GOVERNMENT OF WESTERN AUSTRALIA

Infrastructure Western Australia

A Stronger Tomorrow

State Infrastructure Strategy Discussion Paper

Consultation Outcomes Report

December 2020

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Summary

The release of *A Stronger Tomorrow – State Infrastructure Strategy Discussion Paper* was our first step towards developing Western Australia's first 20-year State Infrastructure Strategy.

From our broad-reaching program of engagement this is what we heard.

Figure 1: Consultation breakdown

What we heard

Sectoral common themes

Transport

Active and sustainable transport networks to foster liveability and wellbeing, while ensuring the important links in our supply chains support industries across WA.

Water

Ensure water security by developing climate independent and resilient water systems across the State, to supply fit-for-purpose water for drinking, urban amenity, agriculture and industrial uses.

Telecommunications

Digital connectivity is a critical enabler to support community well-being and economic productivity, noting there is a significant 'digital divide' that needs to be addressed.

Art, culture, sport and recreation

Highlighted the important contribution to liveability and cultural identity, acknowledging the opportunities for Aboriginal empowerment and the significant economic benefits and links with tourism and hospitality.

Waste

Transition to a circular economy, prioritising waste avoidance, reuse and recycling, and improving waste management processes and facilities.

Energy

Strong support for the adoption of renewable energy technologies to reduce greenhouse gas emissions, while ensuring access to affordable and reliable energy supplies.

Health

Improve delivery of health and aged care across regional WA and the need to meet increasing demand. Noting digital technology, such as telehealth, could play a pivotal role in providing improved outcomes.

Justice

Leverage digital and telecommunications opportunities, and investigate how improvements in other social infrastructure sectors can reduce the demand on police and justice services.

Education

Improve access to education and training across regional WA, noting the linkage it has to liveability and wellbeing. Also adapting to the changing nature of jobs and technology, and the opportunity to better connect education and training with vibrant places and local industries.

Social and affordable housing

Better housing access and affordability, noting that availability for vulnerable and at-risk people leads to positive social outcomes that benefit all members of society. Also noting the opportunity for cross-government land-use planning.

Cross-sectoral themes identified

Addressing **climate change** and **sustainability**

Importance of **digital infrastructure**

Realising the full potential of **our regions**

Asset management and maintenance

Integration and coordination

Economic growth and diversification

Macro trends and drivers

- Global economic circumstances
- Climate change and addressing the net zero emissions aspiration
- Advancements in digital technology
- Population growth and change
- Addressing an increase to social inequality

Emerging themes relating to the Strategy's objectives

- Ensuring environmental sustainability principles have a high priority in the recommendations of proposals, particularly in relation to the impacts of climate change.
- Protection and enhancement of the natural environment and facilitation of the circular economy.
- Expanding the concept of liveability to community wellbeing, to foster inclusiveness, social equity, safety, health and cultural development.
- Population strategy, focussing on growth in the right locations.
- Recognition of Aboriginal culture, empowerment, collaboration and participation, as well as the need for better access to health and education.
- Enhancing infrastructure delivery to improve efficiency and minimise costs and impact on business, community and the environment.
- Providing and maintaining infrastructure that maximises long term sustainable benefit for Western Australia.

Our journey to WA's first 20-year State Infrastructure Strategy

Key phases and milestones outlining the development of the Strategy.

1. Introduction

Infrastructure WA (IWA) is committed to consulting widely with government, industry and the community during the development of Western Australia's first 20-year State Infrastructure Strategy (the Strategy). To this end, we released *A Stronger Tomorrow – State Infrastructure Strategy Discussion Paper* (Discussion Paper) in June 2020 for public consultation. The Discussion Paper was designed to encourage constructive conversation with industry, the community and all levels of government in the early stages of the Strategy's development.

The Strategy will outline the State's significant infrastructure needs and priorities for the next 20 years. It will also make recommendations to the State Government on important projects or programs, or other options such as policy reforms, to address the State's infrastructure needs.

During the Discussion Paper's eight-week consultation period, IWA undertook a broad-reaching program of engagement, endeavouring to obtain the views of as many people as possible. This included:

- inviting formal submissions on the Discussion Paper, which was launched in an online event in collaboration with Infrastructure Partnerships Australia, attracting more than 700 registrations;
- briefing industry and government representatives and undertaking outreach with other key groups including younger people (tomorrow's infrastructure users) and Aboriginal stakeholders;
- hosting a state-wide workshop series, which included 12 in-person and three online events to gain a better understanding from stakeholder's on Western Australia's infrastructure priorities and their local impacts;
- surveying nearly 600 Western Australians about their vision for the future of the State and its infrastructure needs; and
- welcoming project and program proposals via an online portal.

This Consultation Outcomes Report provides a summary of the key themes raised through the consultation program. This feedback, along with a range of other inputs, will be used to inform the development of the Strategy.

The report reflects the sentiments of participants in the engagement process, not the position of IWA in relation to matters raised.

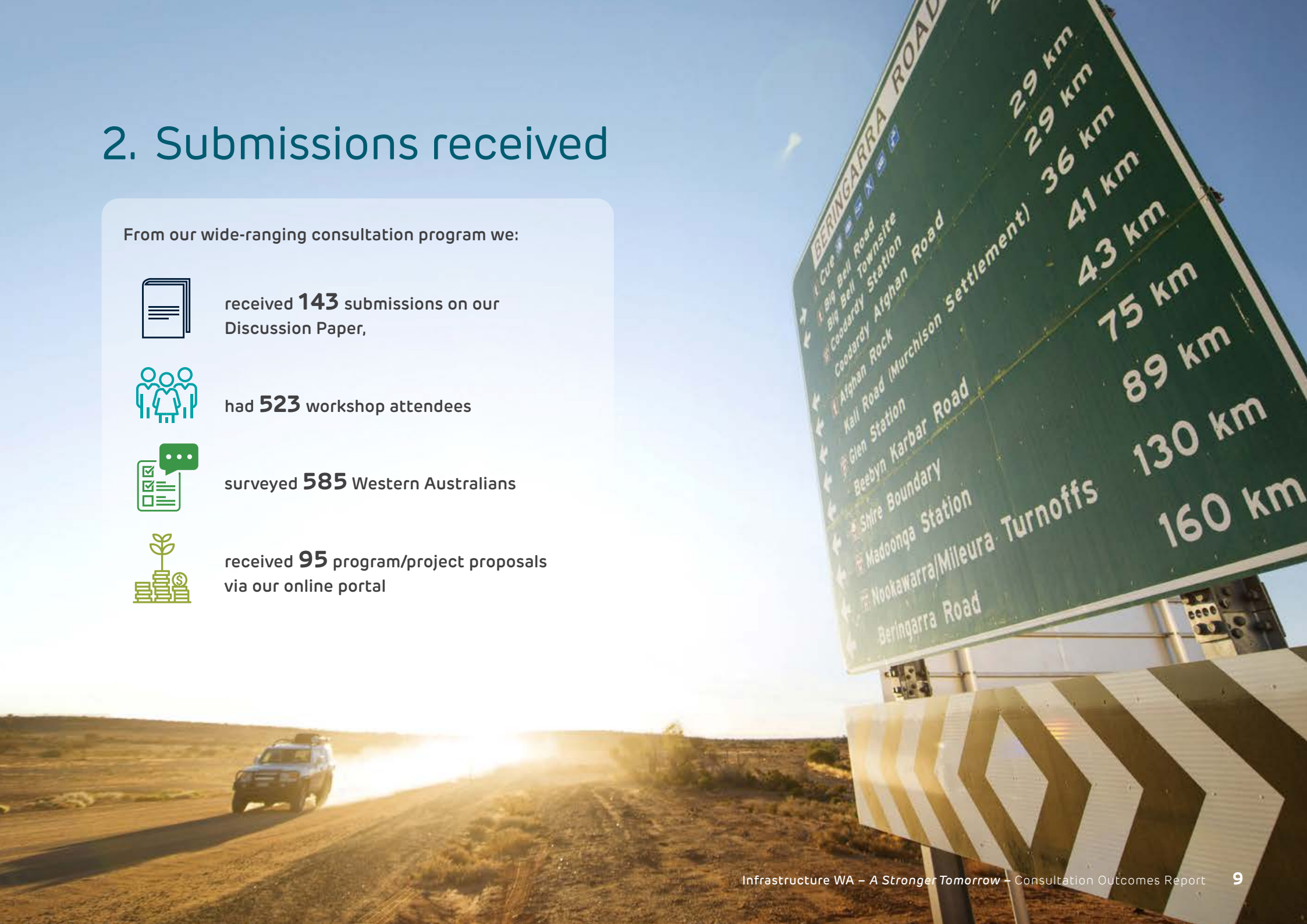
To assist with reading the report a list of terms can be found in the Glossary.

This Consultation Outcomes Report provides a **summary of the key themes** raised through the consultation program.

2. Submissions received

From our wide-ranging consultation program we:

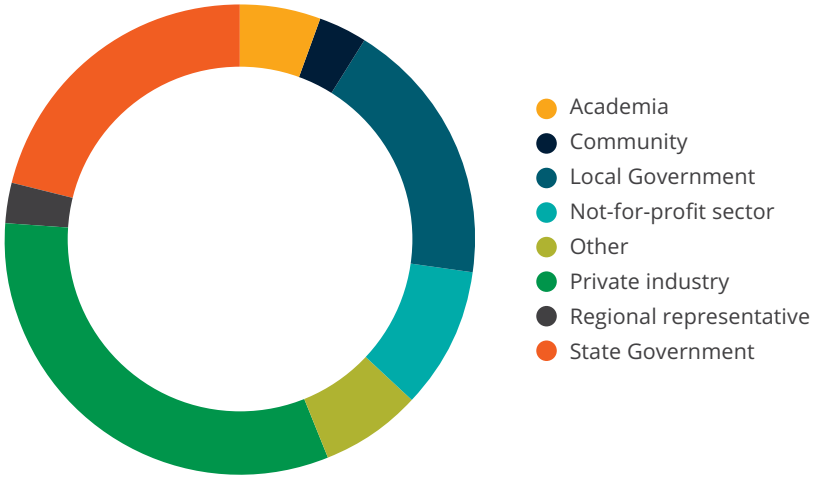
- received **143** submissions on our Discussion Paper,
- had **523** workshop attendees
- surveyed **585** Western Australians
- received **95** program/project proposals via our online portal



2.1 A Stronger Tomorrow Discussion Paper: formal submissions

IWA received a total of 143 submissions to its Discussion Paper. Submissions were received from a variety of stakeholder groups including private industry which comprises private enterprises, peak bodies representing industry interests and entities that operate for commercial benefit; State Government agencies which include Government Trading Enterprises; local governments; not-for-profit organisations; community and a range of other stakeholders.
A breakdown of submissions by stakeholder type is provided at Figure 2.

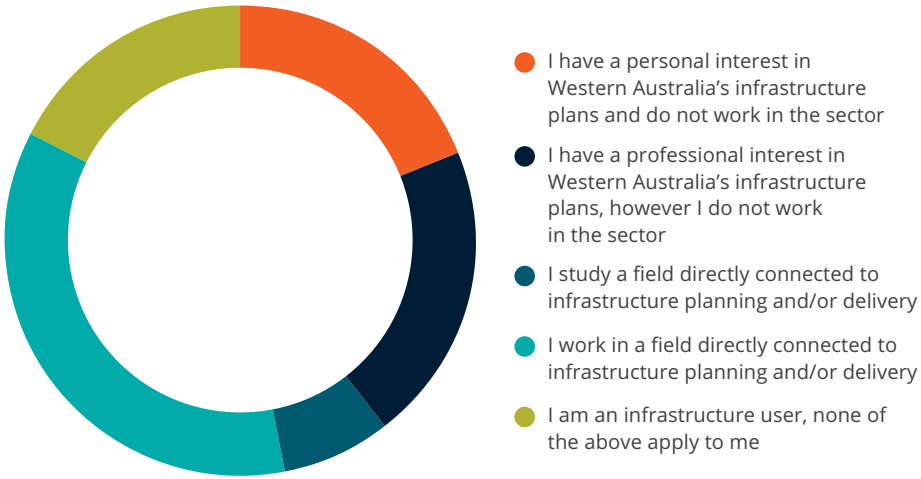
Figure 2: Submission by sector



2.2 Survey: Infrastructure for a stronger tomorrow

A short form survey, asking participants what was important to them over the next 20 years, attracted 585 responses. Eighty per cent of responses were received from respondents in the Perth metropolitan area and over 50 per cent of responses were from people aged between 40 and 60 years. Respondents were asked to identify the nature of their interest in infrastructure (Figure 3).

Figure 3: Survey responses by nature of interest



2.3 Regional workshop series

During July and August 2020, IWA hosted a state-wide workshop series to gain a better understanding from stakeholders about the medium and long-term infrastructure needs and priorities across different regions and sectors.

IWA visited each region (demonstrated in Figure 4 opposite), and conducted three online workshops, hearing from a cross-section of community, government, industry and not-for-profit groups (demonstrated in Figure 5).

Figure 4: Regional workshop attendances

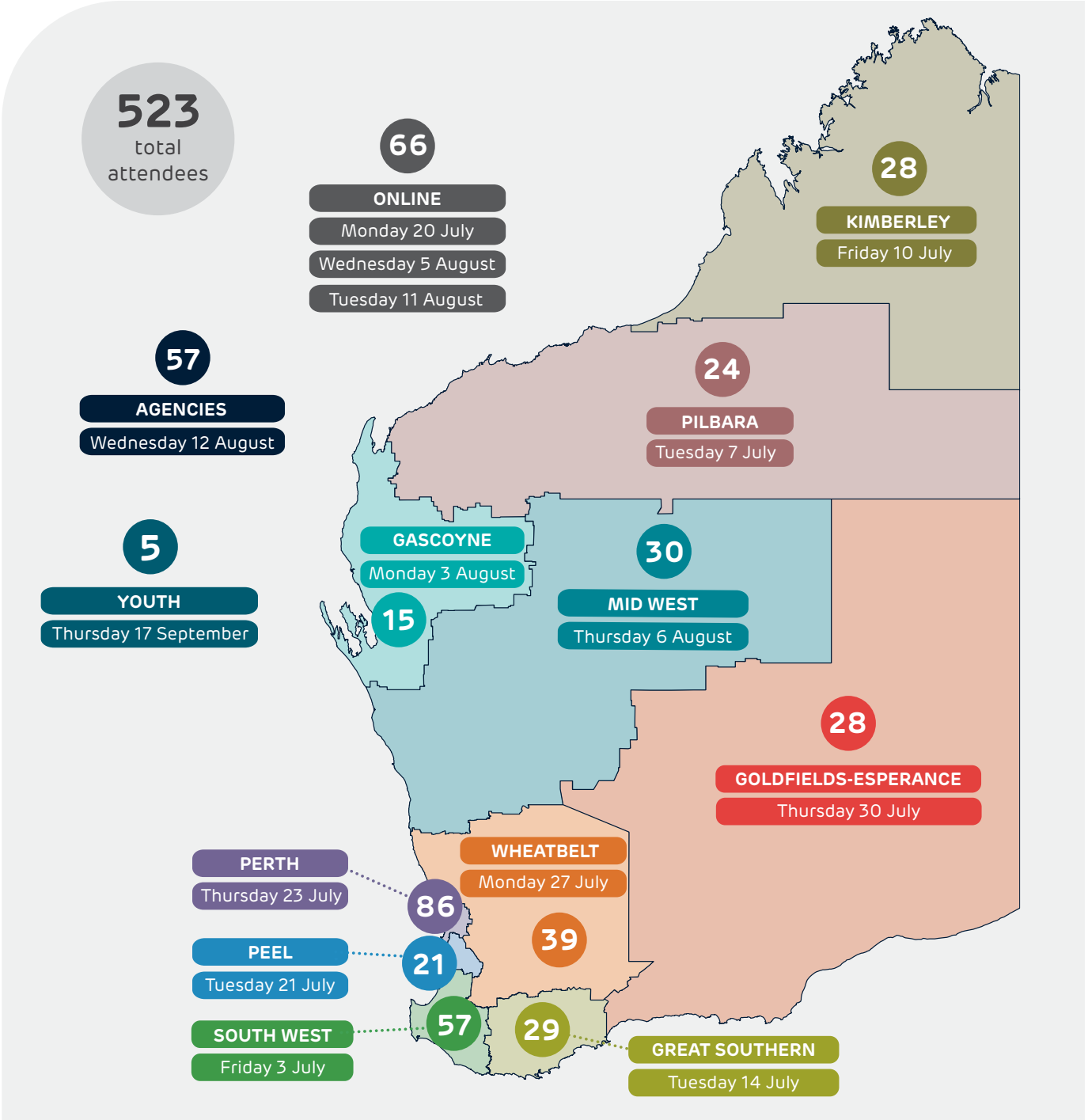


Figure 5: Regional workshop attendees by sector

2.4 Youth engagement

IWA sees engagement with people under the age of 25 years as vital, as it will be this demographic who will be the users, leaders and professionals who will take ownership of and benefit from our infrastructure system in 2040. IWA undertook three targeted engagements to understand the views of future infrastructure users. Engineers Australia hosted a Young Professionals event - attended by some of its young members and representatives from the Planning Institute of Australia and the Australian Institute of Architects – to consider four future scenarios and contribute ideas to develop a vision to guide infrastructure. An online youth workshop for secondary school students attracted Year 11 and 12 students, who had the opportunity to raise questions, prioritise IWA's objectives and vote for a vision for the Strategy. In addition, IWA met with the Minister for Youth's Ministerial Youth Advisory Council.

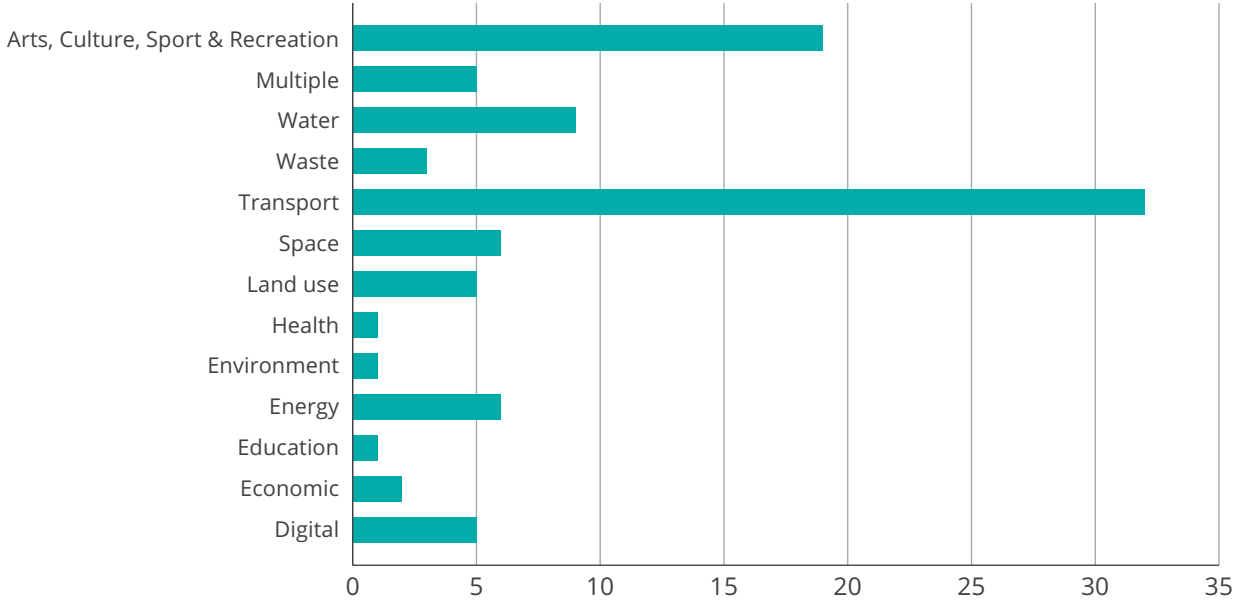
While the engagement with young people aligned with feedback received through other forums, there was a focus on the importance of liveability; cultural hubs; good public transport; retaining heritage; design quality; urban consolidation; Aboriginal culture; digital connectivity; investment in skills development and transition to the workforce; global trade connectivity and climate change.

2.5 Project and program proposals

As part of the consultation, IWA invited program and/or project proposals via a dedicated online portal in addition to submissions via its Discussion Paper and regional workshops. Participants were asked to suggest initiatives that they believe would respond to the primary needs that could be addressed by infrastructure in Western Australia over the next 20-years. In doing so, they were asked to identify the problem or opportunity that the initiative addresses, the priority the initiative warrants and the timeframe it should be delivered within.

Ninety-five programs and projects were submitted from 35 stakeholders via the online portal across a variety of sectors, with approximately one third of proposals relating to the transport sector.

Figure 6: Online proposals by sector



The Discussion Paper submissions captured 184 proposals, 79 of which were either partially or fully non-build options. The regional breakdown of these proposals is demonstrated in Figure 7 below.

Figure 7: Initiatives proposed in Discussion Paper by region

More than 350 initiatives were captured through the regional workshops, spread over a range of sectors and topics. Figure 8 below demonstrates the number of issues raised under each category.

Figure 8: Initiatives captured in regional workshops

3. Key themes

The consultation program undertaken by IWA delivered many responses to a broad range of questions. While some submissions to the Discussion Paper responded directly to the set of questions posed, other respondents spoke more broadly about infrastructure matters of concern to them or their organisation.

Responses to the short form survey provided some more quantitative data that provides statistical insights into infrastructure needs and priorities. The regional workshops gathered insights into participants' visions for the future of WA, and started to formulate a picture of the infrastructure landscape for the next 20 years.

Feedback has been collated, sorted and analysed to understand the key themes of interest to stakeholders. There are common themes that have emerged from all consultation streams, which are included in the following summary. Where feedback responds to a specific question, this will be identified to ensure that matters are considered in context. However generally, if issues and/or opportunities are mirrored across the consultation streams, they will be reported as a common theme without reference to the stream.

3.1 Methodology and process for development of the SIS

3.1.1 Strategic objectives

Strategic objectives will be used to guide the development of the Strategy. Respondents were asked to outline if there were any strategic issues that may not have been addressed by the following proposed objectives:

- Support a strong, resilient and diversified economy;
- Maximise regional strengths to unlock strategic opportunities for Western Australia;
- Enhance infrastructure delivery and develop skills for the future;
- Support access to social services and improve Aboriginal wellbeing;
- Enhance cross-government coordination and planning;
- Address climate change and increase resilience;

- Support population growth and change;
- Maximise liveability and cultural strategic opportunities for our community;
- Embrace technology, data and digital connectivity; and
- Get the most from our infrastructure and improve maintenance.

Generally, there was broad support for the breadth of issues addressed in the objectives. However, there were a range of responses on the strategic issues to be considered as part of the Strategy's development. A common perception was that State Government's long term vision for WA was lacking, and that the Strategy should address this by providing strategic direction supported by a set of clear and measurable targets.

Submissions on this question have been categorised under two headings:

- Broadening the remit of the objectives; and
- Related strategic issues to be considered.

Broadening the remit of the objectives

Emerging themes relating to the Strategy's objectives include:

- Many submissions called for a greater focus on environmental factors, suggesting the introduction of sustainability principles to guide prioritisation of recommendations (including the importance of aligning with the United Nations Sustainable Development Goals). There was a strong focus on the impacts of climate change, including the need to consider the resilience of infrastructure to climate driven disruptive events, and to mitigate against and adapt to, changing climatic conditions. Protection and enhancement of the natural environment and facilitation of the circular economy were also raised as important environmental considerations.
- There were suggestions of expanding the concept of liveability to community wellbeing, to foster inclusiveness, social equity, safety, health and cultural development.
- Some submissions suggested a recasting of our approach to population strategy, questioning the assumption that population growth is an inevitable and desired state. It was also suggested that the objective should include a focus on population distribution.
- Expanding the concept of Aboriginal wellbeing to address recognition of Aboriginal culture, empowerment, collaboration and participation, as well as the need for better access to health and education.
- Enhancing infrastructure delivery to improve efficiency and minimise costs and impact on business, community and the environment.
- Providing and maintaining infrastructure that maximises long term sustainable benefit for Western Australia.
- It was suggested that in order for the objectives to be useful in determining priority focus areas, the wording could be revised to be more focussed, outcome-based and meaningful in the WA context.

While there was support for the inclusion of cross-government coordination as a focus of the Strategy, some submissions queried if this was more applicable as a guiding principle or enabler rather than a measurable objective in its own right.

Related strategic issues to be considered:

A large number of submissions identified strategic issues that could underpin achieving the draft objectives, as summarised below:

- Prioritising the quality of infrastructure design, including its role in facilitating access and inclusion;
- Addressing barriers to accessing social and essential services, particularly relating to people in remote areas and with disadvantage;
- Highlighting the important role that policy and regulatory reforms can play in addressing infrastructure challenges;
- Investing in high quality public realm and urban spaces as an enabler for urban and economic outcomes;

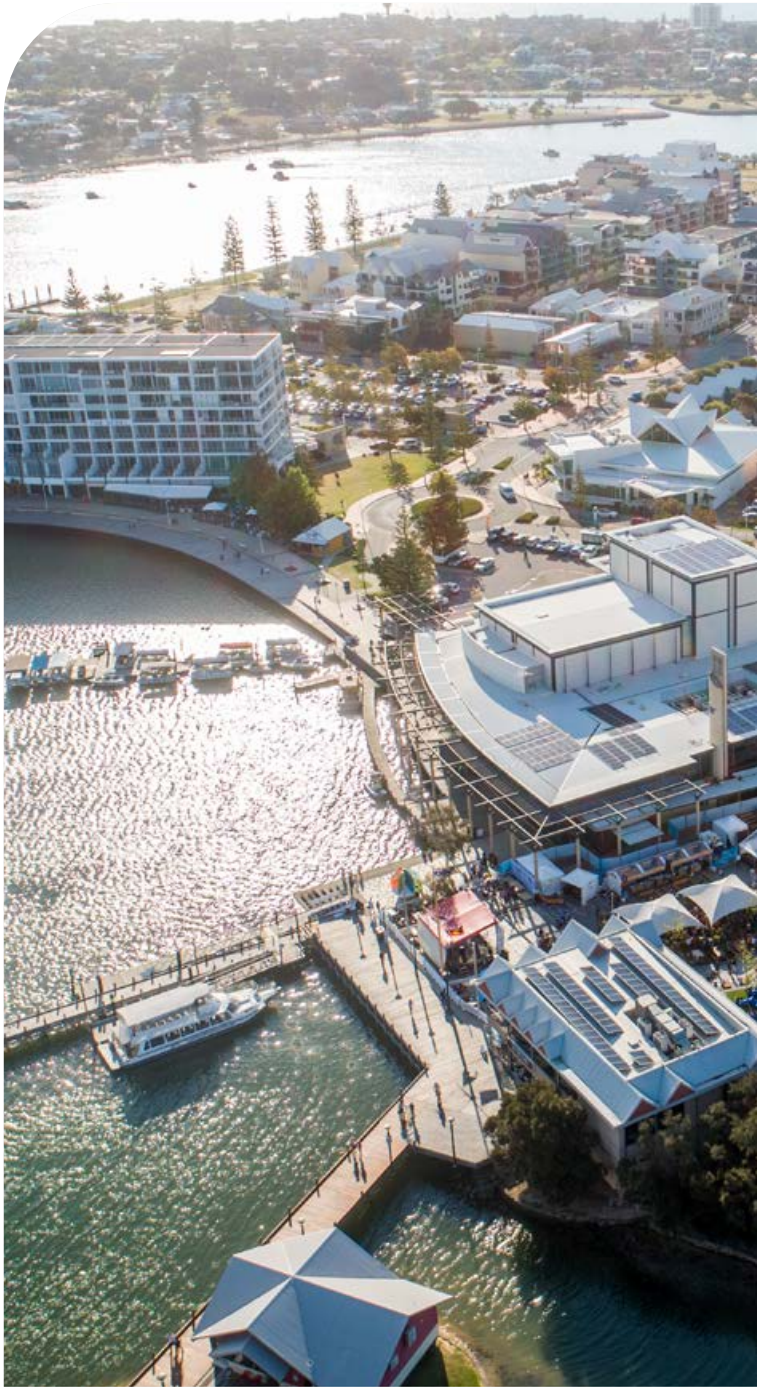
- Aligning urban consolidation with infrastructure and employment availability;
- Collaborating and building partnerships throughout the State at all levels of government, industry and the community; and
- Attracting private investment to support the Strategy's implementation.

Survey and regional engagement

In addition to seeking input on the suitability of the draft objectives through the Discussion Paper, the *Infrastructure for a stronger tomorrow* survey and regional engagement workshops sought feedback on the relative importance of the ten objectives. The results can be seen in Table 1 below.

Table 1: Importance of objectives

	Workshops	Survey (Q6)
Support a strong, resilient and diversified economy	1	1
Maximise regional strengths to unlock strategic opportunities	2	2
Embrace technology, data and digital connectivity	3	8
Get the most from our infrastructure and improve maintenance	3	9
Address climate change and increase resilience	4	3
Maximise liveability and cultural strategic opportunities for our community	4	4
Enhance cross-government coordination and planning	5	5
Support population growth and change	5	10
Enhance infrastructure delivery and develop skills for the future	6	7
Support access to social services and improve Aboriginal wellbeing	7	6



3.1.2 Macro trends

In considering what the Strategy is trying to achieve, it is important to understand the drivers that it will be responding to. Respondents were asked what they thought were the important macro trends over the next 20 years.

Common emerging themes included:

- Global economic circumstances, particularly relationships with Asian trading partners such as China, was commonly recognised as a significant trend impacting on WA's economic future.
- Changing weather patterns related to climate change are impacting on industry, particularly in agricultural areas where rainfall is decreasing.
- The State Government's net zero emissions aspiration will drive significant changes in all infrastructure sectors, particularly energy, water and transport.
- Advancements in digital technology are offering new opportunities to enhance productivity, change work practices and business models and drive the need for skills development and transition. This digital disruption may put pressure on infrastructure capacity and heighten the risk of cyber threats.
- Settlement patterns, an ageing domestic population and increasing urbanisation, were considered to be of ongoing importance.
- Addressing an increase to social inequality, indicated by the rising rates of poverty, health status and life expectancy discrepancies between Aboriginal and non-Aboriginal people, food insecurity, unemployment and homelessness.

3.1.3 Impacts on infrastructure due to the COVID-19 pandemic

With the ongoing impacts of COVID-19 being profound, IWA sought to understand views on what the immediate, medium and long-term impacts on infrastructure may be; as well as any early learnings around resilience that should be considered as part of the development of the Strategy.

Feedback from respondents highlighted:

- The importance of State and local government partnerships to fast-track and advance projects to enable economic recovery, particularly for industries most impacted. This includes having a suite of projects progressing through due diligence and business case phases to be shovel ready in future.
- The need for recovery projects to be selected on long-term outcomes and benefits.
- COVID-19 has demonstrated how nimble and responsive Government and industry can be when required, with questions remaining around sustaining permanent change.
- The impacts COVID-19 has had on global supply chains and the subsequent rise of de-globalisation and nationalism, prompting investment in local production and manufacturing, down-stream processing and other industrial diversification.
- Population growth and change will be more difficult to predict in a post-COVID-19 world, with the potential for greater decentralisation and regionalisation of population and shifts in migration patterns.
- The opportunity for the COVID-19 pandemic to be used to understand and factor for future severe social, environmental and economic disruptions and preparedness for emergency response.
- Long-term debt implications which will impact public sector funding, but may positively influence more cost effective, efficient and stringent budgets and construction processes.
- Sustained impacts on transport networks, digital capability and place activation from increased working or learning from home arrangements.

3.1.4 Methodology

The Discussion Paper proposed a methodology for developing the State Infrastructure Strategy and welcomed comments regarding its approach. There was general support for the proposed methodology, particularly the 'top-down, bottom up' process and the use of scenario planning.

Additional comments pertaining to the Strategy's methodology included:

- Ensuring that the methodology is evidence-based and applies rigorous risk assessment for infrastructure proposals.
- Suggestions that consideration should be given to long-term (50–100 year) outlooks and that the Strategy should be dynamic and adaptable over time.
- Ensuring that triple bottom-line principles are applied, noting the importance of consistent social and environmental indicators, as well as economic indicators.
- In relation to prioritising infrastructure proposals, it was noted that a set dollar value threshold may overlook lower value proposals that offer significant 'strategic value'. Proposals should also consider whole of life cycle implications.
- Including local government plans and strategies (i.e. economic development plans, local planning strategies and strategic community plans) in baseline inputs.
- Improving and encouraging engagement, with some suggestions that deliberative and collaborative methodologies should be applied going forward; and that benefit could be achieved by tapping into the expertise of private industry and local government stakeholders.

Submissions suggested a broad range of project methodologies, strategic planning and prioritisation frameworks, index ratings and other approaches.

3.2 Cross-sectoral themes

Cross-sectoral themes relate to challenges and opportunities that may impact more than one infrastructure sector. For instance, economic growth and diversification has implications for multiple sectors, including but not limited to, transport, energy, water and health.
Six emerging cross-sectoral themes have been identified and are summarised below.

3.2.1 Climate change

Climate change was acknowledged as a significant issue affecting all infrastructure sectors and locations across Western Australia. It was also identified through feedback as a major driver for change and an area of focus when making decisions about selecting, designing and delivering infrastructure.
The need to align with the Western Australian Climate Policy was identified by a number of submissions.

Themes have been organised under two headings:

- Improve the climate change adaptation response for infrastructure; and
- Reduce greenhouse gas emissions from infrastructure sectors to mitigate the effects of climate change.

Improve the climate change adaptation response for infrastructure

From the 143 submissions received, 36 highlighted the need to improve climate change adaptation responses within State Government and across infrastructure sectors. Feedback received highlighted opportunities to improve the identification and response to climate change risks which includes vulnerability to bushfires, increased inundation and erosion in coastal locations. Submissions also discussed the impact of water shortages on agriculture and food production industries in parts of the State.

Suggested responses included:

- Modelling the climate change risks and impacts at a State and local level;
- Implementing a state-wide climate change risk assessment;
- Convening a dedicated climate change working group to embed whole-of-government climate change considerations;

- Interpreting climate change risks in a sector context - for example, the impacts of road flooding and reduced availability of water for food production;
- Reducing the probability of impacts by moving infrastructure or selecting different locations;
- Adapting to climate change through infrastructure design, such as incorporating vegetation and tree canopy coverage to mitigate the impact of the urban heat island effect; and
- Improving climate change adaptation knowledge and capability within the WA public sector.

Reduce greenhouse gas emissions from infrastructure sectors to mitigate the effects of climate change

Of the 143 submissions, 33 highlighted the need to reduce greenhouse gas emissions from infrastructure to mitigate the impacts of climate change. A number of respondents emphasised the need to align to a net zero emissions by 2050 aspiration, while also highlighting the high proportion of greenhouse gas emissions generated through infrastructure construction and operation.

Suggestions from stakeholders included:

- Prioritising green or low carbon infrastructure through better investment decision making and procurement methods;
- Understanding the impact of international climate change policies on global demand for resources to reduce the risk of stranded assets;
- Shifting government focus from emissions intensive industries and energy sources through support for low carbon technologies and associated industries such as lithium and hydrogen, and renewable energy transition;
- Transitioning to electric vehicles and ongoing investment in public transport;
- Implementing green infrastructure spending targets;
- Enacting a carbon budget that aligns with greenhouse gas reduction targets and scenarios;

- Using tools and processes to identify opportunities for greenhouse gas reduction in infrastructure design e.g. Infrastructure Sustainability Council of Australia (ISCA) sustainability rating tool;
- Encouraging the adoption of energy efficiencies in social and affordable housing;
- Working with all levels of government to embed best-practice climate change mitigation; and
- Improving climate change adaptation knowledge and capability within the WA public sector.

3.2.2 Digital

The importance of digital connectivity was recognised across the consultation program. When asked what the implications were from the COVID-19 pandemic for infrastructure, 31 out of 143 formal submissions to the Discussion Paper raised matters relating to digital. In the regional workshop series, 'Embrace technology, data and digital connectivity' ranked equal third out of 10 strategic objectives. When respondents were asked in the survey to fast-forward to 2040 and consider how influential certain factors would be on Western Australia's infrastructure needs, digital connectivity ranked third behind climate change and population change as 'Extremely important'.

Themes have been organised under two headings:

- Digitisation to improve productivity; and
- Improvements in delivery of government services.

Digitisation to improve productivity

It was widely acknowledged that digital infrastructure is a cross-sectoral enabler that 'unlocks value across all sectors and industries' and would have a growing importance to support technological advancements, such as Internet of Things, automation, artificial intelligence, big data analytics and augmented reality. Some regional workshop participants believed that WA could be a leader in the sector with satellite tracking and ground control, data centre potential in regional areas, Square Kilometre Array and scientific research. Feedback suggested particular industries that could significantly benefit from technological advancements include manufacturing, agri-business, tourism and the arts. Reliable and high-speed telecommunications services were considered to be essential to achieving a strong and diverse WA economy which has access to domestic and global markets. (see Section '3.3.3 Telecommunications')

Improvements in delivery of government services

The general consensus was digital enhancements would lead to positive economic and social outcomes, with respondents highlighting the importance of the access to, and sharing of, reliable data, as a significant opportunity to improve coordination of infrastructure across government and to support evidence-based decision making. Cyber security was identified as an increasing risk as a consequence of increased asset digitisation.

Further opportunities for improved delivery of government services using digital technologies were also suggested, including:

- Investing in Australian owned and operated infrastructure to mitigate cyber security risks;
- Developing and using digitised monitoring and control systems, such as smart transport initiatives and smart utilities monitoring;
- Adopting a 'digital first' investment mentality;
- Delivering online social services such as telehealth and distance education; and
- Implementing smart city infrastructure such as digital screens, lighting, safety infrastructure and navigational tools.

3.2.3 Regional development

Workshops and submissions highlighted the importance of regional development to the future of Western Australia.

Themes that emerged include:

- Leverage regional strengths to diversify WA's economy;
- Provide equitable and accessible social services and infrastructure;
- Grow regional cities and towns that support WA's economic and population growth; and
- Adopt a strategic and integrated approach to regional development.

Leverage regional strengths to diversify WA's economy

Economic development and diversification was identified as a critical driver for developing WA's regions. Submissions highlighted that leveraging the relative strengths of each region would be the key to unlocking prosperous economic activity. Government also has a strong role to play in delivering multi-purpose infrastructure that catalyses economic development. Several ideas were raised to develop regional economies.

Opportunities in established industries such as mining and agriculture were highlighted, as well as emerging areas such as renewable energy (including hydrogen), manufacturing, tourism, and the circular economy such as recycling. Investment in a range of enabling infrastructure and services such as high speed broadband, power, water, roads, rail, ports, airports and industrial precincts, will be necessary to enhance digital connectivity; accelerate value adding and adoption of new technologies; and support efficient supply chains within WA and into global markets.

Provide equitable and accessible social services and infrastructure

Several respondents raised the importance of equitable access to high quality social services and infrastructure, such as education and training, health, and social and affordable housing, in regional areas. As noted by one respondent "social services and economic infrastructure go hand in hand to support regional growth". Respondents acknowledged that providing social services and infrastructure to a relatively small and highly geographically dispersed regional and remote population is challenging. However, adequate services and infrastructure is essential to economic participation, regional liveability, and attraction and retention of regional workforces. Addressing the 'digital divide' between Perth and the regions would help to improve access to services.

Respondents highlighted that a "one size fits all" approach to providing social services was inappropriate and that placed-based approaches better responded to local needs. Respondents noted infrastructure must be combined with adequate, well-funded, community controlled social services; and that communities have access to resources to develop, operate and maintain infrastructure.

Several respondents highlighted that Aboriginal disadvantage and "closing the gap" are major challenges. To improve the effectiveness of services, respondents raised the need for government to change the way they interact with Aboriginal communities, by adopting more culturally appropriate and community directed service and infrastructure delivery. It was suggested that Aboriginal communities should have more control over economic activities that have a direct impact on them.

Grow regional cities and towns that support WA's economic and population growth

Decentralisation emerged as a major theme. Several reasons were identified such as supporting economic development and diversification, enhancing resilience, and easing pressure on the Perth metropolitan area. It was suggested that growing major centres in the Pilbara or Kimberley would also help to safeguard WA's north. A number of submissions stressed that population growth should be a consequence of economic development rather than a goal in itself.

Of the 143 submissions, 72 responded to the question on whether WA should have a second city of more than 200,000 people, with Bunbury supported by 15 respondents. However, 14 respondents nominated other centres such as Albany or Geraldton. As to be expected, many regional respondents nominated the regional centre in which they lived. Support for multiple regional centres (including Bunbury) rather than focusing on a second city was demonstrated by 19 respondents. Eighteen believed that nominating specific centres would require detailed research and planning, such as the effect of climate change. Five respondents did not think WA required a second city.

Ninety submissions responded to the question of how declining populations in some regions could be slowed or reversed. Many respondents noted that decline is due to a range of economic, technological or government policy reasons. Multi-faceted responses such as developing regional economies and new markets, closing the 'digital divide', improving liveability, and programs to attract and retain people, would be required to address decline. Several commented that decline was natural and should be allowed to occur, however, would need to be managed.

Several submissions suggested adopting a "hub and spoke" approach to the growth of regional cities and towns, to support declining settlements whilst providing accessible services and employment opportunities.

Adopt a strategic and integrated approach to regional development

Many respondents supported the need for stronger regional collaboration, facilitated through a "coherent, apolitical and transparent institutional arrangement that avoids competition between and within regions". The need for an integrated approach that links infrastructure with economic development and spatial development strategies was also identified; and raised the potential for regional stakeholders to take a more united approach to identifying priorities, attracting public and private investment, and guiding implementation.

There was also support for larger, cross-regional projects as a way of promoting regional collaboration and noting that State Government has a role to play in facilitating cross-regional opportunities. Feedback also suggested collaborative or deal based policy approaches such as regional partnerships and 'City Deals' could enable a more integrated approach.

Several submissions outlined the need for a new approach to planning, assessment and prioritisation of services and infrastructure that was more inclusive of the regions, and maximised economic, social and environmental benefits for regional communities. It was noted that traditional prioritisation approaches often disadvantaged the regions by applying high infrastructure project-value thresholds, and analysis methodologies that do not take the regional context into account.

72 responded to the question on whether WA should have **a second city of more than 200,000 people**, with Bunbury supported by 15 respondents.

3.2.4 Asset management and maintenance

Asset management and maintenance was raised by 26 submissions as a cross-sectoral issue.

Themes have been organised under the headings of:

- Higher levels of funding required for adequate and ongoing maintenance and improvement of public infrastructure;
- Consistency of asset management practices; and
- Significant existing maintenance backlogs across sectors.

Higher levels of funding required for adequate and ongoing maintenance and improvement of public infrastructure

Twenty-four submissions advocated for higher levels of funding to be allocated to asset maintenance of public infrastructure in order to sustain or improve outcomes for infrastructure users. It was noted that without sufficient funding for public infrastructure maintenance, outcomes deteriorate over time and this can lead to negative economic and social consequences.

Many submissions highlighted the challenge of funding the high and ongoing cost of maintaining and upgrading existing essential public infrastructure, such as utilities, roads and hospitals. A number of responses suggested that whole-of-lifecycle financial costs be assessed and factored into planning for new built infrastructure projects to ensure it is affordable over the long term. Similarly, many respondents suggested prioritising the use of existing assets over building new assets, which creates new maintenance, management and operating costs.

Submissions from regional respondents said funding upgrades and maintenance of ageing and no longer fit-for-purpose facilities could help attract and retain populations in regional centres. This was due to the contribution that services delivered using existing infrastructure make to enhancing the liveability and social fabric of regional communities. Local government responses raised the challenge of funding asset renewal and long-term maintenance.

Suggestions from stakeholders included:

- Evaluating whole of lifecycle financial impacts of new projects and assessing affordability over the long term is factored into government decision-making processes;
- Prioritising investment for optimising the use of existing assets over building new assets;
- Investigating alternative funding and financing models for maintenance of public infrastructure that encourages innovation and greater efficiency; and
- Increasing private sector participation to offer greater value for money in the design, construction, financing, operation and maintenance of significant public assets.

Consistency of asset management practices

Responses highlighted the strong link between the cost of funding and inconsistent practices in asset management and maintenance. Thirteen submissions referred to inconsistencies across government in a number of areas, including asset data management and the ability to effectively audit existing assets and identify gaps; planning and reporting on maintenance and operating expenses; and variability in operating environments and maintenance standards.

It was also suggested that greater sustainability and innovation feature in government asset management and maintenance practices.

Suggestions from stakeholders included:

- Having a single digital source of truth for asset location, condition and configuration and modelling tools that are consistently applied across State Government agencies;
- Ensuring procurement practices require tenderers to respond on how their proposals will enable best value for the ongoing management of infrastructure, including use of recycled materials and other cost saving opportunities over the long term;

- Implementing a standardised process to determine whole of lifecycle costs for all government investment decisions on new infrastructure; and
- Considering the use of public-private partnerships (PPPs) or other delivery models that can offer the advantage of costs being accounted for and assets maintained throughout the lifecycle of the contract and defined in service level agreements.

Significant existing maintenance backlogs across sectors

Seven submissions mentioned poor current asset condition and significant existing maintenance backlogs caused by a historical lack of asset management and maintenance.

It was highlighted that this continued shortage of maintenance has resulted in higher ongoing costs for repairs, breakdowns and preventative works, which otherwise would have ensured assets remained usable, safe and fit-for-purpose.

Potential responses raised during consultation included:

- Co-locating government services and agencies into single buildings to reduce the maintenance, upgrade and eventual replacement costs; and
- Developing a State infrastructure maintenance plan to incorporate maintaining and upgrading existing assets and assist in addressing current maintenance deficits.

3.2.5 Integration and coordination

Integration and coordination was consistently identified by respondents across multiple Discussion Paper questions as an area of focus for the Strategy. While several respondents noted a number of case studies have made strides in this area, such as the State Government's response to the COVID-19 pandemic, METRONET, Westport and Streamline WA, they noted there was a lack of engagement and alignment among agencies, local government and industry. Feedback suggested this is hampering investment and delaying the timely provision of infrastructure to support business and the community.

Themes arising from consultation in relation to integration and coordination include:

- Coordinated and collaborative governance;
- Clear lines of sight between strategy development and execution;
- Consistency and efficiency of regulation, policy and approvals; and
- Available land supply and urban industrial growth.

Coordinated and collaborative governance

Respondents noted that there are often competing views and priorities across agencies and tiers impacting planning, delivery and approvals within and outside of State Government. Feedback called for efficient governance structures with clear roles and responsibilities and the potential for rationalisation was flagged. A transparent infrastructure pipeline to inform investment decisions was also highlighted as a necessity, with several submissions noting the role IWA will play in this process moving forward. Capacity and capability to deliver priority infrastructure-related outcomes across the public and private sectors was also raised a number of times, in particular in relation to the COVID 19 stimulus initiatives which have highlighted the need to have a skilled workforce to support high levels of infrastructure investment.

Clear lines of sight between strategy development and execution

A number of submissions raised the need for a consistent and strategic plan for the whole State that informs planning, infrastructure and service delivery across agencies and sectors. Respondents also highlighted that infrastructure planning and delivery is not always aligned with strategies and plans, resulting in infrastructure demand not being matched with timely funding.

Feedback expressed the need for integrated land use and infrastructure planning to ensure that infrastructure across the State is not planned in isolation and can maximise benefits. This included that early and productive engagement across agencies, regions, sectors and infrastructure providers is required to amplify impact and minimise cost. To ensure alignment, feedback also identified the need for consistency and shared access to data, projections and assumptions.

Consistency and efficiency of regulation, policy and approvals

Respondents advised that some regulatory and policy settings are conflicting or are duplicative across government, resulting in unnecessary reporting and difficulty navigating approvals processes which ultimately lead to delays. Consistency of decision-making criteria for infrastructure responses, both for business cases and approvals processes, were highlighted as necessary to address this issue. A number of responses also raised the inflexibility of current legislation and policy to respond to rapid changes in technology and community expectations, with focus needed on flexibility and durability.

Available land supply and urban industrial growth

The availability of land for future urban and industrial growth was raised in a number of submissions, and in particular, the timely delivery of infrastructure to support this land being brought to market. However, it was noted in a large number of submissions that urban growth should be directed to infill development rather than continued urban sprawl, with a focus on using existing

infrastructure effectively; ensuring access to employment, services and transport; and facilitating place-based improvements. Early engagement in planning across agencies and sectors was also highlighted to:

- Prioritise land, corridors and buffers for critical infrastructure;
- Maximise investment and synergies through co-location and shared services; and
- Achieve better use of government-owned land.

3.2.6 Economic growth and diversification

When considering the impacts of COVID-19, 58 out of 143 submissions drew attention to economic matters, noting that the diversification of the economy is important to increase economic resilience. There were also a range of views suggesting that IWA should adopt a balanced focus between the promotion of economic development and provision of core government services.

Further emerging themes relating to the economy include:

- Economic development and value adding
- Economic diversification and resilience
- Regional economic development
- Private sector investment
- Improved access to skilled labour
- Strategic industrial areas

Economic development and value adding

Economic development and regional comparative advantages were considered important, noting that access to markets and the provision of productive infrastructure such as transport access, affordable energy, water and health infrastructure and associated services are critical to support liveable communities and facilitate economic development. Childcare was also raised as a potential social infrastructure area that facilitates labour participation and consequently economic growth.

Submissions suggested that infrastructure investment decisions should prioritise economic development, value for money, and consider whole of lifecycle costs and benefits. A commonly held view was that value-adding investment should be prioritised, such as focussing on down-stream processing in the resource and agricultural industries. More research and development funding was flagged as necessary.

Economic diversification and resilience

There was a strong view among respondents that WA should diversify its economy to help support the State's resilience to economic shocks. In particular, it was considered that supply chains need to be resilient particularly in domestic markets and internal skill bases should be fostered. Greater economic self-sufficiency and diversity (both regionally and state-wide) was considered important.

Further feedback identified areas for investment opportunities included:

- Tourism as an important area to facilitate the development of regional WA. Respondents indicated the approach should align with the Federal Government's Tourism Strategy and facilitate private sector investment. Multiple investment opportunities were provided for metropolitan and regional areas.
- Preparing WA for new technology, including the hydrogen economy, agri-business, smart cities, and the circular economy. This can improve the efficiency of supply chains, effect changes in transport demand such as working from home more frequently or working regionally, facilitate online learning and enable automation in areas such as processing, agriculture and mining.

Regional economic development

There was strong support for regional development to be an area of focus in the Strategy. Considerable mention was given to regional resilience and self-sufficiency, with recognition of the complexities related to the interplay between investment in economic development opportunities and provision of infrastructure to deliver social wellbeing. It was acknowledged that economic industrial development projects can support jobs growth but the effective planning

and delivery of essential infrastructure and social services is critical to supporting long term sustainability of regional communities. A number of infrastructure and industry investment options were proposed.

Private sector investment

Facilitating private sector investment was considered critical in supporting long-term economic development, and it was respondents' view that this should be supported by appropriate policy and regulatory conditions. Responses sought the use of public-private partnerships and alternative models of financing to deliver both economic and social infrastructure. There was general support for consideration of new models, co-funding with the private sector to support additional investment, or cost recovery models to enable investment in strategic areas. Submissions also promoted increased involvement of the private sector in the planning and design of infrastructure, for example through more collaborative infrastructure delivery models and earlier supply chain involvement. Regulatory reform and streamlining approvals processes could also facilitate greater private sector investment.

Improved access to skilled labour

Improved skill capability was considered to be critical to the economic outcomes of the State and its regions. Submissions included requests for policy and investment to encourage workers to relocate to regions, for example by reducing fly in-fly out arrangements. However, some also considered that these relocations should not be forced to better support ongoing access to skilled labour. It was suggested that government should consider investing in skills hubs, investigate how procurement practices can support skills development in local and regional labour forces, and prepare for skills transition to support the knowledge economy.

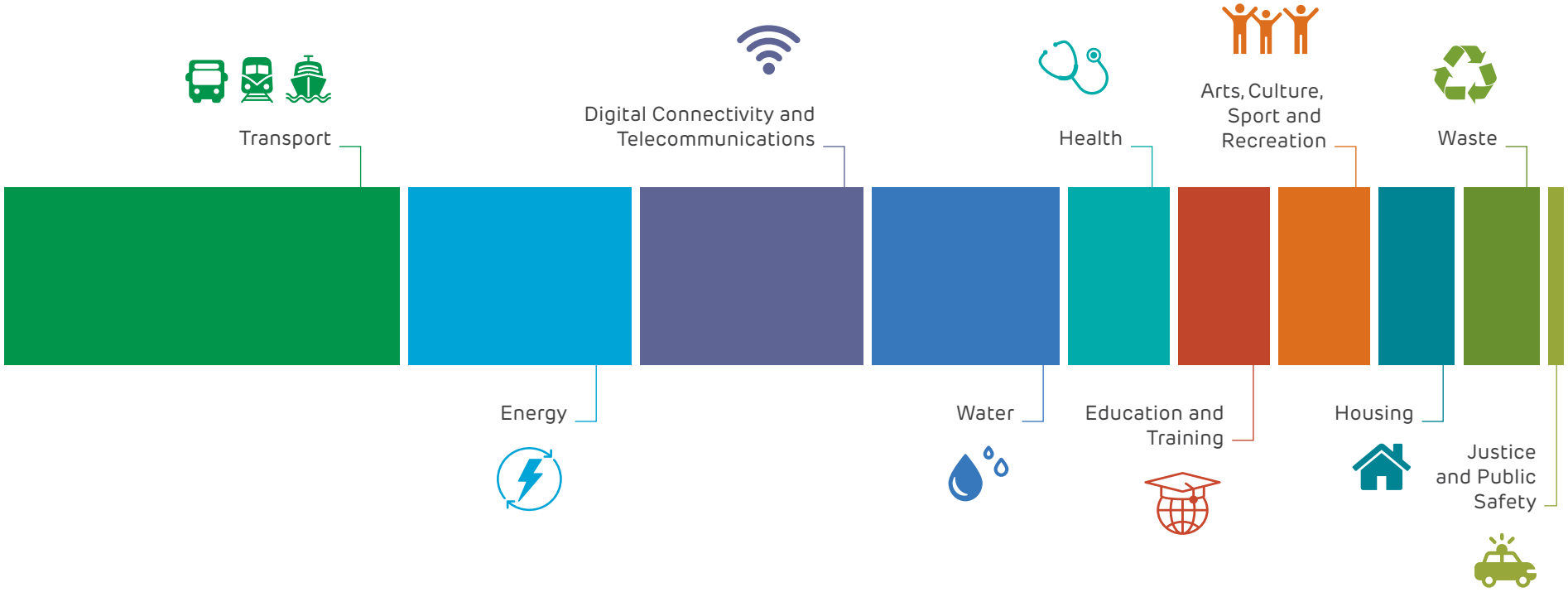
Strategic industrial areas

Respondents noted provision of well-connected strategic industrial areas, appropriately serviced by standard infrastructure such as electricity, water, gas and telecommunications, are essential to support private sector investment and economic development. State Government agencies need to be aligned on land use and required investment to support private sector involvement. Some feedback suggested that special economic zones in Northern Australia should be considered, where investment opportunities were proposed.

3.3 Themes by sector

A range of issues and opportunities were raised that directly related to the 10 infrastructure sectors identified in the Discussion Paper. Responses to Question 8 of the Discussion Paper, 'What do you think are the greatest infrastructure needs and priorities across the regions and Perth?' were categorised by sectoral relevance. Figure 9 indicates the level of interest in each of the sectors based on the number of times the sector is mentioned in response to this question.

Figure 9: Priorities/needs by sector



3.3.1 Transport

The main themes raised that are relevant to the transport sector include:

- Transport for wellbeing and liveability;
- Transport for the economy;
- Transport and the environment; and
- Transport infrastructure delivery and optimisation.

Transport for wellbeing and liveability

A significant amount of submissions signalled the desire to prioritise active transport such as walking and cycling infrastructure over other modes, supporting improved urban form, human centred design and a placed-based approach to transport. This included greater focus on local solutions, addressing road congestion, and investment in active transport. A key tenet of this theme was to develop walkable neighbourhoods with improved public transport access while also improving station precinct planning. A greater emphasis on land-use impacts for transport infrastructure investments was proposed, with a notable preference for a consolidated urban form.

Responses focused on improvements to public transport infrastructure and services, especially in the Perth metropolitan area. This includes through new train station development, increasing bus and rail public transport service frequency, light rail projects, exploring the demand on public transport services, and improving access to train stations through better bus and active transport connections.

Access to transport was also considered to have significant impact on liveability in regional areas, to enable equitable access to services, support regional development and improve connections between regional areas. This also includes providing fit-for-purpose airport infrastructure, considering subsidised intrastate travel and considering the impacts of fly-in-fly-out workers on intrastate air services.

Transport safety continues to be an important consideration for stakeholders, with the consideration of infrastructures role in improving road safety raised in multiple submissions.

Transport for the economy

A large number of respondents acknowledged the importance of transport links in facilitating access to markets to support WA export industries such as the resources and agricultural sectors, in addition to unlocking regional tourism opportunities. Both land transport, seaport and airport facilities were identified as important links in supply chains that support export industries across the State. It was suggested there is a need for improved road and rail connections and common user port infrastructure, in both metropolitan and regional WA. A large amount of metropolitan and regional projects across rail, road, port and intermodal projects have been proposed for consideration, including common user infrastructure that supports economic development opportunities. The development of a coherent and integrated State freight strategy was also suggested.

Supply chain resilience was also identified as a major issue which was highlighted by the COVID-19 pandemic. The consideration of infrastructure resilience and adaptability as part of investment decision making was emphasised.

Transport and the environment

A common thread amongst submissions related to lowering emissions of vehicles through new and emerging technologies, including electric vehicles and hydrogen. A number of respondents requested the introduction of policies to reduce transport sector emissions by providing electric vehicle charging infrastructure, and supporting the take up of electric vehicles. Respondents also supported facilitating progress by supporting and commercialising new technology, and by introducing low emission fleets. Submissions also pointed to the need to plan for autonomous vehicles, better public transport and ride sharing to reduce reliance on private vehicles.

Transport infrastructure delivery and optimisation

There was significant interest in exploring non-build solutions to deal with transport infrastructure demand and productivity.

This includes the need to consider behaviour-change programs (including when developing new public transport infrastructure) and how their benefits may delivered at greater scale, parking policy as a tool to affect road demand, and transport network pricing such as road pricing and time-of-day public transport pricing.

Improving the efficiency of existing transport networks by utilising emerging and existing technology was also suggested, such as through the use of car sharing and smart freeway technology to better manage peak period congestion. This requires consideration of digital infrastructure as an important component.

Submissions raised that a greater whole-of-life consideration of infrastructure costs and benefits investment was required to maximise the value from transport infrastructure investment decisions. This included having appropriate maintenance regimes in place to keep infrastructure fit for purpose, and ensuring that adequate records were kept to enable sound asset management decisions.

Consideration of alternative funding and financing arrangements was raised, especially in the context of projects which facilitate economic and industry development opportunities. However, stakeholders also considered that pricing arrangements should not constrain WA export opportunities.

3.3.2 Water

From the 143 submissions received in the Discussion Paper, nearly 100 related to water. The emphasis on the water sector was largely focussed around demand pressures on water resources, especially in the context of climate change impacts. It was widely considered that a sustainable approach to the provision of fit-for-purpose water infrastructure should be a high priority. The increased use of smart technologies to optimise system performance was also mentioned, with acknowledgement of the increased cyber risks that accompany automation.

Comments have been categorised under the following themes:

- Impact of climate change on water supplies;
- Water for industry;
- Water for liveability; and
- Water security in the regions and remote communities.

Impact of climate change on water supplies

It was widely acknowledged that water resources are being heavily impacted by the effects of climate change, resulting in reduced groundwater and rising salinity. Many comments support the view that climate change impacts on water resources, environmental systems and communities 'is the biggest single strategic issue impacting the water sector'. Regional areas reported to be significantly impacted by the drying climate include the south western area of the State, peri-urban agricultural areas and the Mid-West region. There was also significant concern regarding the impact of the drying climate on our natural environment.

Some submissions offered suggestions of how best to address the impacts of climate change on the water sector, including:

- Investment in alternative and more climate independent water infrastructure solutions, such as water recycling and reuse, and desalination plants;
- Protecting our natural waterways from environmentally damaging interventions; and
- Investing in water literacy and behaviour management strategies to reduce water consumption.

Water for industry

The supply of water for industrial purposes was raised as a critical concern, with particular recognition of the risks to the agricultural and mining industries as major economic pillars for the State. Stakeholders' level of concern in this area is exemplified by the comment, "Over the long term from an economic infrastructure perspective, water – its provision, cost and use – could become the most important

Nearly 100 submissions related to water. The emphasis on the water sector was **largely focussed around demand pressures on water resources,** especially in the context of climate change impacts.

sector and may become one of WA's most important commodities if agricultural exports are to achieve their full potential". Water was recognised as underpinning investment decisions in industry development and was seen as 'key for commercial and industrial areas to attract investment'. Numerous comments also pointed to increasing pressures on water supplies in regional areas, for both agricultural and other industrial purposes.

Submissions also pointed to impediments in policy areas relating to irrigated water and sewerage in housing developments in regional and peri-urban areas. It was suggested that this is impacting on the quality and suitability of housing developments in these areas.

Some potential solutions proposed included:

- Independently assessing industry water needs through provision of a well-coordinated water infrastructure program;
- Providing fit-for-purpose water supplies customised to suit local circumstances, incorporating re-use of wastewater for non-potable purposes; and
- Reviewing policies relating to reticulated water and sewerage in housing developments, to examine how to achieve development outcomes that best fit local circumstances.

Water for liveability

The importance of water on liveability and how water infrastructure can deliver broader health and wellbeing outcomes was also a common theme. Water use and drainage management to achieve urban amenity outcomes was considered important. This included providing water for 'green' and 'blue' spaces which relates to the effects that nature and ecosystems have on immediate and long-term health and well-being, public open space for sporting and other activities, and green space and tree canopies used for urban cooling effects.

Suggestions on how this might be implemented included:

- Creating water-efficient urban greening via tree pits, raingardens, wetlands and retention ponds and fit-for-purpose water sources to support greening and cooling;
- Applying water sensitive urban design principles to urban water management;
- Implementing smart and integrated water systems, moving to full water cycle management; and
- Considering targeted decentralised systems that tie into local conditions and provide fit-for-purpose water supplies, with built in resilience to deal with disruptive events such as fire and climate change.

Water security in the regions and remote communities

A number of submissions recognised the complexity of delivering water services to regional areas, noting that the current systems were likely to require supplementation in the future. Respondents noted the potential to optimise current use of potable water by investigating alternative supplies for non-potable use, and ensure that water availability is not a constraint to economic development. It was acknowledged that some areas were suffering from drought conditions and that sustainable sources of water for both town and industrial uses were required, acknowledging that current practices of trucking water were not sustainable and localised infrastructure solutions should be examined. It was also noted that water supply in some remote communities is of inadequate quality and should be addressed to contribute to 'closing the gap' in Aboriginal communities.

Suggestions to address the supply and distribution of water in the regions included:

- Implementing a similar program to Waterwise Perth in rural and regional areas;
- Drought proofing regions through investment in wastewater treatment plants and building more water storage infrastructure to help support major industries and remote areas;
- Implementing measures to protect potable water sources;
- Capitalising on underutilised water sources; and
- Maximising the use of fit-for-purpose water via water capture, desalination and other water treatment methods.

3.3.3 Telecommunications

Telecommunications infrastructure was identified as essential to delivering a strong knowledge economy and supporting digital advancements in industry and social service delivery. When considering the impacts of COVID-19 on infrastructure, respondents noted how the importance of telecommunications was highlighted by the pandemic, and the subsequent and rapid adoption of remote working practices. It was noted that government responded by quickly developing and delivering some of its services online, and businesses continued to operate by accessing telecommunications services such as remote access networks, video-conferencing and online retail and service delivery. This also placed increased pressure on information and communications technology infrastructure and increasing expectations regarding access to a high quality service.

Comments have been categorised under the following two themes:

- Digital divide in the regions; and
- Infrastructure delivery and skills for the future.

Digital divide in the regions

Strong themes coming out of the regional workshops were that deficiencies in telecommunications networks in many regional areas impacted on productivity and its communities who relied heavily on digital connectivity to access essential services, such as education and health. Discussion Paper submissions supported these views, identifying network capacity constraints in regional Western Australia, where small and geographically dispersed populations are difficult to service with reliable and high-speed internet services. Stated impacts of network deficiencies included stifled regional economic development, inequitable access to services, diminished ability to adopt modernised business practices and compete economically in an increasingly digitised economy. This was also seen as a contributing factor to declining proportion of regional populations.

Addressing the 'digital divide' between regional and metropolitan populations was considered important, and that improved telecommunications services could lead to a more engaged population base, greater economic opportunities, enhanced educational opportunities and development of skills and technology for WA's agricultural and primary industries.

Opportunities suggested to address the deficiencies in the regions included:

- Adopting cross-regional initiatives to assess and improve connectivity;
- Consolidating infrastructure across government services in large regional areas to improve quality and achieve cost efficiencies;
- Investing in regional data centres to provide localised services, decreasing system latency; and
- Exploring the potential to partner with the private sector to address commercial barriers to deliver adequate services in remote areas.

Infrastructure delivery and skills for the future

In regard to the performance of the telecommunications network, respondents raised concerns about the lack of resilience of telecommunications infrastructure in emergency situations, citing issues such as black spots, battery backup failures and outages. 'Last mile' issues were also identified, both in regional and metropolitan areas, where fibre broadband services are not provided to the premises and rely on either legacy infrastructure, such as copper networks, or satellite technology to access a broadband network connection. This can result in significant system performance deficiencies, in both speed and reliability.

Submissions from telecommunications infrastructure and service providers suggested that benefits of government partnering with private industry could include:

- Aligning and leveraging the existing operational spend of the State Government;
- Addressing commercial barriers to service delivery; and
- Leveraging existing privately owned infrastructure for time and cost savings.

Submissions also raised the concern that digital advancements, such as automation and artificial intelligence, may result in job disruptions and a need to provide skills training to transition the workforce to a more knowledge-based economy. The impact on lower skilled workers was highlighted as significant, with more impacted by displacement than higher skilled workers.

To address this skills transition, a suggested response was to build digital skills across the entire education system to meet demand for data analytics, optimisation and automation skills.

3.3.4 Energy

It was acknowledged throughout the Discussion Paper consultation program that the energy sector has significant opportunity to adopt new technologies that can assist Western Australia in reducing greenhouse gas emissions and mitigate climate change. Feedback identified affordable and reliable energy as a basic need for households, business and industry. A number of respondents outlined the requirement for better planning with land-use changes and integration across other infrastructure sectors, particularly with utilities and for digital connectivity.

From feedback provided, three common themes were identified:

- Support for renewable energy technology to reduce greenhouse gas emissions;
- Better planning and coordination across infrastructure sectors, tiers of government and with private industry; and
- Improved access to affordable and reliable energy.

Support for renewable energy technologies to reduce greenhouse gas emissions

From the 143 submissions received, 51 highlighted the opportunity to support and adopt renewable energy technologies to reduce greenhouse gas emissions and mitigate the impacts of climate change. A number of responders emphasised Western Australia as being well-placed to trial or adopt new technologies, particularly due to the fact that its energy infrastructure is isolated geographically, has good access to renewable energy resources and many energy related assets remain in State ownership. During the regional workshops, attendees highlighted renewable energy as an enabler for investment and can provide economic benefits.

Suggestions from respondents included:

- Investigating small and large scale renewable energy such as solar, wind, wave and geothermal;
- Investing in micro grids and smart grids;
- Assessing battery storage opportunities; and
- Supporting a renewable hydrogen industry.

Better planning and coordination across infrastructure sectors, tiers of government and with private industry

Many submissions highlighted the opportunity for better integration and coordination across sectors and tiers of government, specifically related to energy infrastructure. This includes better integration with strategic land use planning and coordination across tiers of government to identify areas for collaboration and additional sources of funding. Feedback also highlighted the potential for the State Infrastructure Strategy to consider Energy Policy WA's work program including the Energy Transformation Strategy, Distributed Energy Resources Roadmap and Whole of System Plan. A number of respondents highlighted the potential for coordination initiatives across other infrastructure sectors and government facilities.

Suggestions from stakeholders included:

- Creating opportunities for better coordination with transport including incentives for electric vehicles, charging infrastructure rollout and using electric vehicles as energy storage;
- Facilitating better coordination amongst planning agencies and the development industry to identify opportunities for co-location of infrastructure corridors for utilities;

- Fostering relationships and improved collaboration with the private sector to meet infrastructure requirements and creating opportunities for investment and funding.

Improved access to affordable and reliable energy

Many submissions highlighted the need for energy services to be affordable and reliable to households, business and industry. Feedback noted energy access as a basic need, and highlighted that affordability can impact on household budgets. Energy access can also position WA as an attractive destination for businesses and industry investment. A number of regional respondents highlighted the fragmented nature of the North West Interconnected System and the challenges relating to accessibility, reliability, infrastructure ownership and cost effectiveness of network upgrades.

Suggestions from stakeholders included:

- Investing in micro grids to create decentralised network connections with renewable energy and battery storage;
- Opportunities to leverage and collaborate with the private sector to access capability, experience and funding; and
- Supporting opportunities for renewable hydrogen in strategic locations.

3.3.5 Health

Stakeholders acknowledged the multi-faceted role that infrastructure plays in supporting health services, and the health and wellbeing of Western Australians. Several respondents emphasised the importance of the correlation between health services and liveability in WA, and regional areas being able to attract and retain people. Feedback also highlighted the need for more equitable access and investment in social infrastructure such as health services and aged care, but noted the complexity – given the vast geography of regional WA.

Of the 143 submissions to the Discussion Paper, 37 respondents raised public health, health services and infrastructure related issues, which have been grouped under three themes:

- Improved model of health care and provision of services delivered in WA communities;
- Proactive public health and preventative care to improve community wellbeing and reduce demand on the health system; and
- Enhanced capacity and resilience of WA's health services and infrastructure.

Improved model of health care and provision of services delivered in WA communities

A number of respondents identified that WA's model of health care needs reform to improve the accessibility of health services, particularly to the most vulnerable, by providing more care in community settings. Feedback suggested this could be achieved through in-home care, to improve wellbeing and reduce demand on hospitalisation. It was also noted that continued improvements to the transportation systems that support the movement of patients and products across the State are required.

It was recognised that health infrastructure supports migration to the regions, but feedback also noted the importance of associated infrastructure, such as worker housing, that enables health services to be delivered to regional communities. Many respondents raised the need for a stronger focus on Aboriginal health and wellbeing, both from a social justice and "closing the gap" perspective, and it was strongly suggested that alignment with relevant State and Federal policies should be pursued.

Suggested opportunities for improvements to the model of health care included:

- Implementing more telehealth services to enhance the delivery and accessibility of health services across WA, noting reliable telecommunications infrastructure is essential to support this initiative;
- Ensuring digital technology is a consideration for enhancing the quality and accessibility of health data and integration of health information systems;
- Building a connection between the justice and health systems and providing culturally appropriate social services; and
- Identifying support programs delivered through co-located services that could address health and related issues such as drug and alcohol use, cognitive disabilities, homelessness, mental illness, and victims of family violence.

Proactive public health and preventative care to improve community wellbeing and reduce demand on the health system

Several respondents emphasised the need for WA to take a more proactive approach to improving public health and reduce unhealthy behaviours in the community by addressing the wider causes of health issues. Studies were cited that support the view that health outcomes are partially attributable to a combination of social and cultural lifestyle factors, relating in particular to some of the poor outcomes evident in Aboriginal communities.

Respondents also raised climate change, induced heat stress and a heightened risk of skin cancer as a health issue. It was suggested that there is a role for infrastructure in mitigating the effects of the sun and a suggestion that the impacts of infrastructure on health outcomes should be assessed in the planning and delivery process.

Suggestions on how demand on the health system can be reduced included:

- Using regulation and policy to address issues such as road safety, social and affordable housing, food security and providing green infrastructure, and subsequently reduce the demand for hospitalisation and increase the sustainability of the health system;
- Making sure infrastructure takes into consideration year-round ambient UV levels by providing solutions such as shaded areas, given WA's high skin cancer rates;
- Mitigating the urban heat island effect through good urban design and addressing tree canopy loss;
- Supporting long term health research to support community wellbeing, including maximising the use of medical research infrastructure; and
- Undertaking "health impact assessments" on infrastructure projects to understand their health impacts and strengthen public health measures, such as increasing active transport and green spaces.

Enhanced capacity and resilience of WA's health services and infrastructure

Respondents noted the need to increase the capacity shortfalls in the health system to meet increasing demand, reduce waiting times and avoid delays to access health services. This includes issues such as elective surgery waiting lists and ambulance ramping. It was reported that the "public health system cannot effectively manage current demand", with a need for additional beds to meet demand.

It was also noted that there are ongoing and significant challenges with ageing infrastructure and plant, with some of the oldest hospitals in various states of disrepair and in some cases, below standard. Several health facilities were identified as requiring attention.

The State's mental health system was regarded by submitters as lacking contemporary, suitable infrastructure and that increasing capacity of mental health facilities across the health system should be a priority.

Respondents raised the need for a collaborative platform for cross-government planning, to address a lack of coordination and increase engagement with the community, future consumers, and medical practitioners. Feedback suggested better collaboration in the design and construction of health infrastructure would enhance services, and avoid delays and operational issues.

Respondents raised the importance of the health and aged care sector adequately preparing for public health risks and trends, such as pandemics and an ageing population, by improving the resilience and adaptability of health services and facilities, and increasing local manufacturing capacity. Increase in demand may also potentially result in workforce and skills shortages. It was suggested that the local government and property sectors would have an important role in delivering local solutions in affordable housing for an ageing population.

3.3.6 Justice and public safety

From the 143 submissions, 17 stakeholders made 23 comments relating to the justice and public safety sector. Twelve of those comments referenced justice issues, 10 referenced emergency response issues, and six referenced police issues.

The submissions highlighted that the sector would benefit from the following themes:

- Leveraging digital and telecommunications opportunities;
- Fresh approaches to engagement and partnerships with Aboriginal people; and
- Improved asset management and demand management.

Respondents identified digital and telecommunications infrastructure as a significant opportunity where the State Government can take advantage of modern approaches to this sector's service delivery, collaboration and incident response. Suggestions included digitisation, automation, data-analytics and information sharing across police and justice services; real-time emergency response information sharing with the public; and a single government communications and radio network.

Multiple respondents raised the need for a fresh approach to the sector's interaction with Aboriginal communities in order to reduce

the high rates of its people's incarceration in WA. Suggestions included a mixture of build and non-build options, with the key being Aboriginal-led solutions in partnership with the State Government.

Common themes raised by respondents also included:

- Streamlining asset management, maintenance and replacement through consideration of co-location opportunities;
- Adopting early and non-traditional preventative community engagement to reduce the demand for police, courts and prisons; and
- Recognising significant interdependences across and between many of the sectors, in particular how improvements in other social infrastructure sectors can reduce the demand on police and justice services.

3.3.7 Arts, culture, sport and recreation

From a total 143 submissions, 43 referred to the arts, culture, sport and recreation sector. Of the 43 submissions, 10 were received from local governments, six from State Government agencies and three from regional development authorities. The remaining respondents were a mixture of industry, not-for-profit, academia and individuals.

The following themes relating to the contribution of arts, culture, sport and recreation were identified:

- Contribution to liveability and wellbeing;
- Aboriginal empowerment through investment in art and culture; and
- Economic benefits of the arts, culture, sport and recreation sector.

Contribution to liveability and wellbeing

The high contribution to liveability, creativity and sense of identity that is made possible by the arts and cultural activities was strongly reflected in the consultation responses. It was widely acknowledged that investment in this area is often not as highly prioritised as other sectors, as these benefits are not as easily identifiable and tangible to quantify.

The value placed on public open spaces used by communities for sport, exercise, relaxation and social connections was reflected strongly in responses relating to the sector. This includes 'green', or natural and built areas such as parks, gardens, nature trails, walking and cycling paths; and 'blue' infrastructure including beaches, rivers and foreshores and the facilities that support activities in these locations.

It was also recognised that these spaces and the activities they support contribute to preventative health measures for lifestyle-related health issues, such as obesity and Type 2 diabetes. In fast-growing urban areas, public space is highly valued and sometimes over-used, with a high cost of land, and operating and maintenance costs impacting on delivery of new green, blue and recreational spaces.

Themes identified from consultation responses included:

- Integrating arts and cultural infrastructure to enhance the value of other types of infrastructure through leveraged investment. This can help embed arts and culture into land use and infrastructure planning and provide greater benefits and community access to arts and cultural infrastructure;
- Investigating the viability of shared or multiple use facilities in response to the increasing demand for use of public open space and community facilities; and
- Exploring community use of restricted green spaces within urban areas, such as school ovals and facilities and golf courses.

Aboriginal empowerment through investment in art and culture

A number of responses acknowledged the role that arts and cultural infrastructure plays in the social and economic empowerment of Aboriginal people, particularly in regional areas. Multiple responses called for greater investment in art and cultural infrastructure that will contribute to greater celebration and promotion of Aboriginal peoples' cultures, languages, relationships to Country, knowledge and heritage, as well as increased access to Aboriginal cultural experiences through tourism. Investment in culture can provide wider socio-economic benefits to Aboriginal communities, particularly in rural and remote areas.

Proposed responses from consultation included:

- Facilitating greater use of digital technology to increase access to art and cultural infrastructure and providing new ways of accessing collections online and digital collaboration opportunities, particularly in the screen, immersive and digital media sector; and
- Investing in cultural facilities to share, celebrate and showcase the culture and art of Aboriginal people.

Economic benefits of the arts, culture, sport and recreation sector

Respondents noted the direct and indirect contribution the sector makes to the economy. The strong linkages between the sector and the tourism and hospitality industries were evident in the responses received. Many cited the COVID-19 pandemic and subsequent restrictions to highlight the interdependencies and the similar immense impacts experienced. It was also acknowledged that the sector is likely to take the longest time to recover from the effects of the pandemic.

A number of respondents felt that greater investment in the sector was needed due to its role as an economic driver, job creator and the substantial contribution it makes to liveability and social cohesion. There was also strong support for further development of tourism generally, as well as Aboriginal cultural tourism experiences.

Respondents suggested that identifying and integrating the true costs and benefits of the sector into government decision making was required. Governance, which is often at a community level, is highly fragmented. This presents a number of challenges such as, competition for use of facilities and funding, difficulty in incorporating the sector's requirements into land-use planning and a lack of comprehensive data on the sector as a whole.

Respondents noted that maintenance and capital works backlogs, combined with ageing assets, means that without appropriate long-term funding, the quality and accessibility of facilities for users will decline.

Proposed responses raised during consultation included:

- Developing new co-located, multi-use 'hubs' as social infrastructure activators within public transport precincts; and
- Improving co-ordination across all levels of government to ensure green, blue and recreation spaces are considered, and natural landscapes preserved, in land-use planning processes and new developments.

3.3.8 Education and training

Throughout the Discussion Paper consultation program stakeholders highlighted the critical role education and training plays in unlocking social and economic opportunities in Western Australia.

Key themes developed from feedback included:

- Access to education and training in regional WA;
- Adapt to the changing nature of jobs and technology; and
- Integrate education and training with vibrant and accessible places.

Access to education and training in regional WA

From 143 submissions received through the Discussion Paper, 27 highlighted the importance of equitable access to education and training for all Western Australians. When asked what the greatest infrastructure needs and priorities were across the regions and Perth, many respondents raised the need to improve access to education and training in regional WA. These stakeholders highlighted that easily accessible and high-quality education and training can contribute to liveability, while reducing disadvantage and unemployment. Some submissions also highlighted that investment in the sector may address declining populations in regional areas. Feedback from the state-wide regional workshops also indicated that developing regional education and training opportunities are a priority for the sector. The majority of the workshops also highlighted the correlation between education and training and improved liveability and wellbeing.

Suggestions from stakeholders included:

- Increasing investment in education and training in regional WA to address liveability and the declining proportion of population;
- Taking a strategic approach by locating TAFEs in locations that integrate with current and new industries; and
- Adopting the use of remote learning.

Adapt to the changing nature of jobs and technology

From the 143 submissions, 17 highlighted that the sector will need to adapt to the changing demand for jobs and skills from the emergence of new technologies. These submissions emphasised the need for education and training to respond by introducing these technologies into class curriculums and built facilities. When asked about the implications and early learnings from the COVID-19 pandemic, a number of stakeholders highlighted the opportunity to use digital connectivity to access educational and training services. The pandemic also highlighted the opportunity to address skills shortages and link education and training to emerging and diversified industries

both in WA, interstate and internationally. Feedback from state-wide regional workshops also indicated that diversification and skills for jobs of the future is a key priority for the sector.

Suggestions from stakeholders included:

- Increasing adoption of technology in the classroom;
- Recognising the importance of international education as an export market; and
- Adapting training and education facilities to align with current and emerging businesses and industry needs (for example: STEM, emerging industries including battery manufacturing, renewable energy and automation).

Integrate education and training with vibrant and accessible places

Many submissions related to education and training pointed out the opportunity for education and training facilities to integrate and be accessible to the wider community and other infrastructure sectors. Better planning and provision of sustainable and active transport modes around schools was also highlighted. Respondents also reflected on the need to better connect tertiary education with vibrant places and integrate with local industries.

Potential solutions raised during the consultation included:

- Co-locating education and training infrastructure with other social infrastructure (health, arts, culture, sports and recreation);
- Improving coordination, planning and investment in active and sustainable transport around schools;
- Increasing investment in education and training to address changing skills demand and industries; and
- Improving the adoption of technology to deliver services in classrooms and remotely.

3.3.9 Waste

Of the 143 submissions received through the Discussion Paper, 48 raised waste management issues. Three common themes emerged through the submissions and workshops:

- Improve waste management, planning and facilities;
- Promote waste reduction, recycling and reuse; and
- Transition to a more resilient, circular economy.

Improve waste management, planning and facilities

The need to improve the way waste is managed and planned, and increase capacity of waste facilities emerged as a significant theme. Respondents highlighted the importance of production cost efficiencies in the collection and processing of waste, as well as the private sector's role in processing the majority of Perth's waste. As such, respondents stressed the need for collaborative models such as regional alliances and public-private partnerships to expand waste processing capacity, and to reduce legislative barriers to enable local governments to participate in these arrangements.

Respondents noted the importance of technology and co-locating facilities to increase efficiency and scale, and that long-term planning was required to facilitate waste processing precincts with adequate buffers. Respondents noted that delivering effective waste services and infrastructure was challenging in regional and remote towns and communities, which are more reliant on landfill. Improving the waste infrastructure and services of Aboriginal communities would increase their sustainability and create employment.

Of the 48 submissions, nine raised the Waste Levy collected under the Waste Avoidance and Resource Recovery Regulations 2008. The levy is applied as an economic instrument to reduce waste to landfill, increasing the price of landfill disposal and generating funds for a range of waste and environmental purposes. Several respondents supported the use of the levy, (with one not supporting its use in regional areas), as well as increasing the proportion of funds collected being invested into expanding waste facilities. Several respondents raised concerns about changes to the legislation creating uncertainty and risking private investment in waste to energy facilities.

Promote waste reduction, recycling and reuse

Respondents highlighted the need to reduce waste across all sectors in accordance with the 'waste hierarchy', which prioritises waste avoidance. Feedback also noted the State needs to increase its reuse and recycling

48 submissions raised waste management issues, such as improved waste management, planning and facilities, promoting waste reduction, recycling and reuse; and transitioning to a more resilient, circular economy.

of waste, such as plastics, metals, paper and construction waste. A number of respondents noted the Council of Australian Government's ban on exporting certain waste products had exposed the need for WA to process its own waste and recyclable materials. Feedback was varied on waste to energy technology, with several supportive and identifying opportunities in regional areas, while others were not.

Respondents highlighted the need for regulation and programs to drive behaviour change on waste. Several also raised the need to develop and assist markets for recycled and reused materials, such as recycled concrete, to promote recycling and create economic and employment opportunities. The creation of innovation hubs to research and develop new recycled products was also suggested.

Transition to a more resilient, circular economy

The need to transition to a circular economy also emerged as a recurring theme in workshops and submissions, after being raised by 20 respondents. Several highlighted the link between increasing environmental concerns, climate change and movement towards creating a closed-loop system. It was suggested that taking a more integrated approach to the provision of waste, water and energy services and infrastructure, would drive synergies, improve waste management and increase resilience.

3.3.10 Social and affordable housing

Social and affordable housing was referenced in 46 of the total 143 Discussion Paper submissions received. There was a moderate level of interest shown, with the 46 respondents mentioning the sector in 92 responses across the 22 consultation questions. The two stakeholder groups with the highest number of respondents were not-for-profit organisations and local government, with 10 each respectively. Seven State Government agencies made submissions and the remaining 19 respondents were a mixture of Federal Government entities, private industry, academia and individuals.

Housing access and affordability

Many responses received revolved around housing access and affordability. While some responses felt IWA should address the affordability of the entire housing market, including private, it was acknowledged by the majority that the provision of social and affordable housing by government to vulnerable and at-risk people leads to positive social outcomes that benefit all members of society. Affordability was also raised as a common barrier to people moving through the housing continuum, particularly from social housing into the private market.

It was also widely acknowledged that Western Australia's current social housing stock is not being replaced at a rate higher than attrition or in-line with demand, leading to less availability of social housing and longer waitlists. The quality, size, configuration and age of social housing was also raised as an issue, as in many circumstances the housing stock is no longer suitable to accommodate the diverse demographics and spectrum of needs of tenants.

A number of responses to the two consultation questions related to the COVID-19 pandemic and raised the possibility of an economic downturn and household financial stress leading to greater pressure on the social housing system and the likelihood of an increase in homelessness. It was also acknowledged that housing related stimulus measures taken by the State Government in response to the pandemic, such as the Social Housing Economic Recovery package and Building Bonus, has contributed to employment and the continuation of economic activity across the State during this time.

Social and affordable housing's role as a conduit to employment opportunities, better social outcomes in the areas of health, education, justice and broader general wellbeing were also highlighted. Linkages were drawn by respondents to

regional and remote Aboriginal housing and the wide-ranging benefits investment in social housing can provide to those communities. It was noted that subsidised housing could be used to encourage new residents to reside permanently in the regions.

A number of responses also cited a need for greater coordination across government in regard to land-use planning. This would help achieve density and infill targets and ensure new housing developments are well-integrated within communities and close to amenities, public transport, education and employment opportunities.

Other considerations from submissions included:

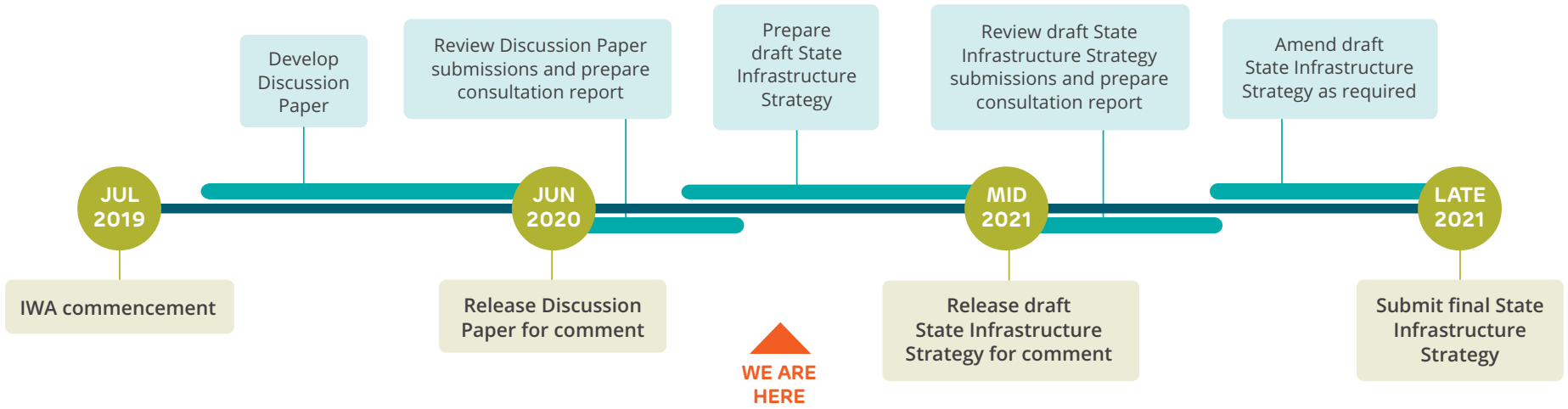
- Providing greater investment and support for the community housing sector and alternative housing development models that reduce up-front finance requirements;
- Supporting build-to-rent models, where a single building owner or operator is responsible for the operation and management of a residential complex without traditional forms of strata structures;
- Reviewing current retirement village planning requirements; and
- Increasing the use of digital technology to link population data to drive social housing insights.

4. Conclusion

IWA would like to thank and acknowledge the valuable insights provided by workshop participants, survey respondents and those providing detailed submissions and proposals on the Discussion Paper. The consultation process has provided a rich source of information for IWA to consider as it moves forward with preparing the Strategy.

IWA will use these contributions as inputs in refining the Strategy methodology; identifying priority challenges and opportunities for infrastructure over the 20-year time horizon; and determining the necessary infrastructure responses to meet current and future needs. Figure 10 outlines the key phases and milestones outlining the development of the Strategy.

Figure 10: State Infrastructure Strategy milestones



Once the Strategy is complete, the State Government will respond to IWA's recommendations, indicating the extent to which each recommendation is supported and for each recommendation that is not fully supported, indicate the reasons why. The final decision on any infrastructure investment, policy matter or other recommendation will be made by the State Government.

5. Glossary

Term	Definition
Active transport	Active transport relates to physical activity such as travel by foot, bicycle and other non-motorised vehicles undertaken as a means of transport. It relates to public transport as it often involves some walking or cycling to pick-up and from drop-off points.
Agri-business	A business in the agricultural sector that ranges from small specialist producers and growers to large scale production of crops and livestock.
Automation	The use or introduction of automatic equipment in a manufacturing or other process or facility.
Artificial intelligence	Technology that can perform tasks defined by humans without needing explicit guidance.
Augmented reality	Technology that superimposes a computer-generated image on a user's view of the real world, thus providing a composite view.
Big data	Extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions.
Blue infrastructure	Refers to beaches and waterways, such as harbours, lakes and rivers, and the facilities that support them, including foreshores, surf lifesaving and water recreation clubs, jetties and wharves.
Bottom up	See 'top-down, bottom up process'
Cross-sector	For the purpose of this report it relates to a topic, theme or challenge that affects more than one of the identified infrastructure sectors.
Circular economy	A circular economy retains the value of materials in the economy for as long as possible, reducing the unsustainable depletion of natural resources and impacts on the environment.
Consolidated urban form	See 'Urban consolidation'
Cultural hub	A clustering of cultural venues such as museums, galleries and performance spaces with secondary attractions including food and retail.
Cyber security	The act of protecting networks, devices, and data from unauthorised access or criminal use and the practice of ensuring confidentiality, integrity, and availability of information.

Term	Definition
Desalination	The process of removing salt and impurities from seawater to produce fresh water.
Digital connectivity	Access to fast and reliable internet connection (fixed or mobile) which enables users to benefit from smart and digital services.
Digital disruption	The effect that changes the fundamental expectations and behaviours in a culture, market, industry or process that is caused by, or expressed through, digital capabilities, channels or assets.
Digital first	A philosophy that approaches any new opportunity, or problem, with the assumption that delivery should focus on a digital solution over a conventional method or approach.
Global trade connectivity	A living ecosystem of supply chain partners all connected through a network.
Green infrastructure	The range of natural and built landscape assets which incorporate natural vegetation. It includes areas of public and private land such as parks, fields, verges, rooftop gardens, green facades, walking and cycling tracks, sporting ovals, street trees and backyards.
Internet of Things	Everyday devices that connect to the internet to send and receive data such as domestic appliances, security and metering systems, and agricultural and factory equipment.
Liveability	The degree to which a place, be it a neighbourhood, town or city, supports quality of life, health and wellbeing for the people who live, work or visit.
Macro trend	A long-term directional shift that affects a large population or economy, often on a global scale.
Net zero emissions	Achieving a neutral balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere.
Peri-urban	An area that surrounds a metropolitan area or city that is neither urban nor rural in the conventional sense.
Public-private partnership	A collaboration between government and a private-sector company that can be used to finance common infrastructure projects such as public transportation networks, parks, and convention centres.
Public realm	A space to which the general public has right of access.
Salinity	Concentration of salt at or near the soil surface causing reduced plant growth, reduced water quality and damage to infrastructure.
Sector	For the purpose of this report, it relates to the ten identified infrastructure sectors.

Term	Definition
Scenario planning	A strategic planning method for envisaging and testing what the future might hold for an organisation, industrial sector, society, economy or the State and attempts to identify the major drivers that are likely to shape our future and gauge the impact these will have.
Smart infrastructure	A framework to develop, deploy, and promote Information and Communication Technologies in urban landscapes.
Supply chain	A system of organisations, people, activities, information, infrastructure and resources involved in supplying a product or service to a consumer.
Telehealth	The use of telecommunication technologies for the purpose of providing telemedicine, medical education, and health education over distances or into remote areas.
Top-down, bottom up' process	A detailed bottom-up assessment of agency material, stakeholder submissions, and best practice over the next ten years, followed by a strategic top down assessment that largely focussed on the long term outlook from 11 to 20 years.
Urban consolidation	The process of increasing or maintaining the density of housing in established residential areas.
Urban heat island effect	Where the ambient temperature of an urban area is significantly higher than that of surrounding rural or natural areas, contributed by human and energy activity, also through reduced tree canopy cover.

Photo acknowledgements

IWA would like to thank the many State Government agencies, government trading enterprises, local governments and other entities who have generously made their photography available for IWA's use. *(In order of appearance)*

Broome Port Authority
Cover Broome Port

City of Perth
Cover Supreme Court of Western Australia
p16 Forrest Place, Perth

Tourism Western Australia
Cover Murchison wildflowers
p21 Crop in the Ord Irrigation Project
p40 Elizabeth Quay playground

Fremantle Ports
p7 Fremantle and surrounds
p8 North Quay, Fremantle

General stock images
p9 Beringarra Road
p13 Fire station, Fremantle
p14 Road train in rural WA
p24 Cycling in Bunbury
p27 Farm in the Wheatbelt
p36 Solar panel farm
p39 District Court of Western Australia

Mandurah and Peel Tourism Organisation
p18 Aerial of Mandurah

METRONET
p26 Bayswater Junction

Development WA
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Water Corporation
p33 Groundwater replenishment

University of Western Australia
p35 UWA Multimedia Centre
p42 Crawley campus

South Metropolitan Health Service
p37 Fiona Stanley Hospital

Optus Stadium
p41 Optus Stadium

Southern Metropolitan Regional Council
p44 Waste sorting

Department of Communities
p45 Medium density development, Willagee

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