

From: do-not-reply@mail.parliament.vic.gov.au
To: [climateresilience](#)
Subject: PUBLIC Submission to Inquiry into Climate Resilience
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Organisation: Infrastructure Victoria

Name: Infrastructure Victoria

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Infrastructure resilience and built environment:

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12 June 2024

Legislative Council
Environment and Planning Committee
Parliament of Victoria

Submission on the Inquiry into Climate Resilience

I welcome this opportunity to provide Infrastructure Victoria's submission on the *Inquiry into Climate Resilience* (the Inquiry).

Infrastructure Victoria is an independent advisory body established by the Infrastructure Victoria Act 2015, and has the functions of:

- preparing a 30-year infrastructure strategy for Victoria, which we review and update every 3 to 5 years
- advising the Victorian Government on specific infrastructure matters
- publishing research on infrastructure-related issues.

In this submission we respond to elements of the terms of reference about the main risks facing Victoria's built environment and infrastructure from climate change and introduce some of our recent work on this topic. We also list relevant recommendations from [Victoria's infrastructure strategy 2021–2051](#).

In April 2024, Infrastructure Victoria published a report on adapting Victoria's infrastructure to climate change, [Weathering the Storm](#), and its supporting technical reports. We published these reports on our website at www.infrastructurevictoria.com.au. We also attach a copy of these reports for the Inquiry's consideration.

In the main report, we recommend changes for governments to better assess the benefits of adapting infrastructure to climate change and improve the resilience of infrastructure to climate-related risks. This includes better preparing for and managing more extreme climate change risks, identifying the barriers to adapting infrastructure, including the built environment.

Risks facing Victoria's built environment

The Inquiry will consider the main risks facing Victoria's built environment and infrastructure from climate change and the impact these will have on the people of Victoria.

Our report identifies that Victoria's infrastructure was not built for frequent and severe events. Some infrastructure was built in locations now more exposed to climate change.

Our research shows how to assess the vulnerability of infrastructure to climate change and compare different adaptive solutions. It identifies over 40 high-level climate-related risks to Victoria's infrastructure. We conducted detailed geospatial analysis of climate exposure in specific infrastructure sectors: road networks, electricity networks, and public hospital buildings.

Preparing for the impacts from climate change and mitigating impacts

The Inquiry will identify how the Victorian Government is preparing for and mitigating the impacts of climate change on the built environment and infrastructure.

Victoria spends little on adapting infrastructure. Our research found that the benefits of investing in more resilient infrastructure now can outweigh the costs of repairing and rebuilding it after extreme weather events and reduce harm to Victorians.

Actions to adapt infrastructure do not have to be expensive. We conducted 3 cost-benefit analyses of specific adaptation measures to demonstrate that actions can generate a positive return on investment. These actions can reduce either the exposure or the severity of events on infrastructure. Possible actions include:

- changing the type and frequency of maintenance activities
- building infrastructure in safer, less hazardous locations
- retrofitting infrastructure to reduce the risk of damage
- building infrastructure using materials or designs that minimise the impacts of climate risks.

For example, governments can manage vegetation to mitigate flood risks or the chance of trees falling on power lines. This causes less damage, and communities and businesses experience less harm, fewer costs, and can return to normal faster after a serious event.

Governments can coordinate and sequence their implementation of adaptation measures to create better resilience outcomes. Our work provides a toolkit to help build the case for investment in adapting infrastructure to a changing climate, where it can demonstrate a net benefit.

We also found that adaptation is not one-size-fits-all. Infrastructure managers should identify assets and locations that might be particularly vulnerable and assess their climate risks. Conducting climate risk assessments allows infrastructure managers to make informed decisions about adaptation investments that get the best returns. Local area analysis can also be used to avoid unintended negative consequences. We account for these complexities in our research.

Infrastructure Victoria has also published a report on [Opportunities to reduce greenhouse gas emissions of infrastructure](#). This report explains how the Victorian Government can update policies, guidelines and procedures to make carbon emissions count in infrastructure decision-making. This includes decarbonising infrastructure in planning, design, construction, maintenance and at the end-of-life of Victoria's infrastructure.

Barriers to upgrading infrastructure

Victorian Government agencies and infrastructure owners are at different stages in adapting to a changing climate. We talked to Victorian Government infrastructure managers to identify barriers to adaptation action. The barriers include:

- building the case for investing in adaptation, not just recovery
- understanding how to prioritise adaptation measures
- identifying appropriate data.

Our report makes 7 recommendations to help the Victorian Government better assess and prepare infrastructure for more frequent and severe extreme weather. These are to:

1. boost priority and oversight for infrastructure adaptation
2. coordinate and standardise climate projections
3. use asset management systems to improve resilience
4. integrate climate risk into government risk management
5. align climate and financial risks to infrastructure
6. update business case and investment guidance
7. build confidence that good adaptation measures will receive funding.

Victoria's infrastructure strategy 2021-2051

Previously, in *Victoria's infrastructure strategy 2021-2051*, we identified climate change as a long-term challenge and made recommendations to help embed resilience in Victorian communities and infrastructure. Those recommendations included:

- **Recommendation 11: Specify climate scenarios and carbon value in assessing infrastructure**

In the next year, update and expand practical instructions for government agencies on integrating climate-related risks into infrastructure assessments. This should include high, medium and low future climate change scenarios, transitional risks and valuing emission reductions.

- **Recommendation 12: Strategically review climate consequences for infrastructure**

Strategically review the climate change consequences for Victoria's infrastructure needs and priorities, beginning in November 2021 after delivering the adaptation plans under the Climate Change Act 2017.

- **Recommendation 19: Build back better after emergencies**

In the next year, consider policy changes and funding mechanisms so high priority public infrastructure destroyed by emergencies is built to a more resilient standard or in less vulnerable locations.

- **Recommendation 20: Improve critical infrastructure information flows and embed resilience**

Over the next 5 years, expand information sharing capabilities and embed resilience across and between critical infrastructure sectors and jurisdictions. Among mechanisms to achieve this, consider expanding the Victorian legislated definition of critical infrastructure beyond energy, water, and transport.

- **Recommendation 85: Improve regional telecommunications infrastructure resilience**

In the next 5 years, develop more resilient regional telecommunications infrastructure so communities can stay safe during emergencies, including better mobile coverage, back-up systems and power supply, and emergency mobile roaming.

- **Recommendation 90: Create climate-adapted facilities for rural communities**

In the next 5 years, fund local governments to plan and help deliver a network of designated, accessible climate-adapted community facilities, to manage the health impacts of extreme heat and bushfire smoke.

Infrastructure Victoria will keep working to share its knowledge of climate change risks, risk management strategies, relevant tools, and datasets to enhance adaptive action. This collaboration can help ensure that all agencies incorporate opportunities to reduce climate change risk into their infrastructure decision-making.

Thank you again for the opportunity to respond to the *Inquiry into Climate Resilience*. If you would like to discuss any of the information in Infrastructure Victoria's submission, [REDACTED]

Yours sincerely,

[REDACTED]
Dr Jonathan Spear

Chief Executive Officer

Encl.