



Snapshot

Foundations for a Stronger Tomorrow

State Infrastructure Strategy

Draft for public comment

July 2021



Foundations for a Stronger Tomorrow

Through the draft *State Infrastructure Strategy: Foundations for a Stronger Tomorrow*, Infrastructure WA provides the first ever state-wide perspective of Western Australia's infrastructure outlook for the next 20 years.

This inaugural Strategy assesses the State's economic, social, environmental and cultural potential through the prism of strategic infrastructure planning and delivery.

The Strategy addresses future challenges and opportunities, and provides recommendations to help maximise the value of every dollar spent by government on infrastructure – laying strong foundations to make Western Australia (WA) an even better place to live, invest, study and visit.

Guiding our future prosperity

Infrastructure shapes and influences every aspect of our community – from where we live to how we work, our social interactions, our economic structures and our environmental footprint. Well-planned infrastructure enables us to manage change, and ensures the essentials of life are delivered safely and reliably.

Each year, government invests billions of dollars in infrastructure to meet the needs of the community, economy and environment. This investment is made in new and existing infrastructure that will serve us for decades to come, even when society may look and operate quite differently to how it does today.

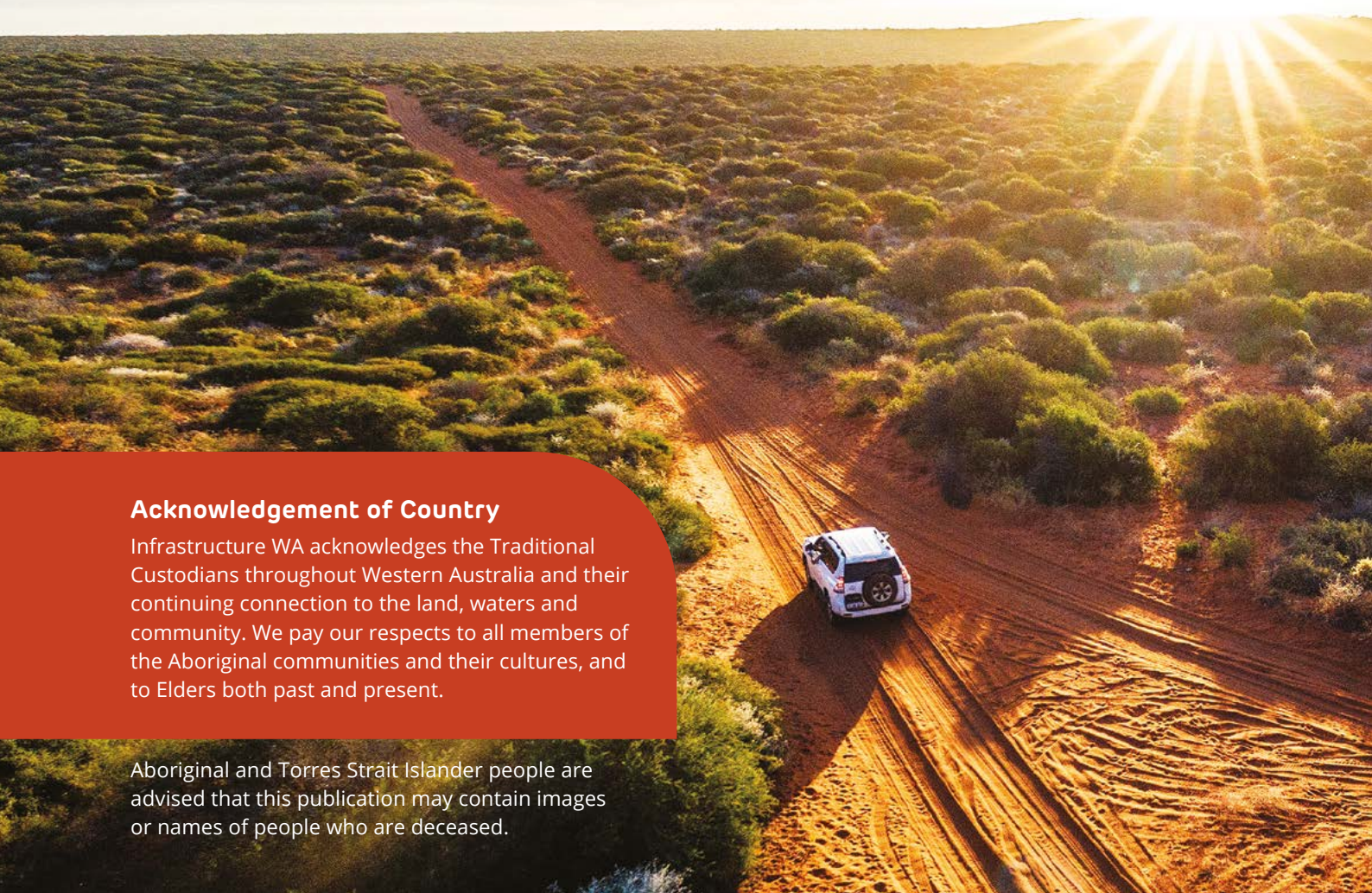
That's why government infrastructure investment needs to be considered as part of a strategic plan, with a long-term outlook. This outlook requires a shift in the way the public sector has traditionally planned, delivered, operated and maintained infrastructure.

The draft State Infrastructure Strategy provides this fresh foundation and pathway forward.

Acknowledgement of Country

Infrastructure WA acknowledges the Traditional Custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures, and to Elders both past and present.

Aboriginal and Torres Strait Islander people are advised that this publication may contain images or names of people who are deceased.



At a glance



88

recommendations

48 sector-specific

40 cross-cutting

About 75%
non-build recommendations



**Affordable and
deliverable**

State-wide coverage:



21% regional

19% metropolitan

60% state-wide



Have your say

Foundations for a Stronger Tomorrow presents the draft of what will become Western Australia's first State Infrastructure Strategy.

This draft has been developed off the back of extensive stakeholder consultation.

Infrastructure WA is now seeking further feedback on the recommendations so that the Strategy can be finalised in late-2021.

Feedback can be provided via:

- **Online form (preferred)**
consultation.infrastructure.wa.gov.au
- **Email**
iwaconsultation@infrastructure.wa.gov.au
- **Phone**
08 6552 5229
- **Mail**
Infrastructure WA, Locked Bag 3001,
WEST PERTH WA 6872
- **LinkedIn**
@InfrastructureWA

You can also attend a workshop or engagement session free of charge being organised by Infrastructure WA in each region of Western Australia. Visit the website for details and to register your interest.

www.infrastructure.wa.gov.au/state-infrastructure-strategy

Public consultation closes at 5pm, **15 September 2021**. Late submissions will not be considered.

Scan the below QR code to download the full draft State Infrastructure Strategy.



Approach

Leading with a new outlook

Infrastructure WA has brought together the development of Western Australia's long-term infrastructure needs and priorities through the State Infrastructure Strategy.

The agency was formed in July 2019, as a result of the *Infrastructure Western Australia Act 2019*, to advise and assist the Government on infrastructure matters. Infrastructure WA supports the need to deliver the right projects, in the right place, at the right time, in order to grow the economy, create jobs, and ensure Western Australia is a great place to live.

Until Infrastructure WA was established, there was no whole of government approach to the development of infrastructure that covered the entire State over a medium to long-term horizon.

Underpinned by a clear vision

To develop the Strategy, Infrastructure WA imagined what the future could look like, establishing a vision for the State in 2042.

Vision statement

Western Australia is a sought-after place to live, work, study and invest, with infrastructure improving productivity and equity, and unlocking industry growth that leverages Western Australia's advantages and diversifies its economic base.

This vision provided the context and framework to prepare the Strategy and, in particular, establish what needs to be done now and over the medium to long term, and how that could be achieved.

In 2042, the population has grown to 4.3 million¹, but we have successfully reduced net carbon emissions, and improved our environment, by capturing carbon and transitioning to green energy and zero or low emission vehicles. METRONET and the public transport system are widely used across Perth's suburbs, with patronage readings at record highs. Access to social and affordable housing is high and unemployment is low with a skilled labour force filling jobs in the green and digital economies. While the State's economy is still supported by a strong resource and energy sector, growth in other sectors has resulted in a more diversified economy bolstered by efficient supply chains.



Outlook

The dynamic rate of change and the difficulty in precisely predicting the future over a 20-year horizon poses its challenges. Infrastructure WA's approach to developing the Strategy placed a strong focus on exploring what the future might present, applying a scenario planning approach to identify a range of plausible futures. Infrastructure WA examined global megatrends and drivers, in the context of Western Australia's strengths and advantages, to identify where the State's significant opportunities lie.

These opportunities are the foundation of the Strategy's 2042 vision, driving the State towards a more diversified economy and prosperous society over the long term.

The six strategic opportunities identified are:



A global location of choice



Value-adding for strategic commodities



Approaching the technology frontier



Transitioning to net zero emissions technologies



Promoting and leveraging Aboriginal cultural heritage and enterprise



Serving the emerging consumer class

Infrastructure WA's 10 Strategy objectives, addressing the triple bottom line, have guided the development of the State Infrastructure Strategy.



Support a strong, resilient and diversified economy



Maximise regional strengths to unlock strategic opportunities for Western Australia



Support access to social services and improve Aboriginal wellbeing



Enable environmental sustainability and resilience, and address climate change



Maximise wellbeing, liveability and cultural strategic opportunities for our community



Enhance cross-government coordination and planning



Support population growth and change



Embrace technology, data and digital connectivity

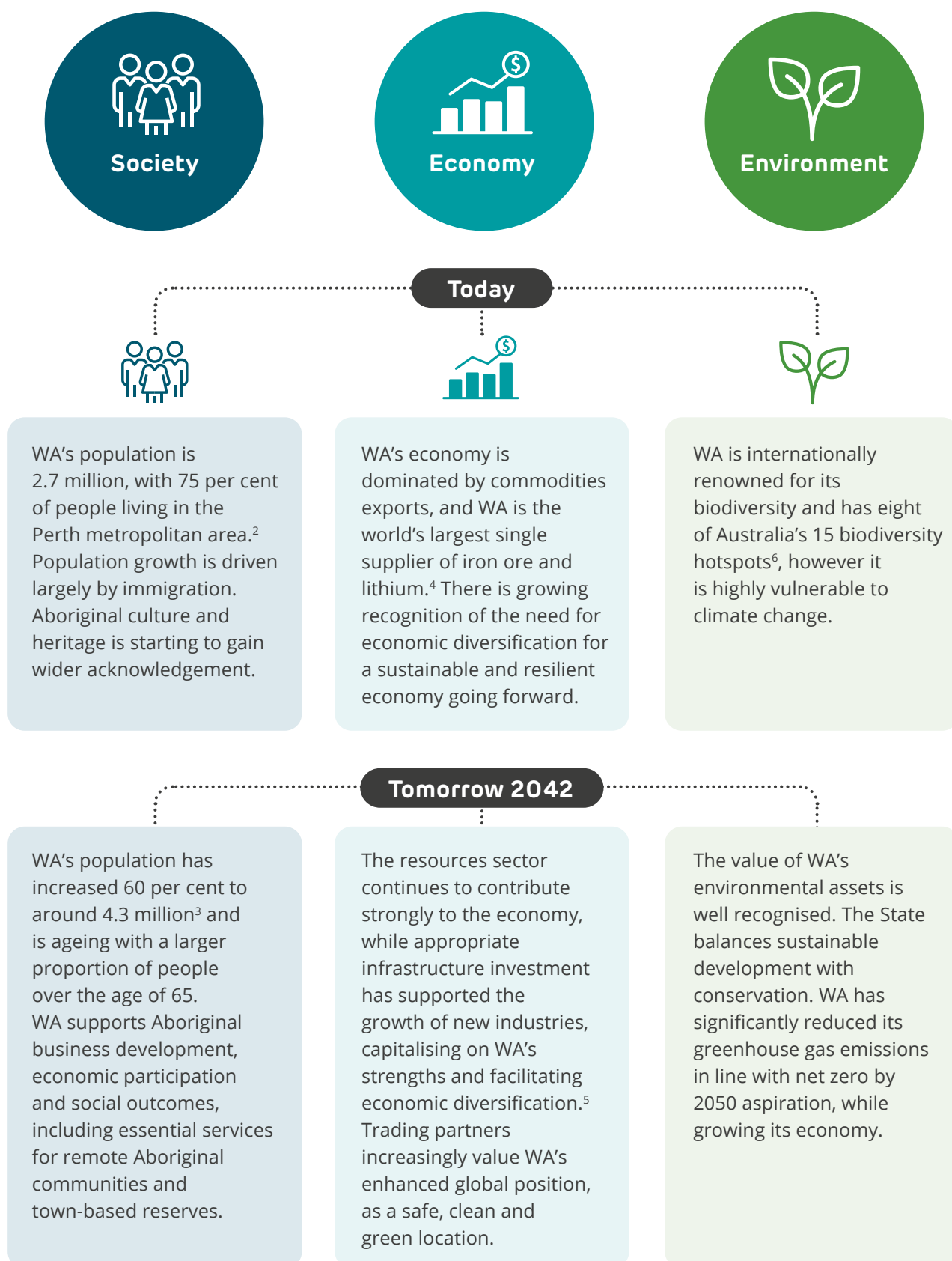


Enhance infrastructure delivery and develop skills for the future



Get the most from our existing infrastructure and improve maintenance

Infrastructure WA has taken a triple bottom line approach – considering social, economic and environmental matters – in developing its recommendations, to serve Western Australia in the long term.



Bringing it all together

Global thinking with local insight

With a clear vision and objectives in place, Infrastructure WA engaged with a wide range of stakeholders and undertook extensive analysis to develop an objective position of the State's current and future infrastructure needs and priorities contained in the Strategy.

A top-down approach was adopted to consider the global context in which Western Australia operates and the potential changes that may occur over the next 20 years. This approach ensured the Strategy is responsive and has a broader and longer-term focus than planning horizons usually applied by government.

The top-down approach was complemented by a bottom-up methodology, which included a comprehensive review of existing infrastructure strategies and plans across government. This resulted in a number of recommendations focusing on accelerating and building on work that the State Government had already initiated.

To augment the Strategy's evidence base, Infrastructure WA commissioned work to better understand technical, policy and strategic matters.

Informed by many

The expertise and perspectives of business, government and the community, informed the development of the Strategy.

The conversation started with *A Stronger Tomorrow: State Infrastructure Strategy Discussion Paper*, launched in June 2020, which was followed by an extensive engagement program across the State. Hundreds of people provided their perspectives on a wide range of infrastructure issues and potential solutions. Working groups, expert panels and peer reviews were also used to inform the development and analysis of the recommendations contained in the Strategy.



Visited
10
regions



23

IWA hosted workshops with formal stakeholder groups and the public



823

Discussion Paper responses, submissions and proposals



125

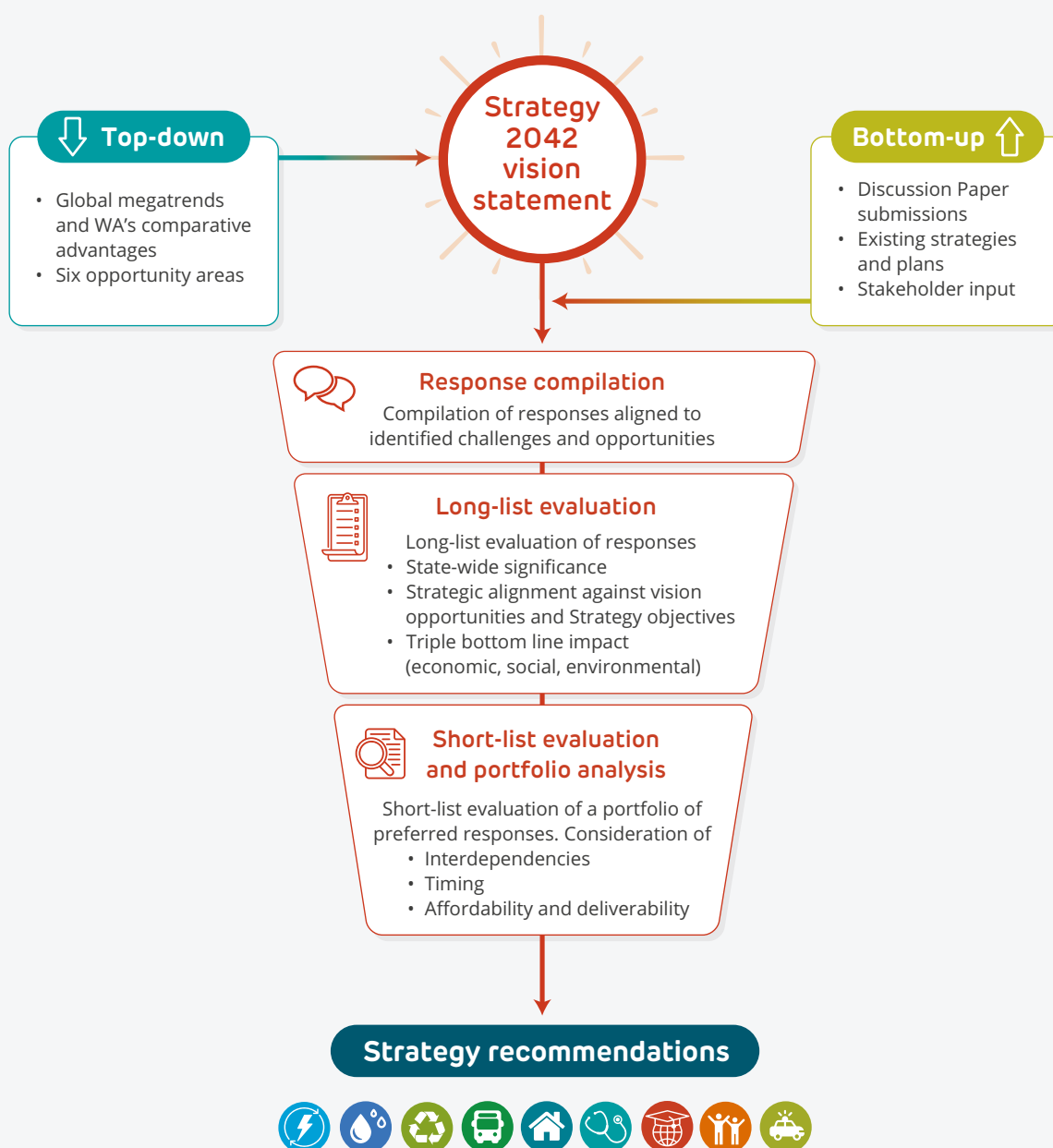
meetings held with key government stakeholders to discuss infrastructure planning, delivery and the development of the Strategy



Infrastructure WA's guiding principles for the Strategy:

- Open, consultative and engaging
- Objective and rigorous
- Improvement over time
- Affordable, deliverable and maximise value
- Forward looking and open to change

Methodology overview



Recommendations

Affordable, deliverable and evidence based

The Strategy makes 88 recommendations. Almost half are grouped in seven themes that cut across the Strategy's nine identified sectors.

Cross-cutting themes



Digital connectivity and technology



Aboriginal cultural heritage, wellbeing and enterprise



Climate change and sustainability



Regional development



Planning and coordination



Infrastructure delivery



Asset management

Sectors



Energy



Water



Waste



Transport



Social and affordable housing



Health



Education and training



Arts, culture, sport and recreation



Justice and public safety



As well as identifying projects and programs, the recommendations build on good work underway and identify gaps in thinking, planning, governance and delivery that need to be addressed.

Many recommendations focus on non-build initiatives that improve fundamental elements of the infrastructure system, such as policy, planning and legislative frameworks, with a selection of major new investment proposals outlined in both the economic and social infrastructure sectors.

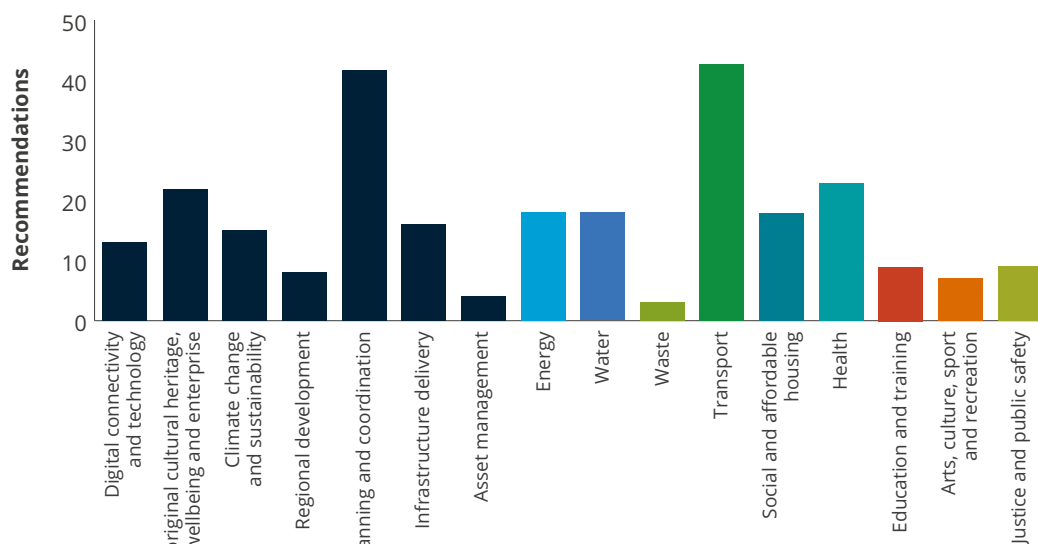
In forming the recommendations, substantial consideration was given to ensuring the proposals were affordable, deliverable and evidence based, wherever possible, to have lasting impacts over the long term.

Collectively, the recommendations work together to achieve the Strategy's vision and objectives for the next 20 years.

Distribution of Strategy recommendations

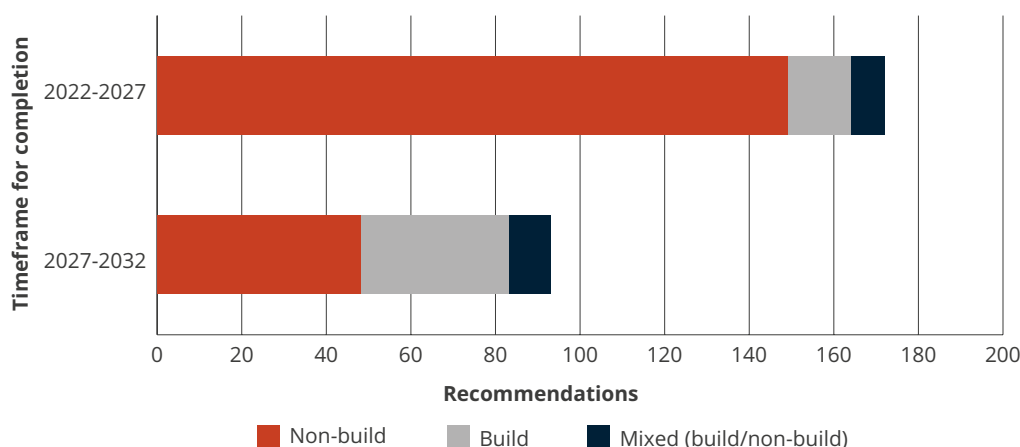
Recommendations by cross-cutting theme and sector

(recommendations and sub-recommendations)



Recommendations by timeframe for completion and type

(recommendations and sub-recommendations)



Note: The 88 recommendations are supported by 265 sub-recommendations.

Infrastructure WA's findings

Six main findings underpin many of the 88 recommendations in the Strategy.

Managing demand for infrastructure through prevention, early intervention and pricing

As infrastructure is costly to develop, operate and maintain, simply building Western Australia's way out of an increasing demand for infrastructure is unaffordable and an unsustainable solution.

Instead, a greater focus on demand management and prevention initiatives is needed to ultimately divert, delay or avoid the need to build and maintain costly infrastructure. For example, early intervention to address complex issues such as social disadvantage can help improve an individual's life outcomes and reduce demand on health and other social services infrastructure.

Infrastructure WA recommends a number of demand management and prevention actions, such as:

- transitioning to a person-centric, preventative and community-based public health system to reduce demand on hospitals infrastructure and services;
- employing preventative measures such as early intervention and rehabilitation initiatives to reduce demand on police, courts and corrective infrastructure and services;
- improving waste avoidance and resource recovery initiatives to reduce the amount of waste going to landfill;
- expanding water efficiency programs and encouraging greater focus on fit for purpose water resources to defer the need for costly new major infrastructure; and
- non-build and demand management options to reduce road congestion and grow public transport patronage.

The Strategy also recognises the importance of digital technology on demand management – to improve understanding of consumer behaviour, better monitor infrastructure performance and provide valuable data to inform planning and decision-making – and therefore recommends applying a digital-first approach when considering infrastructure solutions.



Recommendation 73 – Health sector

Accelerate the transition to a person-centric, preventative and community-based public health system, to improve the health of Western Australians, and the sustainability of the State Budget by fast-tracking delivery of the Sustainable Health Review and providing regular public progress reporting to improve accountability and transparency for achieving Sustainable Health Review reform outcomes.





Improving the quality and consistency of strategic infrastructure planning and processes

Infrastructure WA found that while much good work is being done, many State agencies', statutory authorities' (collectively referred to as State agencies) and Government Trading Enterprises' (GTEs) infrastructure strategies, plans and business cases are not of adequate quality and consistency, and numerous infrastructure-related regulations and statutes are outdated and overly burdensome.

Reflecting this finding, Infrastructure WA has placed a strong focus on seeking improved infrastructure planning and assessment processes across State agencies and GTEs, including:

- improving the underlying regulatory and policy framework;
- clarifying governance and lead agency responsibility for more cohesive overarching strategic planning; and
- recommending improved processes to guide better planning and infrastructure investment by State agencies and GTEs.

These improvements will assist in building the foundation on which the Government's annual ten-year State Infrastructure Programs can be based, as well as future State Infrastructure Strategies.

To further strengthen this planning foundation, the Strategy recommendations include:

- modernising infrastructure-related legislation through targeted amendments;
- preparing integrated regional plans to establish the long-term land use, infrastructure and environmental needs of each region of Western Australia;
- embedding rigorous infrastructure appraisal processes in the planning decision-making framework, including considering infrastructure servicing and operational costs; and
- reviewing and refining the State Government's Strategic Asset Management Framework, and improving its application.



Recommendation 22 (in part) – Planning and coordination

Prepare and implement an urban consolidation action plan which identifies the significant barriers to increasing urban consolidation and sets out a clear roadmap to address them, including intended outcomes, responsibilities and timing.



Addressing climate change

Climate change was a high-priority issue raised by stakeholders during the Strategy development process. It is a critical long-term issue impacting many infrastructure sectors, particularly water, transport and energy, and one that is not yet adequately addressed by many State agency and GTE infrastructure planning systems and processes.

Reducing infrastructure-related carbon emissions and improving the resilience of existing infrastructure to adapt to the impacts of climate change, is therefore a major focus for the Strategy.

The Strategy recommends accelerating priorities identified in the State Government's *Western Australian Climate Policy* that relate to infrastructure, including:

- embedding the net zero emissions by 2050 aspiration as a de-facto target for all State agencies and GTE assets and activities;
- developing net zero transition plans and sectoral emissions reductions strategies;



Recommendation 12 (in part) – Climate change and sustainability

Strengthen and expand existing programs outlined in the *Western Australian Climate Policy* to develop carbon farming and sequestration markets.

- developing climate change adaptation plans for existing infrastructure under the control of State agencies and GTEs;
- developing sectoral adaptation plans to identify climate change risks and measures to adapt to current and future climate change impacts; and
- incorporating sustainability principles and requirements in all stages of the State Government's infrastructure decision-making process.

Implementing data sharing and other tools to support infrastructure planning and investment decision making

Access to current, high-quality and fit for purpose data is critical to deliver sound infrastructure planning, policy and investment decision-making.

However, in Western Australia, access arrangements are vastly inconsistent and in some cases critical data is not available. Some State agencies and GTEs can access complex data and models to support planning, while others cannot and do not apply scenario planning to their long-term infrastructure planning. Some of the most valuable government-held data is also not shared. In addition, the application of consistent planning assumptions, and access to data analytics and modelling tools are important in developing aligned and integrated infrastructure plans.

To improve this, the Strategy's recommendations include:

- further developing government data management and asset information policies, processes, platforms and standards to enable

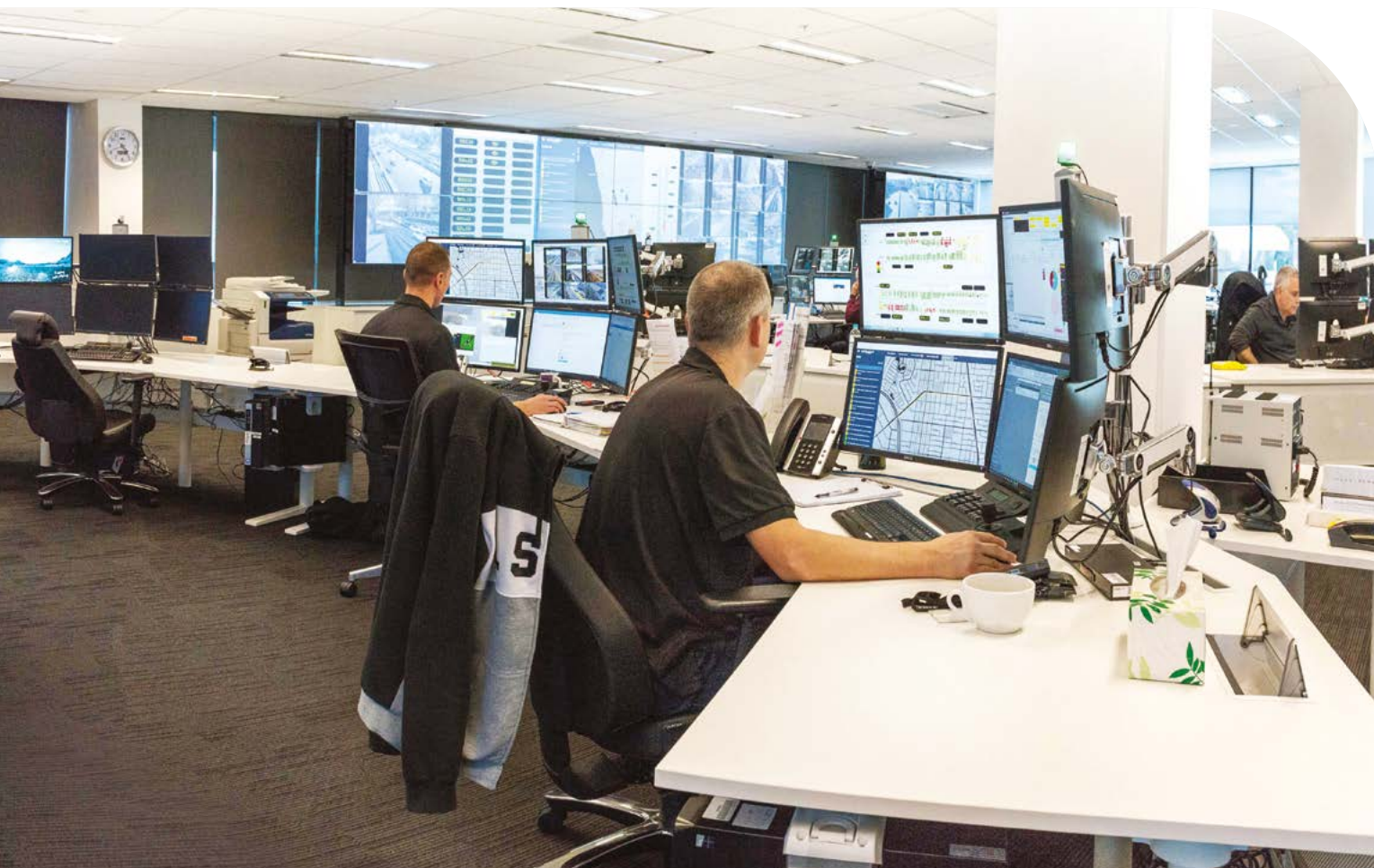
data sharing and analysis to address both the management of the existing government asset portfolio, and to plan and prioritise new infrastructure;

- expanding the 'Climate Science Initiative' to develop climate change projections across all regions of the State;
- developing and implementing a single set of common planning assumptions to improve the alignment and consistency of strategic planning processes; and
- more transparency on the geographic distribution of regional investment through improved reporting in the State Budget.



Recommendation 2 (in part) – Digital connectivity and technology

Take a digital-first approach to all aspects of the infrastructure lifecycle, from planning through to the retirement of assets.



Optimising the existing infrastructure asset base

As the network and scale of the State's infrastructure assets grow, so does the cost to operate and maintain the asset base. Around two-thirds of the total cost of an asset generally occurs after it is built or acquired⁷, while the State's vast distances and low population densities in many areas present challenges in optimising investment decisions.

In *Foundations for a Stronger Tomorrow*, Infrastructure WA discusses how the State Government's existing infrastructure asset base can be managed and used more efficiently and effectively to defer the need to build costly new infrastructure, as well as minimising maintenance costs, wherever possible.

The Strategy's recommendations include:

- progressing targeted improvements to the road network and heavy rail infrastructure;
- embedding a digital-first approach to all aspects of the infrastructure lifecycle and applying digital technologies or non-capital demand management solutions to extend asset life or increase capacity;
- improving the integration of land use and infrastructure planning to help improve the use of existing assets – for example, considering where system capacity is available to support increased urban densities; and
- improving and rewarding mature asset management practice by State agencies and GTEs.



Recommendation 4 (in part) – Digital connectivity and technology

Develop digital capabilities within government to ensure optimal operation and security of current and future infrastructure.



Identifying major infrastructure projects and programs

While many of the Strategy's recommendations focus on non-build improvements to address fundamental elements of the infrastructure system, most sectors also include significant scale projects or programs recommended for further planning, investigation, investment or business case development. Recommendations include planning and business case development for a flagship Western Australian Aboriginal Cultural Centre, light rail/bus rapid transit, investigations for long-term major projects such as Stock Road river tunnel crossing, Bunbury Fast Rail, and Perth metropolitan orbital rail route, as well as progressing further planning for a new Broome Regional Prison.



Implementation

Well-staged for the future

For the inaugural Strategy, Infrastructure WA has recommended Government start by addressing identified gaps and opportunities that frame and guide infrastructure processes, such as strategic planning, legislation and regulation, policy and decision-making tools.

As processes mature and the quality of infrastructure plans improve, it is anticipated future State Infrastructure Strategies will be in a position to focus more on the medium to longer-term initiatives. Many of the actions to create a stronger foundation will be required in the next five to ten years to reposition the State on a new path for the ten to twenty year horizon.

Strategy timeframes



0 to 5 years **2022 to 2027**

Focus on non-build options (planning, policy, legislation). Generally not focussed on projects and programs beyond those already committed, although some additional investment recommended for priority matters. Further investigation recommended for projects and programs identified over medium and long term.



5 to 10 years **2027 to 2032**

Predominantly bottom-up approach. Identification of priority infrastructure projects and programs over this time period. Focus on non-build options continues – implementation likely to continue over short to medium term for some initiatives.



10 to 20 years **2032 to 2042**

Predominantly top-down approach. A number of projects and programs recommended for planning or investigation in the 0-5 or 5-10 year periods will likely be delivered in the 10-20 year timeframe. Future Strategies may place a stronger focus on this timeframe, with improved planning processes as a basis.

Next steps

Continuing the journey to a stronger tomorrow

The release of *Foundations for a Stronger Tomorrow* is the penultimate step in what has already been a comprehensive, 18-month journey to develop the State's first infrastructure strategy.

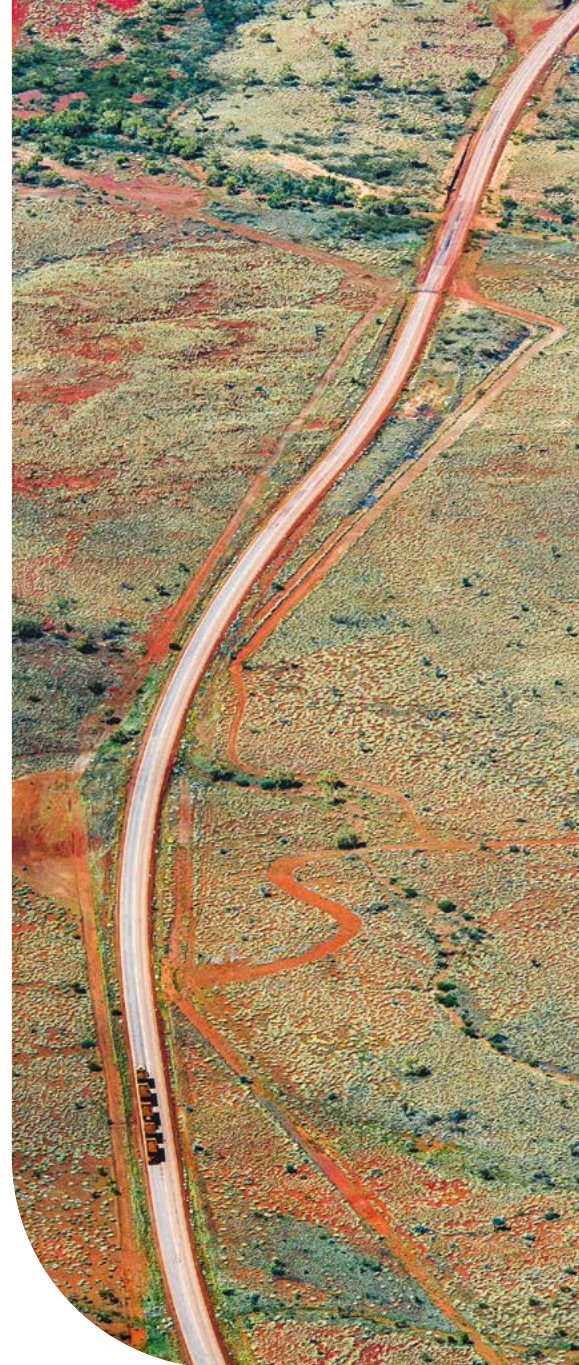
The Strategy is now subject to a final stage of stakeholder review, which will involve:

- inviting feedback, via workshops, surveys and meetings, as part of an eight-week public consultation process;
- reviewing and considering all feedback received; and
- continuing analysis and environmental scanning to ensure the recommendations are current, appropriate, affordable and sequenced effectively.

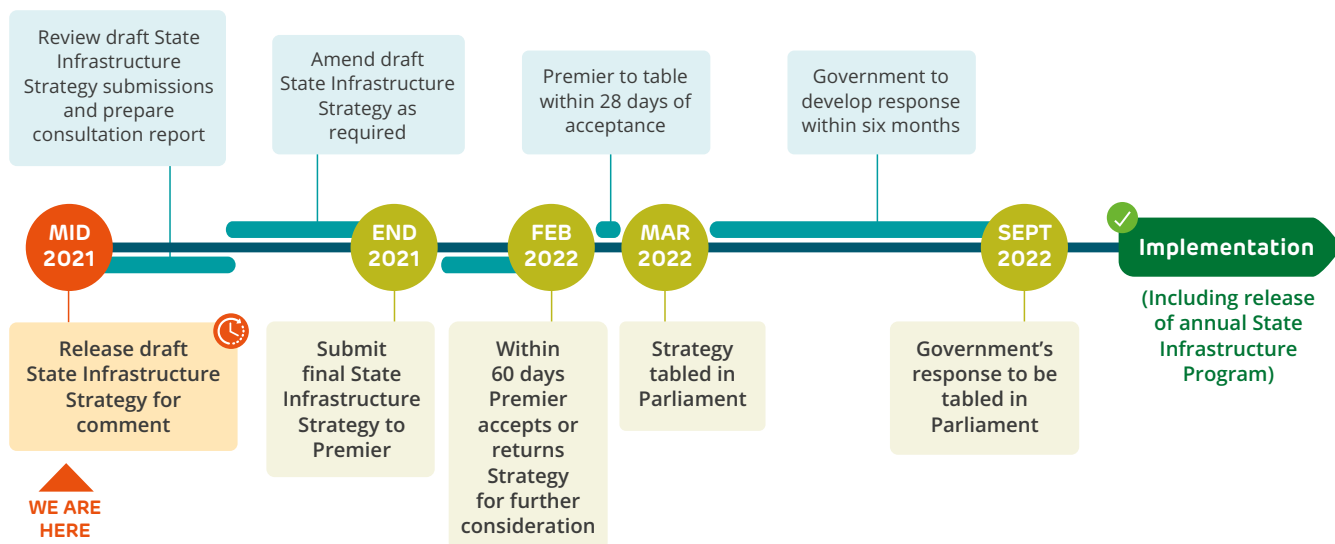
The final Strategy is expected to be completed and provided to the Premier by late 2021. Once accepted, the final State Infrastructure Strategy will be tabled in Parliament.

Within six months of tabling in Parliament, the State Government must outline its response to the recommendations in the Strategy, including reasons for any recommendations it does not support in full. Supported recommendations will then be transitioned to relevant State agencies and GTEs for implementation and delivery. Infrastructure WA will monitor implementation of the Strategy and publish an annual progress report.

The final recommendations will also guide Infrastructure WA's advice to Government moving forward, including its role assessing major infrastructure proposals and assisting Government in preparing the annual ten-year State Infrastructure Program.



Timeline for delivery and implementation of the State Infrastructure Strategy





Keep in touch

Contact Infrastructure WA at any time

E enquiries@infrastructure.wa.gov.au
T 08 6552 5229

Keep up-to-date on Infrastructure WA's activities through LinkedIn or by signing up to Infrastructure WA's e-newsletter through the below website.

www.infrastructure.wa.gov.au
www.linkedin.com/company/infrastructurewa

For enquiries relating to making a submission please email iwaconsultation@infrastructure.wa.gov.au or call 08 6552 5229.

This publication is available at our website www.infrastructure.wa.gov.au or and can be made available in alternative formats and languages on request.



Endnotes

- 1 Western Australian Planning Commission (2014) *WA Tomorrow Population Report No. 9 Long Term Population Forecasts for Western Australia 2031 to 2061*
- 2 Australian Bureau of Statistics (March 2021) *Regional population: Western Australia 2019-20*
- 3 Western Australian Planning Commission (2014) *WA Tomorrow Population Report No. 9 Long Term Population Forecasts for Western Australia 2031 to 2061*
- 4 WA Department of Mines, Industry Regulation and Safety (2020) *Western Australian Mineral and Petroleum Statistics Digest 2019-20*
- 5 KPMG and The Chamber of Minerals and Energy of Western Australia (2018) *2018-2028 Western Australian Resources Sector Outlook*
- 6 WA Department of Water and Environmental Regulation (2019) *Native Vegetation in Western Australia: Issues paper for public consultation*
- 7 Institute of Public Works Engineering Australasia and New Zealand Asset Management Support (2015) *International Infrastructure Management Manual 2015*

Photo acknowledgements

Infrastructure WA wishes to thank the many State agencies, Government Trading Enterprises, local governments and other entities who generously made their photography available for use in this document. *(In order of appearance)*

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Infrastructure WA
Dumas House
2 Havelock Street
West Perth
Western Australia 6005

Phone: 08 6552 5229
Email: enquiries@infrastructure.wa.gov.au

infrastructure.wa.gov.au

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