

Actions 3 and 4

To effectively plan for a fully accessible and DSAPT-compliant tram network, the department needs to know:

- how much of the network is currently noncompliant with DSAPT
- how much it will cost to upgrade or replace noncompliant tram stops and trams.

An effective plan would also allow the department to align funded DSAPT compliance upgrades with other planned works to maximise efficiency and minimise disruption to the community.

In 2020, we made 2 recommendations to the department about understanding the accessible infrastructure gap. The full recommendation is available in Appendix D.

The department accepted one recommendation in principle and one in full. It committed to implementing actions 3 and 4.

Action 3: Not completed

A strategy to address existing, already identified, non-compliance will be included as part of the Tram Stop Rollout Strategy, however the identification of non-compliance not yet identified does not sit within this scope. Therefore, any further existing non-compliance will need to be identified as part of a separate process which will require funding. The Strategic Advisor and Design Advisor appointed as part of the Stop Rollout Strategy will be assessing the scope of technical engineering required to deliver DSAPT compliance across the whole network, and high-level estimates of the cost of implementation. The Tram Stop Rollout Strategy will provide an order of magnitude costs to complete network wide upgrades, based on different delivery approaches. However, detailed engineering assessment will not form part of the scope of this work. Engineering assessments will be completed as part of any funded development for tram stop upgrades to be delivered.

Due 30 June 2022.

Action 4: Not completed

Aligning accessibility upgrade works with planned, funded renewals is currently a process the Department has been improving. The Tram Stop Rollout Strategy will also consider how to best align these works.

Due 30 June 2021.

Understanding compliance gaps

The department did not complete its planned actions.

Due to the limitations of its compliance database, the department cannot know the full extent of DSAPT noncompliance or the full scope and cost of work needed to fix it.

As a result, action 3 only committed to producing a strategy to address noncompliance the department already knew about. This did not address the issues our 2020 recommendation identified.

The Tram Stop Rollout Strategy

The Tram Stop Rollout Strategy is the department's internal strategy for delivering accessible tram stop infrastructure. It is not an overarching plan to achieve DSAPT compliance for the tram network and does not set any deadlines for achieving DSAPT compliance.

Technical review to inform costings

The department does not do detailed engineering assessments and cost estimates until a tram stop corridor is included in a business case.

The Tram Stop Rollout Strategy includes an overall estimate of capital and operating costs to implement the full strategy. It does not include an option that only addresses DSAPT compliance.

This means we did not see evidence the department assessed the scope of technical engineering required to make the whole tram network DSAPT compliant.

Enhanced renewals

Recommendation 4 intended to make sure that any funding allocated to increase DSAPT compliance could maximise value and minimise disruption by aligning it with other planned works.

The department did not provide any evidence of funding allocated only to increase DSAPT compliance.

Yarra Trams is required to have a franchise infrastructure management plan, which outlines how the department will maintain existing tram network infrastructure.

The department and Yarra Trams identify 'enhanced renewal' opportunities in which maintenance works required under the franchise infrastructure management plan are 'enhanced' to include DSAPT compliance and safety upgrades.

Completing accessibility and safety upgrades alongside maintenance reduces costs and service disruption. However, enhanced renewals can only be completed when opportunities arise. They cannot generate the scope or pace of change needed to deliver an accessible tram network that meets DSAPT requirements.

The department considered the costs and benefits of improving accessibility

Action 6

It is important that the department understands the costs and benefits of tram network upgrades to brief the government and inform future planning. This includes economic and social benefits.

Our 2020 audit found no evidence that the department had formally considered any potential social benefits that might accrue from a DSAPT-compliant tram infrastructure investment program.

In 2020, we made one recommendation to the department about understanding costs and benefits. The full recommendation is available in Appendix D.

The department partially accepted the recommendation and committed to implementing action 6.

Action 6: Completed

While an extensive cost benefit analysis of all tram stops requiring upgrades is not currently in the scope of the Tram Stop Rollout Strategy, the Department acknowledges it has a legal obligation to provide accessibility across the tram network.

Nevertheless, the Department is refining our current stop prioritisation framework to identify what stops on the network should be upgraded first and then continuing prioritisation, based on a range of factors.

The Tram Stop Rollout Strategy will support determining any rationalisation requirements of existing tram stop locations.

As part of Business Case submissions to the Government to fund the upgrade of network infrastructure to comply with DSAPT standards, the Department is required to include a cost benefit analysis that aligns with the Department of Treasury & Finance guidelines.

The guidelines require the Department to demonstrate the impact of the investment on the safety of passengers/network, network performance, socioeconomic and environmental benefits.

Ongoing.

Cost–benefit analysis

The department completed its planned action. It commissioned an economic outcomes report to feed into the future program business case for the unfunded Tram Stop Rollout Strategy. The economic outcomes report was not comprehensive and so it did not address our 2020 recommendation.

The approach included developing and testing methodology with the Department of Treasury and Finance.

The economic outcomes report includes:

- high-level cost–benefit analysis
- qualitative analysis of economic benefits
- exploration of social, environmental and wider economic benefits.

The report explicitly acknowledges that improving accessibility has the potential to generate significant economic benefits for the community. It identifies this as the basis of the investment case for upgrading the tram network.

The department lodged a successful bid in the 2022–23 state Budget cycle for funding to develop 4 tram stop corridors and received $5.5 million. Based on the evidence assessed, nothing came to our attention to suggest that the department did not use a cost–benefit analysis that aligned with Department of Treasury and Finance guidelines.

Rationalising tram stops

The Tram Stop Rollout Strategy includes a plan to rationalise tram stop locations by relocating stops to achieve more uniform spacing and removing some underused stops. This addressed the department's action. The Tram Stop Rollout Strategy notes that stops' close spacing is inefficient and creates challenges such as slow travel speeds and conflicts with other forms of transport. The Tram Stop Rollout Strategy recommends one of 4 actions for each stop:

- no action needed
- upgrade in place
- relocate and upgrade
- remove.

Any stop recommended for upgrading would be replaced by a DSAPT-compliant stop.

If the Tram Stop Rollout Strategy is delivered as written, around 25 per cent of stops across the network would be removed. The Tram Stop Rollout Strategy delivery has not yet been funded.

Any changes to the number or location of tram stops would be subject to consultation with the community and local councils.

The department's plan did not include a full cost–benefit analysis and so it did not address our 2020 recommendation.

4.

Planning for network-wide compliance

In our 2020 report we made 4 recommendations to the department about planning and delivering an accessible tram network that meets DSAPT requirements.

The department committed to completing 4 actions in response to our recommendations.

We found it has completed 2 actions. Two actions relating to the department's overarching plan and procurement of low-floor trams are still in progress.

Covered in this section:

- The department developed plans and strategies to address different network accessibility elements
- The department's framework for prioritising network upgrades did not specifically consider people with mobility restrictions
- The department has not linked new low-floor tram procurement to stop upgrades
- The department developed standardised tram stop designs but has not yet streamlined delivery

The department developed plans and strategies to address different network accessibility elements

Action 7

Without a unified accessibility strategy for tram infrastructure and rolling stock, the department cannot know how or when it will be able to achieve compliance with DSAPT requirements.

Our 2020 audit found that the department did not have a clear and consistent strategy for delivering a DSAPT-compliant tram network.

We made one recommendation to the department about developing an overarching plan for the tram network that explicitly links to DSAPT compliance dates and accessibility outcomes. The full recommendation is available in Appendix D.

The department accepted the recommendation in full and committed to implementing action 7.

Action 7: Partially completed

The Tram Stop Rollout Strategy will specify goals and timeframes within relevant areas of the Department and Yarra Trams.

The prioritisation framework includes consideration of low-floor rolling stock on a given corridor in determining the level of priority of a given stop in being upgraded to provide level access.

There are numerous considerations required when delivering rolling stock across the network including depot capacity and locations. In addition to accessibility, these considerations must be included in the timing and delivery of both rolling stock and of level-access tram stop upgrades. This is matched as far as possible and we are looking to improve on this further.

We are currently engaging with a range of stakeholders on a Lessons Learned process, which will feed into the Tram Stop Rollout Strategy—this is the first step of our engagement with key stakeholders which will include councils and advocacy groups.

Due 31 December 2021.

Planning and strategy documents

The department has partially completed its planned action.

Action 7 states that the Tram Stop Rollout Strategy will address the risks our 2020 audit recommendation sought to address by specifying goals, timeframes and the responsible areas of the department and Yarra Trams. It does not include this information.

It covers tram stop infrastructure but not trams or how to best allocate low-floor trams to maximise accessibility across the network. Without this, it is not a network-wide strategy.

Rather than producing one overarching plan to achieve an accessible and DSAPT-compliant tram network, since 2020 the department has developed several plans and strategies that address different elements of network accessibility. These plans still do not fully address the issues our 2020 audit identified or set deadlines for achieving accessibility.

Set up in January 2025, the department's Tram Forward Program is a forum which brings together the program areas responsible for different tram network initiatives. Each initiative, such as the Tram Stop Rollout Strategy, forms a sub-program.

The Tram Forward Program creates a reference point for all sub-program areas to share information and create opportunities to streamline activities, such as the development of business cases for future funding. It is not a decision-making body. It does not set an overarching strategy or prioritise between the different sub-programs.

The department decided not to include defined outcomes or set deadlines for accessibility improvements in the *Transport Accessibility Strategic Framework*, at one point changing the strategy to a strategic framework to manage expectations.

The department was aware of some of the risks associated with this approach, including feedback on the draft strategic framework from consultations with people with accessibility needs that it did not deliver concrete actions or fund investment to meaningfully address DSAPT compliance.

We have concluded action 7 did not address the issues our 2020 recommendation identified.

Documents include ...	from ...	which ...
the Tram Stop Rollout Strategy	2021	is the department's internal strategy for delivering accessible tram stop infrastructure.
the *Made in Victoria for Victoria – Victorian Rolling Stock Strategy*	2022	is a public document that outlines the Victorian Government's plan for future rolling stock (including trams).
Melbourne's Tram Plan	2023	is a public document describing the department's overarching strategy for the future of Melbourne's tram network at a high level.
the *Transport Accessibility Strategic Framework*	2024	is a public document outlining the department's approach to addressing accessibility gaps and improving transport experiences for everyone, in line with universal accessibility goals.
the Tram Forward Program	2025	brings all the department's current tram system initiatives together to share information and streamline the development of business cases.

No target date for DSAPT compliance

The Tram Stop Rollout Strategy recognises that the department has a legislative obligation to provide an accessible tram network that meets *Disability Discrimination Act 1992* and DSAPT requirements. It also acknowledges that the department will miss the 2022 DSAPT compliance deadline for tram stops.

It does not set a new timeline to achieve a fully DSAPT-compliant tram network.

Without a clear target date, the department cannot effectively plan network upgrades, allocate resources or track and report on progress. This also makes it difficult for the public to hold the government to account for its performance.

No set goals or timeframes

The Tram Stop Rollout Strategy does not set interim goals or timeframes for delivering tram stop upgrades. Without clear goals or timeframes to work towards, the department cannot effectively plan network upgrades, allocate resources or track and report on progress.

The Tram Stop Rollout Strategy included an example delivery scenario program showing how all tram stops across the network could potentially have been upgraded to level-access over a 10-year period to 2032.

Given that as of 2025 the government has not approved funding to deliver the Tram Stop Rollout Strategy, the example delivery scenario could no longer be achieved by 2032.

Lack of clear measures and accountabilities

The Tram Stop Rollout Strategy includes a strategic framework that sets out:

- an overarching vision statement
- 6 strategic objectives
- 15 outcomes, 2 of which relate to accessibility.

The outcomes are designed to be measurable so that the department can track its progress. But we did not see any evidence of how the department intends to measure or report on its outcomes.

The Tram Stop Rollout Strategy does not specify which business areas are accountable for each outcome. This makes it difficult to identify who in the department is responsible for ensuring the outcomes are achieved.

The Tram Stop Rollout Strategy has not been implemented

The Tram Stop Rollout Strategy has not meaningfully accelerated delivering level-access tram stops or improved accessibility outcomes. This is because it does not have:

- specific goals and timeframes
- identified accountable business areas
- funding for its implementation.

Some elements of the Tram Stop Rollout Strategy are designed to be flexible to allow the government to decide how to upgrade the remaining non-level-access tram stops based on funding availability and timing.

Other elements rely on a particular pace and scale of delivery to be implemented as planned.

For instance, the Tram Stop Rollout Strategy considered seeking state-level approval for the project as one entire program of works to streamline approval processes.

If the government does not approve funding for the project as one entire program of works, the state-level approval pathway cannot be implemented as proposed.

This means the department needs to seek separate approvals for each individual corridor or tram stop, which may slow delivery.

Scalable delivery framework

The Tram Stop Rollout Strategy introduces a scalable delivery model that groups stops into corridors and corridors into packages. Delivering a group of stops together means that design work, planning approvals, consultation and delivery can happen at the same time.

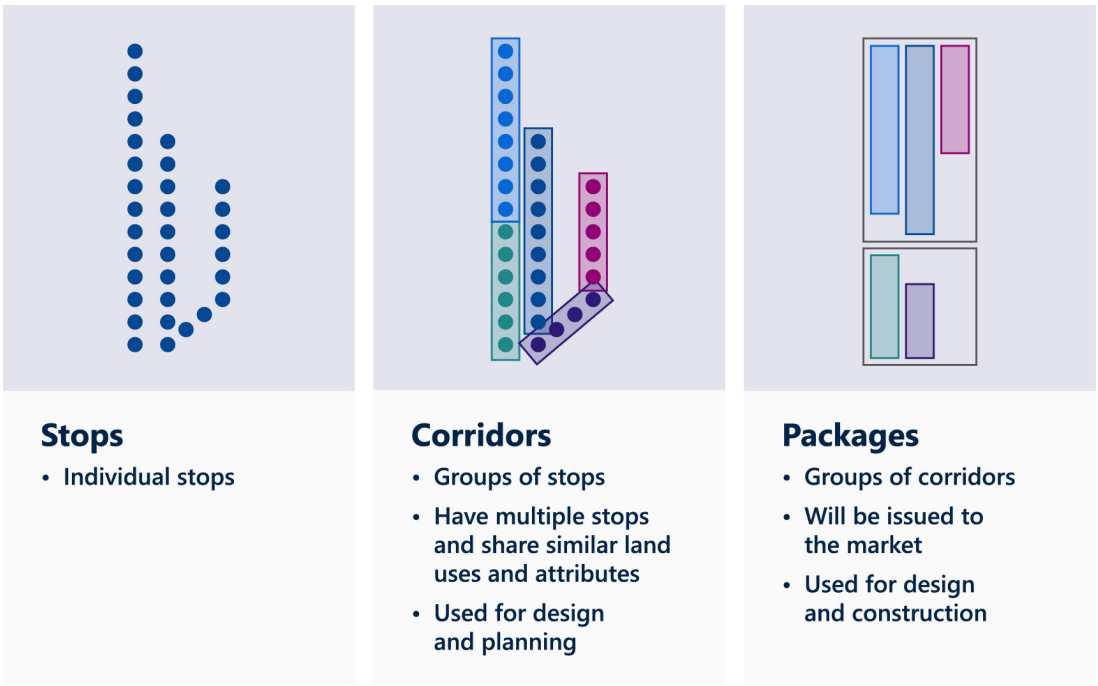
The Tram Stop Rollout Strategy shifts more of the responsibility for identifying and completing stop upgrades from Yarra Trams to the department. This allows the department to take a more strategic approach to network upgrades.

Yarra Trams still completes tram stop upgrade works on behalf of the department when needed.

In the scalable delivery model, the department is responsible for procuring and managing contractors to deliver packages.

The Tram Stop Rollout Strategy considered the suitability of various delivery models but did not include costings.

Figure 7: The department's corridor approach



Source: VAGO, based on information provided by the department.

Considering broader operational issues

The Tram Stop Rollout Strategy does not explicitly address the impact of depot and other operational limitations on the department and Yarra Trams' ability to match level-access stops to low-floor trams.

The department allocates trams to routes through a separate process outlined in the Tram Cascade Plans. This process considers accessibility as one of 5 underpinning principles, alongside:

- capacity
- capital investment
- operational cost
- operational integration.

In July 2025, the department finalised its internal Tram Stabling and Maintenance Strategy. The strategy looks at the capacity of depots across the network to stable the new low-floor trams. It shows that the planned Maidstone Depot development and Brunswick Depot upgrades will create sufficient stabling capacity to phase out all high-floor trams by 2034.

The planned rollout of new low–floor trams shows that they are mostly allocated to routes based on depot stabling capacity, not proportion of level-access stops on a given route.

Stakeholder consultation and user research

As set out in its action plan, the department sought stakeholder engagement at key times. This is reflected in the final Tram Stop Rollout Strategy.

The department consulted with its Accessible Transport Advisory Committee 4 times between October 2020 and November 2021.

The department did user research to understand how people use tram stops. This mostly involved:

- video-based interviews
- walk-throughs of tram stops
- online surveys
- focus groups.

The department also did observational research to validate user behaviour in a real-world context. The department adapted how it consulted with people with disability to be more accessible.

The department also held workshops with subject-matter experts and the Office of the Victorian Government Architect and made design changes in response to issues found during consultation.

The department's framework for prioritising network upgrades did not specifically consider people with mobility restrictions

Action 8

It is not possible to upgrade all relevant tram stops at the same time without significant disruption. Therefore, the department needs to be able to identify which upgrades are the most important based on user and network needs.

Our 2020 audit found the department had developed a draft framework for prioritising tram stop upgrades. It used this framework on an ad hoc basis to help develop business cases rather than to explicitly advise the government with a priority list for level-access tram stop upgrades.

We made one recommendation to the department about enhancing its existing stop prioritisation framework. The full recommendation is available in Appendix D.

The department accepted the recommendation in full and committed to implementing action 8.

Action 8: Completed

The existing tram stop prioritisation framework is undergoing updates as part of the Tram Stop Rollout Strategy. Additional refinement and updates of the prioritisation framework, including application to the entire tram network, will occur as part of finalising this strategy.

Due 31 December 2021

The prioritisation framework

The department has completed its planned action.

The department developed a prioritisation framework that assigns stops or corridors a score across 4 categories:

- movement
- place
- safety
- accessibility.

Scores for each category are weighted evenly but weighting can be adjusted to prioritise place, safety or accessibility. Each category is broken down into several criteria and scored on a scale from 10 (high priority) to zero (low priority).

Under 'accessibility', the criteria 'low-floor trams' assigns a score of …	to …
10	a stop or corridor fully serviced by low-floor trams.
5	a stop or corridor partially serviced by low-floor trams.
0	a stop or corridor not serviced by low-floor trams.

Other criteria scores and weighting considerations aside, this would rank a non-level stop serviced by low-floor trams higher than a non-level stop serviced by high-floor trams.

As one of up to 18 equally weighted sub-criteria, a high score is unlikely to have a significant impact on a stop or corridor's overall priority ranking.

The department considers a stop or corridor's ranking when making decisions about how to prioritise upgrades. A high ranking does not guarantee a stop or corridor will be upgraded sooner.

Considering passengers with mobility restrictions

The prioritisation framework considers several criteria within each category. For instance, it looks at:

- whether there are currently low-floor trams on the route
- whether there is a school nearby
- how many people currently use the stop per day.

The accessibility category adds 5 points to a stop's score for its proximity to each aged-care facility, disability centre or specialist school.

While this identifies destinations that would expect to attract a higher-than-average number of people with disability, it does not consider the accessibility of the tram stops people would use to board the tram.

It also does not consider the possibility that a person with a mobility restriction may wish to use a tram to travel to a shopping centre, an art gallery, or to visit a family member.

Key issue: The prioritisation framework does not explicitly consider people with mobility restrictions

The prioritisation framework considers passenger numbers as a criterion under the 'movement' category. It uses the current number of passengers using a stop per day (ranging from 50–100 as low priority, to 18,000–20,000 as high priority). It also uses a forecast increase of passengers per stop per day (ranging from 25–50 as low priority, to 9,000–10,000 as a high priority).

The department has not provided any evidence showing that people who are currently excluded from the tram network due to a lack of accessibility have been considered as a specific cohort in these passenger numbers. This creates a risk that decisions to prioritise upgrades are made after only taking into account passengers who use the service now and do not consider people who would like to but cannot because the service is inaccessible for them.

Data not updated regularly

Our 2020 recommendation aimed to make sure the prioritisation framework:

- drew on accurate, current data
- was regularly reviewed and updated.

The prioritisation framework and list of prioritised corridors have not been updated since 2020. Based on this, the department's action did not address the issues our 2020 recommendation identified.

Most data captured in the prioritisation framework is relatively static and easily tracked. Only passenger numbers and safety may be expected to change at short notice in response to external factors.

The department is in the process of updating the prioritisation framework and expects this work to be completed by the end of 2025.

The updated prioritisation framework will account for new data sources for passenger numbers through:

- automatic passenger counters on a significant proportion of the tram fleet
- government's change to housing and suburban development though the Activity Centre Program.

Working well: The department's prioritisation method

As part of the *Transport Accessibility Strategic Framework*, the department is adapting its prioritisation method for the train network to the tram network.

The method ranks instances of DSAPT noncompliance based on how much they impact people with disability. It uses 5 impact ratings:

1. **Safety critical:** A serious safety risk
2. **Absolute barrier:** An absolute barrier to use for some people
3. **High impact:** Issues where the stop can be used, but it may require extraordinary levels of effort to do so
4. **Medium impact:** Issues where the stop can be used even though it might require significant effort
5. **Minor impact:** Issues where the stop is relatively easily used even though it does not technically meet required standards such as DSAPT.

Once the method has been adapted to trams, the department will be able to use it to identify the most impactful upgrades for people with disability.

The department has not linked new low-floor tram procurement to stop upgrades

Action 9

While level-access tram stops offer some individual benefits, a tram user with a mobility impairment requires both a low-floor tram and a level-access stop to get on or off a tram. This means matching delivery of level-access stops and low-floor trams is necessary to maximise the benefits of upgrades.

Our 2020 audit found that the department was at risk of not meeting the 31 December 2032 compliance date for trams.

We made one recommendation to the department about standardising tram vehicle requirements and linking procurement to stop upgrades. The full recommendation is available in Appendix D.

The department accepted the recommendation and committed to implementing action 9.

Action 9: Partially completed

The Victorian Rolling Stock Strategy covers all rolling stock requirements across Victoria's metropolitan, regional and tram networks. Whilst a tram-specific rolling stock plan is not in place, the Tram Stop Rollout Strategy will deliver the plan for the upgrade of the infrastructure. Rolling stock delivery and stop upgrades/improvements will be integrated and continues to be matched for timing of delivery as best as possible.

There is already a high level of standardisation of rolling stock vehicles for the Melbourne tram network, and the Department, together with the franchisee, continues to review and update standards in line with changes to the network, operations, and industry best practice.

As part of a rolling stock procurement there is extensive assessment of both existing international vehicle platforms in the market and market ability to deliver a vehicle that meets the Melbourne network's requirements to ensure passengers receive the best possible performance and value for money outcomes. This is also in line with the State's procurement policies and the Department's due diligence requirements for any proposed new procurement.

Due 31 December 2021.

Standardised tram vehicle requirements

The department has partially completed its planned action.

In 2022, the Victorian Government invested $1.85 billion to deliver 100 Next Generation Trams and a dedicated tram maintenance and stabling facility in Maidstone. Next Generation Trams is the name given to Melbourne's next tram model. The first Next Generation Trams are expected to arrive on the Melbourne network for testing in 2025.

Next Generation Trams are considered the future of tram rolling stock for Melbourne's tram network. The Next Generation Trams design is fully DSAPT compliant.

The department reviewed and updated tram standards as part of the Next Generation Trams procurement. All DSAPT criteria for vehicles are specified requirements in the Next Generation Trams contract. The department and an independent party both then assess and verify compliance.

Matching low-floor tram rollout and stop upgrades

The Tram Stop Rollout Strategy considers the need to match delivery of low-floor trams and level-access stops. However, this is outweighed by existing network and depot limitations and other operational demands. The department's action only partially addressed the issues our 2020 recommendation identified.

The Tram Forward Program is the department's internal program bringing together all current tram system initiatives. The Tram Forward Program acknowledges that the current program does not include an option to make sure rollout of low-floor trams is matched with level-access tram stops.

This means the deployment of first tranche of Next Generation Trams will happen on routes with limited level-access stops and will not materially improve accessibility until stops are upgraded. The department received funding to upgrade stops on the Droop Street corridor on route 82 in the 2025–26 State Budget.

The department developed standardised tram stop designs but has not yet streamlined delivery

Action 10

The department needs to deliver level-access tram stops rapidly to meet DSAPT requirements and improve accessibility for tram users.

Our 2020 audit found that the department did not have a standardised design approach for accessible tram stops, and delivery of level-access stops had slowed over the last decade.

We made one recommendation to the department about standardising design and streamlining delivery of level-access tram stops. The full recommendation is available in Appendix D.

The department accepted the recommendation and committed to implementing action 10.

Action 10: Completed

The Tram Stop Rollout Strategy is undertaking workshops that will identify if any local planning approvals have had an impact to the process in previous projects and will consider any planning scheme amendments that may be appropriate.

The Department undertakes extensive and broad stakeholder consultation for individual stops that are funded for development and subsequent delivery.

The Tram Stop Rollout Strategy is developing level access design options which will include costings and timeframes to deliver each option.

Options are being explored as part of the TSRS development for various delivery mechanisms including engaging with other delivery agencies on practices and process to provide cost and time effective solutions.

Due 31 December 2021.

Impact of planning approvals

The department completed its planned action.

When developing the Tram Stop Rollout Strategy, the department carried out desktop analysis, case studies and a series of expert and stakeholder interviews to understand the impact of planning approval processes on its ability to deliver tram stop upgrades.

It did not consider how forecasting potential construction would allow earlier stakeholder consultation and planning. Based on this, the department's action only partially addressed the issues our 2020 audit recommendation identified.

The Tram Stop Rollout Strategy considered but did not propose any planning scheme amendments based on this work. However, it identified an opportunity to streamline delivery through planning scheme changes introduced in 2021. This option has not been exercised to date.

Stakeholder consultation for funded upgrades

The department did community consultation to inform planning and development for the Thornbury, Fitzroy and Footscray corridor upgrades, which were funded in the 2022–23 state Budget. This involved engaging with the community and local businesses to work out preferred tram stop designs and locations.

The department is using the Thornbury, Fitzroy and Footscray corridor upgrades as a 'pilot' and intends to use a similar stakeholder consultation approach for future corridor upgrades. This shows a consistent consultation approach for tram stop upgrades completed as part of the Tram Stop Rollout Strategy.

Standardised level-access stop designs

The department developed a suite of 18 level-access tram stop designs that can be applied to suit a variety of road contexts. Seventeen out of the 18 designs fully comply with DSAPT requirements, while the remaining design is noncompliant on one standard.

These designs are also accompanied by a 'kit of parts' to simplify providing elements such as seating, lighting and shelter. The kit of parts also includes some elements needed to achieve DSAPT compliance, such as tactile ground surface indicators and passenger information displays.

Working well: The department developed standardised level-access stop designs

This work will enable the department to accelerate the delivery of level-access tram stops across the network by reducing the need for detailed design work each time a corridor is funded for delivery.

Estimated cost and timeframes

The Tram Stop Rollout Strategy contains high-level cost and time estimates, but these do not include specific costings and timeframes to deliver each option. This did not address the issues identified in our 2020 recommendation.

While the department developed an initial cost estimate based on a 9-year rollout period to 2030, this estimate can no longer be considered current or reliable given implementation delays.

Exploring delivery models

The department explored various delivery models for the Tram Stop Rollout Strategy. It carried out interviews and workshops with internal and external stakeholders from the department, Yarra Trams and the Major Transport Infrastructure Authority.

Based on this, the Tram Stop Rollout Strategy identified a shortlist of potential delivery models.

Tactical delivery approaches

Our 2020 audit found that the department had not yet explored using tactical delivery approaches or construction innovations such as modular or offsite fabrication. These could reduce costs and speed up installation of level-access tram stops.

As part of the Tram Stop Rollout Strategy development, the department explored using temporary or quick-build interventions to temporarily upgrade stops until more permanent infrastructure could be delivered.

The department developed a series of tactical tram stop designs to suit different road network configurations. None of the proposed designs offered level-access and none could not achieve DSAPT compliance. These designs have not been tested in a real-world setting.

5.

Public information about accessible services

In our 2020 report we made one recommendation to the department about informing the public about accessible tram services.

The department committed to completing one action in response to our recommendation.

We found it has partially completed this action. The department still needs to improve the timeliness, reliability and clarity of information and make sure it complies with current minimum digital accessibility requirements.

Covered in this section:

- The department focused on improving its PTV app accessibility instead of improving tram accessibility information

The department focused on improving its PTV app accessibility instead of improving tram accessibility information

Action 5

Our 2020 audit found that the department and Yarra Trams' public information and apps (PTV Journey Planner and TramTRACKER) did not show accessible service patterns at chosen stops at a particular time or a specified day.

We made one recommendation to the department about providing public information on network accessibility, including by stop, route and scheduled service.

The department accepted the recommendation in full and committed to implementing action 5.

Action 5: Partially completed

The Department of Transport's digital journey planning tools are currently undergoing a major uplift. In late 2020, the fully accessible next generation PTV app will be released, granting our accessibility community access to the same journey planning features as our other customers, including real time travel and disruption information. Accessibility is and will continue to be shown within the limits of current operational data.

Due 31 December 2020.

As our recommendation was made to the department, this review focused solely on the PTV app, which the department manages.

Accessibility of the Next Generation PTV app

The department has partially completed its planned action.

The department released the Next Generation PTV app in October 2020.

Prior to October 2020, digital accessibility features were offered in a separate app called PTV ScreenReader. PTV ScreenReader was an accessible, 'light' version of the legacy PTV app and was decommissioned in 2021.

The Next Generation PTV app was developed to integrate accessibility features and enable all customers to use the same app, regardless of digital accessibility requirements.

An accessible app versus an accessible journey

Our recommendation identified that passengers need to be able to identify accessible features when planning their journeys. These include:

- if a stop is level access or not
- if the scheduled tram is low floor or high floor.

This is important as passengers who need an accessible low-floor tram will typically wait longer for a tram than a passenger who can catch a high-floor tram.

Our recommendation did not talk about making sure the app itself was accessible, such as for people who rely on screen readers.

But the department's response focused on improvements to the accessibility of the app rather than the information available about accessible stops and trams. The means the action partially addressed the issues our 2020 audit recommendation identified.

Compliance with digital accessibility standards

The Web Content Accessibility Guidelines (WCAG) are a set of international standards that define how to make web content more accessible to people with disability.

The Next Generation PTV app complies with the WCAG 2.0 Level AA standard. At the time the app was released, this was the minimum accessibility requirement for Victorian Government content.

The Victorian Government's minimum digital accessibility requirements have since been updated. It now requires that all government digital content and websites must, at a minimum, meet the current WCAG version Level AA. As of January 2025, this is WCAG 2.2.

The department provided a technical evaluation report and supporting documentation for the Next Generation PTV app. It showed that it meets 48 out of 50 WCAG 2.1 AA success criteria. This means it does not fully comply with the WCAG 2.1 AA standard and does not meet the government's current minimum WCAG 2.2 AA requirement.

The department has included the remaining 2 success criteria in a backlog for future development and plans to address these in late 2025.

Real-time travel and disruption information

The PTV app enables live vehicle tracking and provides real-time travel and disruption information. This allows users to view how far away a service is and receive timely information about service disruptions.

Information about accessible services

A person who needs to plan an accessible journey cannot rely on being able to catch the next tram that arrives or that the nearest stop is level. This means it is important that the department's PTV app shows if a scheduled service is low floor or not.

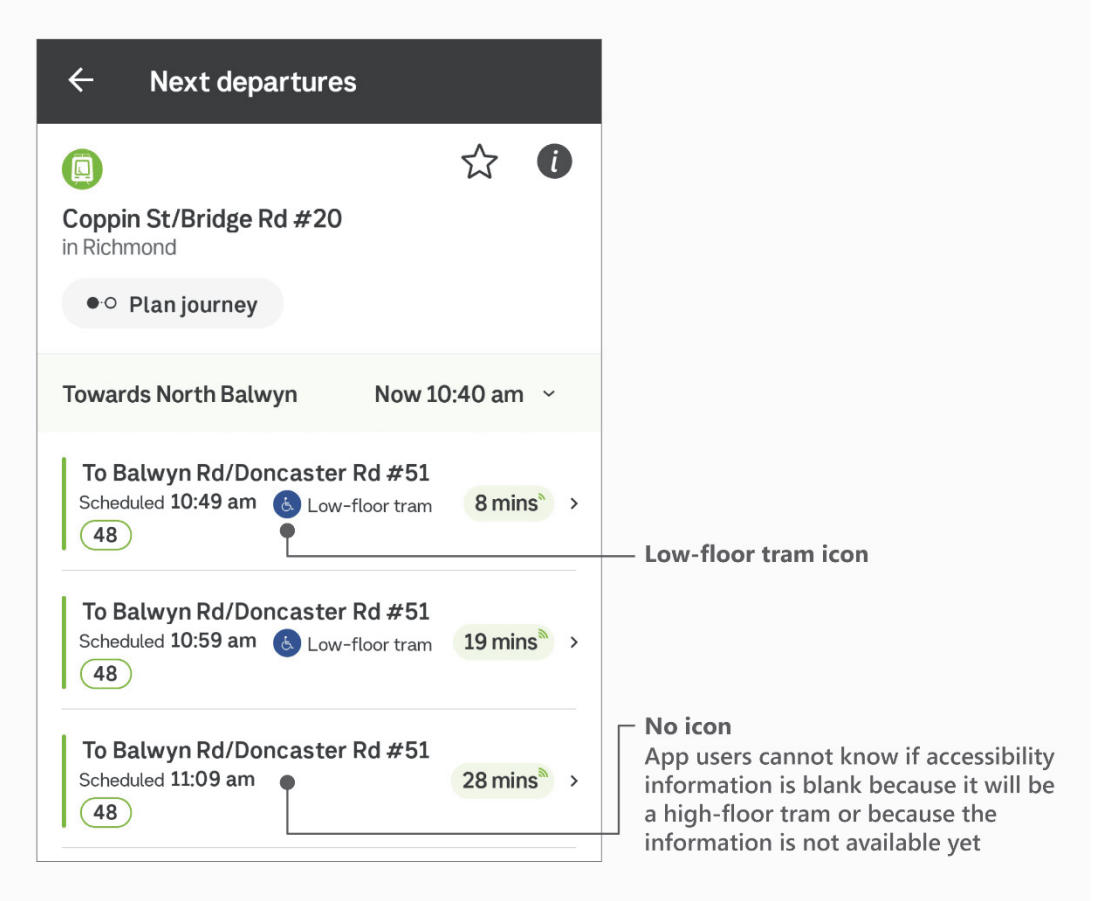
This allows tram users to avoid long wait times by timing their arrival at a level-access tram stop for when the next low-floor tram is due to depart.

In 2020 when the Next Generation PTV app was released and the department reported its action as complete, it was not possible to view if a tram was low floor or high floor. In July 2022, the department updated the app to allow users to view if an approaching tram is low floor and filter by accessible services.

While a low-floor tram is indicated by a blue wheelchair icon and accompanying text, a high-floor tram is only indicated by the lack of a wheelchair symbol (Figure 8).

Due to data limitations, a user still cannot view if a tram several hours into the future will be accessible or not. Because the PTV app does not use an icon or label to indicate a high-floor tram, app users cannot know if the accessibility information for a future service is blank because it will be a high-floor tram, or because the information is not available yet.

Figure 8: Screenshot from the PTV app



Notes: Screenshot taken on 16 September 2025 at 10.40 am. The user selected stop number 20 Coppin St/Bridge Rd in Richmond and viewed upcoming services towards North Balwyn.
Source: PTV app and VAGO.

Reliability of journey-planning features

Our testing showed that accessibility information is included in the PTV app's journey-planning features, but this information is not always reliable or clearly presented.

PTV app users can turn on an accessibility filter to display only low-floor trams and level-access stops. When used with the journey-planning feature, this allows app users to view services that are a combination of low-floor trams and level-access stops.

Information about if a scheduled tram is low floor cannot be viewed more than 2 hours into the future due to data limitations. This means a person with a mobility restriction cannot plan an accessible tram journey more than 2 hours in advance.

Our testing also identified several glitches in which the PTV app would sometimes display inaccessible trams or routes even when accessibility filters were turned on.

The department told us this is a known issue that occurs due to operational data constraints. The department plans to address the issue through improving data capability but did not provide a timeframe for when it would be resolved.

Working well: Information sharing with third-party apps

Since December 2023, the department has made real-time data for tram services openly available to third-party app developers. This allows third-party apps such as Google Maps and Apple Maps to provide more detailed and accurate journey-planning features.

In March 2025, the department made changes to its open data schedule dataset to provide more accurate information about tram services that terminate early.

These changes improve the accuracy of third-party journey-planning tools and give passengers more information to help plan a tram journey.

6.
Appendices

There are 5 appendices covering responses from reviewed agencies, information about how we perform our work and the actions' status.

Appendix A:
Submissions and comments

We have consulted with Department of Transport and Planning and Yarra Trams, and we considered their views when reaching our review conclusions. As required by the *Audit Act 1994*, we gave a draft copy of this report, or relevant extracts, to those agencies and asked for their submissions and comments.

Responsibility for the accuracy, fairness and balance of those comments rests solely with the relevant agency head.

Responses received

Response provided by the Secretary, Department of Transport and Planning

Department of Transport and Planning

GPO Box 2392
Melbourne, Victoria 3001 Australia

Ref: BSEC-1-25-4766

Mr Andrew Greaves
Auditor-General of Victoria
Victorian Auditor-General's Office
E: [redacted]

Dear Mr Greaves

Victorian Auditor-General's Office - Accessibility of tram services: follow up - Proposed report

Thank you for your letter of 20 October 2025 inviting the Department of Transport and Planning (the Department) to respond to the *Accessibility of tram services: follow up* proposed report (the Report).

Melbourne's tram network is one of the largest and oldest in the world, spanning more than 250 kilometres and 1,600 stops. Only slightly less than a quarter of Melbourne's tram network is separated from traffic; while the remainder, over 75 per cent, runs along busy, narrow urban streets where it shares limited road space with pedestrians, cyclists, private cars, and freight. Modernising a network of this scale and heritage is a major challenge, particularly in delivering level-access stops across complex urban environments.

The Department is making strong progress and has taken a co-design approach with the disability community so that our strategies and frameworks ensure accessibility is built into every project from design through delivery.

The Department has delivered 200 low-floor trams and is delivering 100 Next Generation Trams, the most accessible trams to enter service in Victoria. The Next Generation Trams feature dedicated spaces for wheelchairs and mobility aids, priority seating, hearing loops, and a new low-floor design for easier boarding. The ongoing rollout of this rollingstock is steadily expanding the number of accessible services, complimented by works to deliver new level-access stops improving safety, comfort and connectivity across the network.

While funding must be balanced across safety, reliability and growth priorities, accessibility remains central to our investment planning. Since the 2020 audit, the Department has implemented and continues to deliver against the actions it committed to in response. These actions have strengthened our planning, governance, and program oversight, ensuring that accessibility remains embedded in every stage of decision-making and delivery.

The Department continues to work closely with the disability community to ensure that co-design processes and ongoing engagement with advocates are helping to build a tram network that is modern, inclusive and meets the needs of all Victorians.

Thank you for the opportunity to comment on the Report.

[redacted]

Jeroen Weimar
Secretary

Date: 31 October 2025

Response provided by the Chief Executive Officer, Yarra Trams

3 November 2025

Andrew Greaves
Auditor-General
VAGO
Level 31, 35 Collins Street
Melbourne 3000

Dear Mr Greaves,

Subject: Proposed Report: Accessibility of Tram Services: follow up

I hope this letter finds you well.

Thank you for sharing the proposed report and dashboard for the Accessibility of Tram Services follow up engagement, and the opportunity to review and respond to the proposed report.

Yarra Trams has reviewed the proposed materials and has no feedback to provide at this stage. We remain committed to all efforts aimed at uplifting the accessibility of the tram network and are proud to partner with the Department of Transport and Planning in their ongoing work to create a more inclusive and accessible transport system for all users.

We appreciate the opportunity to contribute to this important audit and look forward to continued collaboration and a successful engagement outcome.

Yours sincerely,

Vincent Destot
Chief Executive Officer

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Appendix B:
Abbreviations, acronyms and glossary

Abbreviations

We use the following abbreviations in this report:

Abbreviation	Full spelling
app	mobile application
the department	Department of Transport and Planning (previously the Department of Transport)

Acronyms

We use the following acronyms in this report:

Acronym	Full spelling
DSAPT	*Disability Standards for Accessible Public Transport 2002*
PTV	Public Transport Victoria
VAGO	Victorian Auditor-General's Office
WCAG	Web Content Accessibility Guidelines

Glossary

The following terms are included in or relevant to this report

Term	Explanation
Level of assurance	This is a measure of the confidence we have in our conclusions. The quality and quantity of evidence we obtain affects our level of assurance. We design our work programs with the information needs of our report users in mind. We consider if we need to provide them with reasonable assurance or if a lower level of assurance may be appropriate.
Limited assurance	We obtain less assurance when we rely primarily on an agency's representations and other evidence generated by that agency. However, we aim to have enough confidence in our conclusion for it to be meaningful. We call these types of engagements **assurance reviews** and typically express our opinions in negative terms. For example, 'nothing has come to our attention to indicate there is a problem'. See our assurance services fact sheet for more information.
Reasonable assurance	We achieve reasonable assurance by obtaining and verifying direct evidence from a variety of internal and external sources about an agency's performance. This enables us to draw a conclusion against an objective with a high level of assurance. We call these **performance audits**. See our assurance services fact sheet for more information.

Appendix C:
Review scope and method

Scope of this review

Who we examined

We examined the following agencies:

Agency	Their key responsibilities
Department of Transport and Planning	Planning, building, operating and maintaining Victoria's transport and planning system. This includes contractual and operational oversight of the various public transport operators in the state, including Yarra Trams.
Yarra Trams	Day to-day operations, management and maintenance of the tram network.

Our review objective

Has the Department of Transport and Planning implemented the action plan it developed to respond to the 10 recommendations in VAGO's 2020 audit *Accessibility of Tram Services* and improved the tram network's compliance with DSAPT?

What we examined

We examined:

- progress against the actions in the department's action plan
- how the actions respond to the underlying performance issues our 2020 audit recommendations sought to address
- progress in delivering a DSAPT-compliant tram network.

Conducting this review

Assessing performance

The criteria for this engagement are the actions in the department's action plan responding to the 2020 audit.

Our methods

As part of the review we:

- reviewed documents
- interviewed representatives from DTP
- observed demonstrations of the DSAPT compliance database and prioritisation tool.

Level of assurance

In an assurance review, we primarily rely on the agency's representations and internally generated information to form our conclusions. By contrast, in a performance audit, we typically gather evidence from an array of internal and external sources, which we analyse and substantiate using various methods. Therefore, an assurance review obtains a lower level of assurance than a performance audit (meaning we have slightly less confidence in the accuracy of our conclusion).

Compliance

We conducted our review in accordance with the *Audit Act 1994* and ASAE 3500 Performance Engagements to obtain limited assurance to provide a basis for our conclusion.

We complied with the independence and other relevant ethical requirements related to assurance engagements.

We also provided a copy of the report to the Department of Premier and Cabinet and the Department of Treasury and Finance.

Cost and time

The full cost of the review and preparation of this report was $695,471.

The duration of the review was 9 months from initiation to tabling.

Appendix D:
Recommendations and actions' status

The following table lists our 2020 audit recommendations, the department's action plan and our conclusions against the department's actions.

Figure D1: Our 2020 audit recommendations and actions' status

We recommended that the department:		Agency response	Agreed action	Does the action address the issue?	Due	Status	
1	seeks comprehensive legal advice and explicitly advises the government on the implications of not meeting legislative requirements and identifies any further human rights or other discriminatory breaches that will likely occur if tangible action is not taken to meet the compliance requirements and deadlines specified by the relevant legislation.	Accepted	Legal advice has been received, and the Minister will be briefed in relation to this matter.	Partially	31 Dec 2020	Complete	
2	upgrades the tram compliance database's capability to ensure that it: • captures all accessibility features required by the *Disability Standards for Accessible Public Transport 2002* to give the Department of Transport an accurate percentage of total network compliance • can produce individual compliance reports for each tram stop • does not include decommissioned stops.	Accepted in principle	Enhancements to the reporting from the Department's DSAPT compliance database were initiated in early 2020 and are expected to be completed by the end of the calendar year. Whilst the database has limitations in capturing all of the accessibility features required by the current DSAPT, upgrades will be considered as a future enhancement of our compliance database to align with any changes to the current DSAPT that result from the current modernisation process underway.	No	31 Dec 2020	On track (noting action is still in progress)	
3	conducts a: • formal gap analysis review of what is	Accepted in principle	A strategy to address existing, already identified, non-compliance will be included as part of the	No	30 Jun 2022	Not complete	

We recommended that the department:		Agency response	Agreed action	Does the action address the issue?	Due	Status	
	required on the tram network to meet *Disability Standards for Accessible Public Transport 2002* compliance for infrastructure and rolling stock and explicitly advises the government on the number, locations and estimated cost to rectify all tram infrastructure by 31 December 2022 • technical review to inform engineering and cost estimates arising from the gap analysis.		Tram Stop Rollout Strategy, however the identification of non-compliance not yet identified does not sit within this scope. Therefore, any further existing non-compliance will need to be identified as part of a separate process which will require funding The Strategic Adviser and Design Adviser appointed as part of the Stop Rollout Strategy will be assessing the scope of technical engineering required to deliver DSAPT compliance across the whole network, and high-level estimates of the cost of implementation. The Tram Stop Rollout Strategy will provide an order of magnitude costs to complete network wide upgrades, based on different delivery approaches. However, detailed engineering assessment will not form part of the scope of this work. Engineering assessments will be completed as part of any funded development for tram stop upgrades to be delivered.				
4	aligns funding for *Disability Standards for Accessible Public Transport 2002* compliance works with planned, funded renewal works under the current tram franchise agreement and beyond to better support opportunities for concurrent works and focus on maximising savings, avoiding costs and minimising network disruption.	Accepted	Aligning accessibility upgrade works with planned, funded renewals is currently a process the Department has been improving. The Tram Stop Rollout Strategy will also consider how best to align these works.	No	30 Jun 2021	Not complete	
5	within the limits of available operational data, publishes and maintains an interactive map of the network or a journey planner tool showing accessibility by stop, route and scheduled service.	Accepted	The Department of Transport's digital journey planning tools are currently undergoing a major uplift. In late 2020, the fully accessible next generation PTV app will be released, granting our accessibility community access to the same journey planning features as our other customers, including real time travel and disruption information.	Partially	31 Dec 2020	Partially complete	

We recommended that the department:		Agency response	Agreed action	Does the action address the issue?	Due	Status
			Accessibility is and will continue to be shown within the limits of current operational data.			
6	commissions a comprehensive cost-benefit analysis into the full rectification or rationalisation of all tram stops that need to be upgraded to *Disability Standards for Accessible Public Transport 2002* accessibility standards. In addition to identifying construction costs, the analysis should consider other potential societal benefits from the investment, such as: • stimulatory effect on the labour market • improved passenger and road network safety • improved tram speeds • greater participation of mobility-challenged people in the economy and community • other externalities such as congestion and pollution.	Partially accepted	Whilst an extensive cost benefit analysis across all tram stops requiring upgrades is not currently in scope of the Tram Stop Rollout Strategy, the Department acknowledges it has a legal obligation to provide accessibility across the tram network. Nevertheless, the Department is refining our current stop prioritisation framework to identify what stops on the network should be upgraded first and then continuing prioritisation, based on a range of factors. The Tram Stop Rollout Strategy will support determining any rationalisation requirements of existing tram stop locations. As part of the Business Case submissions to the Government to fund the upgrade of network infrastructure to comply with DSAPT standards, the Department is required to include a cost benefit analysis that aligns with the Department of Treasure and Finance's guidelines. The guidelines require the Department to demonstrate the impact of the investment on the safety of passengers/network, network performance, socio economic and environmental benefits.	No	Ongoing	Complete
7	further develops the overarching plan for the tram network and future planning to more explicitly link to *Disability Standards for Accessible Public Transport 2002* compliance dates and accessibility outcomes by: • specifying goals and time frames and assigning responsibility to relevant areas within	Accepted	The Tram Stop Rollout Strategy will specify goals and timeframes within relevant areas of the Department and Yarra Trams. The prioritisation framework includes consideration of low floor rolling stock on a given corridor in determining the level of priority of a given stop in being upgraded to provide level access. There are numerous considerations required when delivering rolling stock across the network including depot capacity and locations. In addition to accessibility, these considerations	No	31 Dec 2021	Partially complete

We recommended that the department:		Agency response	Agreed action	Does the action address the issue?	Due	Status
	the department and/or Yarra Trams • requiring that the rollout of low-floor trams and the delivery of level-access tram stop upgrades is matched as far as possible to provide improved accessibility outcomes on routes. • seeking expert input and broader stakeholder views on its content.		must be included in the timing and delivery of both rolling stock and of level-access tram stop upgrades. This is matched as far as possible and we are looking to improve on this further. We are currently engaged with a range of stakeholders on a Lessons Learned process, which will feed into the Tram Stop Rollout Strategy—this is the first step of our engagement with key stakeholders which will include councils and advocacy groups.			
8	enhances the existing tram Stop Prioritisation Framework by: • ensuring it is supported by accurate and complete data on patronage, stop locations and other relevant demographics • setting a regular update and review schedule • specifically identifying which stops should be upgraded or rationalised and by when • identifying priority corridors for future tram infrastructure upgrades to help streamline stakeholder consultation and approvals.	Accepted	The existing tram stop prioritisation framework is undergoing updates as part of the Tram Stop Rollout Strategy. Additional refinement and updates of the prioritisation framework, including application to the entire tram network, will occur as part of finalising the strategy.	No	31 Dec 2021	Complete
9	further develops the tram-specific elements of the rolling stock plan and strategy so that it: • explicitly links any further low-floor tram procurement to rectification of the tram network's infrastructure • standardises and maintains up to date	Accepted	The Victorian Rolling Stock Strategy covers all rolling stock requirements across Victoria's metropolitan, regional and tram networks. Whilst a tram-specific rolling stock plan is not in place, the Tram Stop Rollout Strategy will deliver the plan for the upgrade of the infrastructure. Rolling stock delivery and stop upgrades/improvements will be integrated and continues to be	Partially	31 Dec 2021	Partially complete

We recommended that the department:		Agency response	Agreed action	Does the action address the issue?	Due	Status
	tram vehicle requirements to meet Melbourne's legacy network issues to reduce the need for extensive design work and market engagement each time a new vehicle is required.		matched for timing of delivery as best as possible. There is already a high level of standardisation of rolling stock vehicles for the Melbourne tram network, and the Department, together with the franchisee, continues to review and update standards in line with changes to the network, operations, and industry best practice. As part of a rolling stock procurement there is extensive assessment of both existing international vehicle platforms in the market and market ability to deliver a vehicle that meets the Melbourne network's requirements to ensure passengers receive the best possible performance and value for money outcomes. This is also in line with the State's procurement policies and the Department's due diligence requirements for any proposed new procurement.			
10	researches and develops new approaches to the design and delivery of accessible tram stops by: • identifying any previous rollout delays caused by local statutory planning approaches and advising the government on possible planning scheme amendments to streamline and accelerate approvals • where funded, forecasting potential construction corridors along tram routes to allow for early stakeholder consultation and seeking of advance statutory approvals or heritage assessments • developing a range of template designs for tram level-access	Accepted	The Tram Stop Rollout Strategy is undertaking workshops that will identify if any local planning approvals have had an impact to the process in previous projects and will consider any planning scheme amendments that may be appropriate. The Department undertakes extensive and broad stakeholder consultation for individual stops that are funded for development and subsequent delivery. The Tram Stop Rollout Strategy is developing level access design options which will include costings and timeframes to deliver each option. Options are being explored as part of the Strategy development for various delivery mechanisms including engaging with other delivery agencies on practices and process to provide cost and time effective solutions.	Partially	31 Dec 2021	Complete

We recommended that the department:	Agency response	Agreed action	Does the action address the issue?	Due	Status
stops that focus on quick delivery and lower costs • working with other infrastructure delivery agencies (such as the Major Transport Infrastructure Authority) to share and develop innovative infrastructure practices to expedite delivery and reduce prices for the rollout of tram stop infrastructure (by focusing on standardised designs, as well as the potential for modular assembly and prefabrication of tram stop components.					

Note: Actions in response to recommendation 2 are ongoing.
Source: VAGO.

Appendix E:
Data analytics methods and other technical information

Data analysis

Purpose

We analysed tram service data from 2023–24. Our analysis focused on two key attributes of accessible tram services: level-access stops and low-floor trams.

We looked to answer questions such as:

- How often did tram services offer these two accessibility features?
- Which routes offered these two accessibility features?
- Which areas of the tram network were usable for passengers with mobility restrictions?
- How did passenger experience differ for those who need a low-floor tram?

Data sources

Our analysis relied on 4 key data sources. The Department of Transport and Planning provided 3 of these datasets. Yarra Trams provided the remaining dataset.

We enriched our analysis with 3 supplementary data sources. These allowed us to:

- identify recently upgraded tram stops
- validate stop names and locations
- add extra geospatial attributes to the dataset.

Figure E1: Key data sources

Dataset	Description	Source	Period
Timetable	• Timestamped record of each tram as it travelled across the network • Each record represents a tram passing an automated vehicle monitoring (AVM) beacon, while travelling a specified route • Dataset does not include details of individual tram stops –only AVM points • Dataset does not include detail about tram vehicle used	Department of Transport and Planning	2023–24
Service runs	• Record of the vehicle used for each service run that occurred • Dataset does not include timestamps at each tram stop or AVM—only the start and end times of the service run • Used to identify which timetable records used low-floor trams	Yarra Trams	2023–24
Tram stops	• List of tram stops in the Melbourne tram network • Dataset includes detail about stop accessibility • Dataset includes detail about the AVMs that come before and after each tram stop • Used to map timetable records to individual tram stops	Department of Transport and Planning	As at December 2024
Patronage	• Estimates of passenger volumes by day of week and time of day • Used to improve accuracy of the passenger simulation	Department of Transport and Planning	2023–24

Source: VAGO.

Figure E2: Supplementary data sources

Dataset	Description	Source	Period
Upgraded stops	• List of tram stops that have been upgraded to level access, with date of upgrade • Used to identify stops that were upgraded recently	Department of Transport and Planning	February 2014–July 2024
Public transport stops	• Open geodata for train, tram and bus stops in Victoria • Used to validate tram stop names and locations	Transport Victoria	As at 28 April 2025
Boundaries	• Open geodata for suburb and postcode boundaries in Australia • Used to enrich tram stop list with suburb and postcode attributes	Australian Bureau of Statistics	As at 20 July 2021

Source: VAGO.

Methodology overview

Direct calculation

Where possible, we calculated results directly from the datasets we received.

For example, we used the tram stops dataset to determine the proportion of tram stops that offered level access.

Enriched timetable

Some calculations required information from more than one dataset.

We combined the timetable, service run and tram stop datasets to create an enriched timetable. Records in this dataset represent each time a tram departed from a tram stop in the 2023–24 financial year.

Each record in this dataset includes 6 critical attributes:

- Departure date
- Departure time
- Tram stop
- Level-access stop indicator
- Tram route and direction of travel
- Low-floor tram indicator.

We used this dataset to calculate two measures of tram network accessibility:

- Proportion of tram services that used low-floor trams
- Proportion of tram services that had both a level-access stop and a low-floor tram.

Passenger simulation

Some calculations required information that was not available in any dataset.

For example, when a passenger is unable to board a tram because it has a high floor, they may need to wait for the next low-floor tram to arrive. No record of this delay exists because their journey hasn't started yet. To represent the experience of passengers who need a low-floor tram, we ran a simulation across the enriched timetable.

We simulated more than 8 million passenger arrivals across 461 level-access tram stops. For each simulated passenger, we checked whether the first tram to arrive was low-floor or high-floor. If the first tram was high-floor, we then calculated how much longer the passenger would need to wait for a low-floor tram.

We used the simulation to calculate measures of passenger experience, such as:

- Proportion of passengers who waited no extra time for a low-floor tram
- Additional wait time for a low-floor tram on a typical day (median result)
- Additional wait time for a low-floor tram on a bad day (95th percentile result).

Enriched tram stop list

Lastly, we enriched the tram stop dataset for use in our interactive map.

To accomplish this, we combined the tram stop, upgraded stop, public transport stop and boundary datasets.

Each record in the dataset includes 7 attributes to support visualisation:

- Validated stop name
- Validated stop location (latitude/longitude)
- Suburb
- Council
- Postcode
- Level-access stop indicator
- Recently upgraded stop indicator.

Enriched timetable methodology

Dataset profiles

This analysis combines 3 datasets with varying granularity and dimensionality.

Figure E3: Datasets used to generate the enriched timetable

Dataset	Size and granularity	Key dimensions
Timetable	• 29.5 million records • One record per tram passing an AVM beacon	• Date • Time • AVM point • Tram route/direction • Status
Service runs	• 2.1 million records • One record per tram route service run	• Date • Service run start time • Service run end time • AVM starting point • AVM ending point • Tram route/direction • Tram class
Tram stops	• 1,643 records • One record per tram stop	• Tram stop type • Tram routes serviced • Direction of service • Nearest AVM point before each stop • Nearest AVM point after each stop

Source: VAGO.

Timetable data cleaning

We used R to:

- Remove non-operational services (such as vehicles moving to/from the tram depot)
- Remove out-of-scope City Circle services
- Remove services with no start and end time
- Assimilate route variations to their parent route (for example, route 57a becomes route 57)
- Determine the start and end time of each service run, to match the grain of the service run dataset.

Service run data cleaning

We used R to:

- Remove runs with no start and end time
- Remove out-of-scope City Circle service runs
- Classify each service run as using a low-floor or high-floor tram.

Tram stop data cleaning

We found that about 7 per cent of AVM point or route combinations found in the tram stop data had no matches in the timetable data. After consulting with the auditees, we applied 147 AVM point corrections to improve alignment between the datasets.

We used M to:

- Remove inactive tram stops
- Remove out-of-scope City Circle tram stops
- Classify each stop as level access or non-level access
- Change the dataset granularity to one record per stop **per route**.

Merging datasets

To determine the type of tram associated with each timetable record, we merged the timetable and service run datasets.

We used R to match records by date, route, direction and service run start/end times. More than 99.9 per cent of timetable records had a matching service run record. We removed the unmatched records.

To translate from AVM points to tram stops, we merged with the tram stop dataset.

We used R to match records by AVM point, route and direction. More than 96.5 per cent of timetable records had at least one matching tram stop record. We found that the unmatched records were from the start or end of a route, such as when a tram passes a monitoring point while changing directions. Vehicles would not be carrying passengers at these times, so we removed the unmatched records.

Records in the resulting dataset represent each time a tram departed from a tram stop in 2023–24.

Assumptions and limitations

- When we conducted this analysis, the most recent complete financial year was 1 July 2023–30 June 2024.
- We excluded route 35 (City Circle) from analysis. The City Circle is a heritage route providing primarily tourist services.
- The datasets we used reflect the actual tram services that occurred. This may differ from the scheduled tram service and vehicle. Our results include the impact of network disruptions such as major events, rallies, service obstructions, infrastructure faults and asset maintenance.
- Four tram stops were upgraded to level access during 2023–24. We modelled these stops as though they provided level access for the full year.
- Twelve tram stops on Latrobe Street were upgraded to level access in July 2024. This is outside 2023–24, so we treated these stops as non-level access. For current information about level-access tram stops, refer to the Transport Victoria public transport journey planner.

Passenger simulation methodology

Dataset profiles

This analysis relies on two datasets. The first is the result of the merge described above. The second is the patronage dataset supplied by the Department of Transport and Planning.

Figure E4: Datasets used in the passenger simulation

Dataset	Size and granularity	Key dimensions
Enriched timetable	• 74.7 million records • One record per tram departing from a tram stop	• Departure date • Departure time • Tram stop • Level-access stop indicator • Tram route and direction of travel • Low-floor tram indicator
Patronage	• 246,000 records • One record per month, route, day type, day of week and 15-minute time of day interval	• Day type (weekday, weekend, public holiday or school holiday) • Hour • Minute group (15-minute intervals)

Source: VAGO.

Patronage data cleaning

To improve the accuracy of the passenger simulation, we generated time-of-day patronage distributions for weekdays and weekends. We excluded public holidays, school holidays and Sundays from these distributions.

We also generated day-of-week patronage distributions for weekdays and weekends. We excluded public holidays from these distributions.

Simulating passengers

At each level-access tram stop on each tram route, we generated 8,000 simulated passenger arrival times.

To avoid simulating a passenger at a stop with no active tram services, we restricted the arrival times to fall between 6 am and 11 pm. Within those hours, we weighted the arrivals using the patronage distributions described above.

We also excluded tram routes with less than one per cent low-floor tram service, to avoid skewing the wait time results.

Wait time calculation

To determine the first tram that would arrive for each passenger, we merged the passenger arrival times with the enriched timetable dataset.

We used R to match records by stop, route and direction, then found the minimum duration between passenger arrival time and service departure time. This represents the first tram available to the passenger.

We then repeated the process, but with the timetable dataset restricted to low-floor tram services. The result represents the first low-floor tram available to the passenger.

When these service departure times are the same, it means that the first tram to arrive was low-floor. In this case, a passenger with restricted mobility had no additional wait time.

When these service departure times are different, it means that the first tram to arrive was high-floor. In this case, a passenger with restricted mobility was unable to board and needed to wait for a low-floor tram. We calculate their additional wait time as the difference between the two service departure times.

We removed simulated passengers with extremely long wait times (over 8 hours). This ensures that passengers who were inadvertently simulated at a stop that was temporarily closed will not skew the wait time results.

From this, we summarised the simulation results by route and stop, by route, and for the whole tram network. The passenger experience measures we calculated were:

- additional wait time for a low-floor tram on a typical day (median result)
- additional wait time for a low-floor tram on a bad day (95th percentile result)
- proportion of passengers who waited no extra time for a low-floor tram
- proportion of passengers who waited 0–10 minutes extra
- proportion of passengers who waited 10–20 minutes extra
- proportion of passengers who waited 20–30 minutes extra
- proportion of passengers who waited more than 30 minutes extra.

Assumptions and limitations

- The simulation assumes that passengers will not try to catch a low-floor tram on a route that does not offer low-floor tram service.
- The simulation assumes that a passenger will choose to wait for a low-floor tram, rather than seeking an alternative mode of transport or abandoning their journey.
- The simulation does not account for passengers who use journey planning tools or apps to identify low-floor tram services. While this information may be made available up to a day in advance, we wanted to capture the impact of needing to take a tram that is earlier or later than the passenger would prefer.
- The simulation does not account for times when a tram is too crowded for new passengers to board.
- The simulation does not differentiate between the reasons why a passenger might need to wait for a low-floor tram. In some cases, the simulated passenger might be waiting because several trams in a row were high-floor. In other cases, the simulated passenger might be waiting because there was a network disruption, and no trams can get to that stop.

Auditor-General's reports tabled in 2025–26

Report title	Tabled
Delivering Savings Under the COVID Debt Repayment Plan (2025–26: 1)	July 2025
Planned Surgery in Victoria (2025–26: 2)	August 2025
Financial Management of Local Councils (2025–26: 3)	August 2025
Responses to Performance Engagement Recommendations: Annual Status Update 2025 (2025–26: 4)	September 2025
Relief and Recovery Funding for the 2022 Floods (2025–26: 5)	October 2025
Cybersecurity of IT Servers (2025–26: 6)	October 2025
Accessibility of Tram Services: Follow-up (2025–26: 7)	November 2025

All reports are available for download in PDF and HTML format on our website at www.audit.vic.gov.au.

Our role and contact details

The Auditor-General's role

For information about the Auditor-General's role and VAGO's work, please see our online fact sheet About VAGO.

Our assurance services

Our online fact sheet Our assurance services details the nature and levels of assurance that we provide to Parliament and public sector agencies through our work program.

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