

Appendix 1 Recommendations

2 Integrating land use and infrastructure

1. Infrastructure NSW recommends that the Greater Sydney Commission lead the preparation of a place-based strategic business case for the pilot growth infrastructure compact in the Greater Parramatta to the Olympic Peninsula area by the end of 2018. (Planning: 0-5 years)
2. Infrastructure NSW recommends that, subject to the outcomes of the pilot growth infrastructure compact, the Department of Planning and Environment prepare place-based strategic business cases to inform future updates to Regional Plans and District Plans. (Planning: 0-5 years)
3. Infrastructure NSW recommends that NSW Government agencies integrate the infrastructure priorities necessary to support Growth Areas, Planned Precincts and growth infrastructure compacts (subject to the outcomes of the pilot growth infrastructure compact) into asset management plans and capital infrastructure plans. (Policy: 0-5 years)
4. Infrastructure NSW recommends that the NSW Government Architect develop a 'Movement and Place' practitioner's toolkit by the end of 2018 to support both *Better Placed – An Integrated Design Policy for NSW* and the *Movement and Place Framework*. (Policy: 0-5 years)
5. Infrastructure NSW recommends that the Greater Sydney Commission establish a trial program to use predictive analytic tools to support the Greater Parramatta to Olympic Park pilot growth infrastructure compact by the end of 2018. (Policy: 0-5 years)
6. Infrastructure NSW recommends that the Department of Planning and Environment develop a plan by the end of 2018 for a 'Collaborate Before You Build' model for co-use of utility assets. (Policy: 0-5 years)
7. Infrastructure NSW recommends that the Department of Planning and Environment introduce planning rules to integrate telecommunications infrastructure (such as nodes, towers and pit and pipe infrastructure) into new developments by the end of 2018. (Policy: 0-5 years)
8. Infrastructure NSW recommends that the NSW Government provide funding for a second round of the Corridor Identification and Reservation Fund. (Investment: 0-5 years)
9. Infrastructure NSW recommends that the NSW Government continues the implementation of the reforms to Crown land and that, as part of the Land Negotiation Program, a review is undertaken by mid-2018 of the potential for Crown land to assist in meeting open space or employment objectives outlined in Regional Plans. (Policy: 0-5 years)
10. Infrastructure NSW recommends that the Department of Planning and Environment establish by 2020 a housing and employment supply pipeline that:
 - includes a five-year housing and employment supply forecast with a 20-year qualitative outlook
 - is published in the third quarter of each year to support Government asset management plans and Budget bids
 - includes analysis of zoning and development pipeline information
 - is digitally based and implemented over three years. (Policy: 0-5 years)
11. Infrastructure NSW recommends that NSW Government agencies work together on a common timeframe to publish population and employment projections, the housing and employment supply pipeline, and agency infrastructure planning actions to coordinate the availability of key information to support Capital Infrastructure Plans and annual Budget decisions. This new common timeframe should commence in preparation for the 2019-20 Budget cycle. (Policy: 0-5 years)
12. Infrastructure NSW recommends that the Department of Planning and Environment pursue

3 Infrastructure planning, prioritisation and delivery

12. Infrastructure NSW recommends that the Department of Planning and Environment pursue

further reforms to improve major project planning approval processes. Initial reforms should include:

- providing key environmental information – including species information, government and private sector monitoring, environmental studies and approvals, and scientific research
- preparing standardised risk-based performance requirements for each industry sector. (Policy: 0-5 years)

13. Infrastructure NSW recommends that the NSW Government, where possible, explore the potential for further asset recycling initiatives. (Policy: 0-5 years)
14. Infrastructure NSW recommends that the NSW Government establish a whole-of-government process, led by Infrastructure NSW and in partnership with industry, to identify and deliver major project procurement reforms by mid-2019. The reforms should focus on driving innovation, reducing bid costs and promoting competition. (Policy: 0-5 years)

4 Asset management – assurance and utilisation

15. Infrastructure NSW recommends that the NSW Government introduce a revised asset management policy that includes a new assurance model managed by Infrastructure NSW, including updated supporting policy and guidance materials, by the end of 2018. (Policy: 0-5 years)
16. Infrastructure NSW recommends that NSW Treasury update by the end of 2018 the data

requirements for asset management plans prepared by agencies as inputs into NSW Treasury’s Capital Investment Planning policy. (Policy: 0-5 years)

5 Resilience

17. Infrastructure NSW recommends that the NSW Government invest in initiatives to improve the collection of natural hazard information and complete the NSW Flood Data Access Program by 2020. (Policy: 0-5 years)
18. Infrastructure NSW recommends that the NSW Government nominate an agency to assume central accountability for coordinating the collection of statewide natural hazard information. (Policy: 0-5 years)
19. Infrastructure NSW recommends that the Department of Planning and Environment develop a Natural Hazard Policy, supported by a broader strategic process to embed resilience considerations into land use planning, by the end of 2019. (Policy: 0-5 years)
20. Infrastructure NSW recommends that the Office of Environment and Heritage and Office of Emergency Management jointly lead the development of infrastructure-specific risk assessment tools and guidance by mid-2019 to support government agencies, the private and not-for profit sectors, and local government, to better assess the vulnerabilities of new and existing infrastructure and to identify cost-effective adaption and mitigation measures. (Policy: 0-5 years)

21. Infrastructure NSW recommends that NSW Treasury and Infrastructure NSW require consideration of risk to natural hazards and human-related threats and resilience outcomes for new and upgraded infrastructure in project business cases, capital asset planning and assurance processes as a matter of course. (Policy: 0-5 years)
22. Infrastructure NSW recommends that Roads and Maritime Services prepare business cases for evacuation road upgrade packages in the Hawkesbury-Nepean Valley by the end of 2019. (Planning: 0-5 years)

6 Digital connectivity and technology

23. Infrastructure NSW recommends that the *Connecting Country Communities* program be used to improve connectivity in regional NSW and support access to uncontended 25Mbps download and 5Mbps upload capacity by 2020 and 50Mbps download and 10Mbps upload by 2025. (Policy: 5-10 years)
24. Infrastructure NSW recommends that the Department of Finance, Services and Innovation lead a stock-take of all fibre networks owned or managed by the NSW Government during 2018 and establish a fibre optic cable network database. (Policy: 0-5 years)
25. Infrastructure NSW recommends that the Department of Finance, Services and Innovation identify opportunities to leverage NSW Government-owned telecommunications assets to improve statewide connectivity in partnership with the telecommunications industry. These

assets include towers, fibre optic cable networks, and buildings, as well as expenditure on telecommunications services. (Policy: 0-5 years)

26. Infrastructure NSW recommends that the rollout of the Critical Communications Enhancement Program be completed and funding be provided to the NSW Telco Authority to deliver the required infrastructure. (Investment: 0-5 years)
27. Infrastructure NSW recommends that by the end of 2020 the Department of Finance, Services and Innovation develop and implement an Infrastructure Data Management Framework that incorporates access to open data, is searchable in real time and is spatially enabled to support market innovation and smart asset management with sector infrastructure experts. (Policy: 0-5 years)
28. Infrastructure NSW recommends that the Department of Finance, Services and Innovation lead the development of a data infrastructure ecosystem, starting with the Foundation Spatial Data Framework, to access the future benefits of digital mapping and modelling of infrastructure. (Investment: 0-5 years)
29. Infrastructure NSW recommends that the Department of Finance, Services and Innovation prepare a business case for upgrading the Foundation Spatial Data Framework from a map to a model (a real-time 3D model of the physical environment). (Planning: 0-5 years)
30. Infrastructure NSW recommends that the NSW Government develop a Smart Cities Strategy and program business case during 2018 to identify opportunities to deliver better services through collaboration and embracing the benefits of

technology for infrastructure and public services. (Planning: 0-5 years)

31. Infrastructure NSW recommends that the Department of Finance, Services and Innovation lead the development of a whole-of-government policy framework to guide investment in the Internet of Things (IoT) and connected infrastructure to maximise the benefits and manage the potential risks of connected infrastructure. (Policy: 0-5 years)
32. Infrastructure NSW recommends that the Department of Finance, Services and Innovation leads the development of a whole-of-government policy that sets the requirements for smart technology to be embedded in all new and significantly upgraded infrastructure from 2020 onwards. (Policy: 0-5 years)
33. Infrastructure NSW recommends that the existing risk-based approach to information and cyber security and support is strengthened under the direction of the Government Chief Information Security Officer in 2018, with appropriate investment including whole-of-government governance and coordination. (Policy: 0-5 years)
34. Infrastructure NSW recommends that from 2018, cybersecurity risk assessments be included as part of the assurance process for all ICT and connected infrastructure investments, in accordance with the risk framework developed by the Department of Finance, Services and Innovation. (Policy: 0-5 years)
35. Infrastructure NSW recommends that a secure-by-design approach for new initiatives and development be adopted in accordance

with standards set by the Government Chief Information Security Officer, including the IoT and connected infrastructure, and that this be included in the connected infrastructure policy framework by 2020. (Policy: 0-5 years)

7 Innovative service delivery models

36. Infrastructure NSW recommends that NSW Government agencies (with NSW Treasury) assess their ability and capability to respond to the *Commissioning and Contestability Policy* and implement steps to separate purchaser and provider roles. (Policy: 0-5 years)
37. Infrastructure NSW recommends that the NSW Government continue to proactively identify and support infrastructure or related services where regulation can enable new markets and products to develop. (Policy: 0-5 years)
38. Infrastructure NSW recommends that NSW Government agencies apply the *Commissioning and Contestability Policy* to the development of long-term infrastructure strategies to enhance customer outcomes and enable closer collaboration, particularly in health, education, TAFE and justice. (Policy: 0-5 years)
39. Infrastructure NSW recommends that the Department of Family and Community Services, continue to work with NSW Government agencies to explore opportunities to embed social and affordable housing into future infrastructure projects, noting the benefits delivered by increasing the supply of social and affordable housing close to services, transport and community facilities. A 'lessons learned' review of

existing models should be undertaken in the first quarter of 2018 and an options paper prepared for government by the end of 2018. (Policy: 0-5 years)

8 Geographic infrastructure directions

No recommendations.

9 Transport

Transport – Regional NSW

40. Infrastructure NSW recommends that the Corridor Strategies and guidelines for submissions to the *Regional Road Freight Corridor Fund*, *Fixing Country Roads* and *Bridges for the Bush* programs adopt an increased focus on achieving goals related to road safety and network resilience. (Policy: 0-5 years)
41. Infrastructure NSW recommends that the NSW Government continue the *Regional Road Freight Corridor Fund* for a further 10 years once the current Rebuilding NSW reservation is exhausted around 2025 to overcome physical challenges and network restrictions. Investment should target freight productivity upgrades on key east-west routes linking the National Land Transport Network via a ‘top down’ strategic approach, supported by completed *Corridor Strategies* and business cases. (Investment: 10-20 years)
42. Infrastructure NSW recommends that the NSW Government continue the *Fixing Country Roads* and *Bridges for the Bush* programs for a further 10 years once the current Rebuilding NSW reservation is exhausted around 2025 to overcome physical challenges and network

restrictions. Investment should occur via a ‘top down’ strategic approach to target safety and productivity upgrades to the road network to unlock High Productivity Freight Vehicle network capacity. (Investment: 10-20 years)

43. Infrastructure NSW recommends that the NSW Government continue the *Fixing Country Rail* program for a further 10 years once the Rebuilding NSW reservation is exhausted around 2025 to overcome local rail system constraints. Investment should occur via a ‘top down’ strategic approach underpinned by a high-level network strategy. (Investment: 10-20 years)

Transport – Central Coast & Illawarra

44. Infrastructure NSW recommends that the NSW Government improve strategic connectivity between the Illawarra-Shoalhaven and the Western Parkland City by investing, subject to business cases, in the following projects over the next five to 10 years:
 - upgrades to road access into the Illawarra via the M1 Princes Motorway, including the Mount Ousley interchange and M1 Princes Motorway between Bulli Tops and Mount Ousley
 - freight and safety upgrades to Picton Road in recognition of its role as the primary connector between the M31 Hume Motorway and the M1 Princes Motorway. (Planning: 0-5 years; Investment: 5-10 years)
45. Infrastructure NSW recommends that Transport for NSW develop business cases by the end of 2020 for the deployment of Smart motorway technology along the M1 Princes Motorway between Sydney and Wollongong and the

M1 Pacific Motorway between Sydney and Newcastle to help manage congestion, improve network resilience and capitalise on future vehicle technologies. (Planning: 0-5 years; Investment: 5-10 years)

Transport – Greater Sydney

46. Infrastructure NSW recommends that it partner with NSW Government agencies to develop a ‘road map’ by the end of 2020 that examines the merits of, and outlines a pathway to, an integrated, system-wide user pricing regime across the Sydney metropolitan road and transport network that contemplates the impacts of electric and autonomous vehicle technology. (Policy: 0-5 years)
47. Infrastructure NSW recommends that Transport for NSW develop a program to reallocate and prioritise road space for on-road rapid transport links for buses and high efficiency vehicles on major routes into the Sydney CBD as major projects like WestConnex, Sydney Metro and SmartRail are completed progressively over the next five to 10 years. (Investment: 0-10 years)
48. Infrastructure NSW recommends that Transport for NSW develop business cases by the end of 2019 for the progressive delivery of a bus rapid transit network connecting the centres of Liverpool, Campbelltown, Greater Penrith, Blacktown and Western Sydney Airport over the next 10 years. (Planning: 0-5 years; Investment: 0-10 years)
49. Infrastructure NSW recommends that the NSW Government continue the *Easing Sydney’s*

Congestion program over the next 10 years with further progressive investment in targeted, small scale, high impact network management programs (such as pinch points, clearways and bus priority programs) and Co-operative Intelligent Transport Systems (such as upgrades to the Sydney Coordinated Adaptive Traffic System and Transport Management Centre). (Investment: 0-10 years)

50. Infrastructure NSW recommends that by the end of 2018, Transport for NSW develop business cases on a city-by-city basis for an annual program of investment in a network of protected cycleways linking major strategic centres across the three cities. This should be delivered in partnership with local government and be integrated with the Greater Sydney Commission Green Grid. (Planning: 0-5 years; Investment: 0-10 years)
51. Infrastructure NSW recommends that Transport for NSW, in partnership with local government, develop a 10-year rolling program that prioritises active transport at high volume and high profile locations in the Sydney CBD and other strategic centres. (Investment: 0-10 years)
52. Infrastructure NSW recommends that Transport for NSW complete business cases for Stage 1 and Stage 2 of the SmartRail program by the end of 2018 and 2019 respectively to enable progressive delivery of this program as a priority to provide capacity needed beyond 2021. (Planning: 0-5 years; Investment: 0-10 years)
53. Infrastructure NSW recommends that Transport for NSW complete the Sydney Metro West

business case before the end of 2018 and continue to progress corridor planning and protection activities for future links in the Central River City and Western Parkland City. (Planning: 0-5 years; Investment: 5-10 years)

54. Infrastructure NSW recommends that by the end of 2018, Transport for NSW complete business cases and planning for the upgrade of major public transport interchanges at Central, Redfern and Circular Quay, and develop a program for the progressive upgrade of other major interchanges across Greater Sydney. (Planning: 0-5 years; Investment: 0-10 years)
55. Infrastructure NSW recommends that Transport for NSW develop business cases to complete the deployment of Smart motorway technology and digital infrastructure across the network in time for the expected opening of the Western Harbour Tunnel. (Planning: 0-5 years; Investment: 5-10 years)
56. Infrastructure NSW recommends that subject to completion of the business case in 2018, the NSW Government invest in the Western Harbour Tunnel to complete a Western CBD Bypass and inner urban motorway network. (Planning: 0-5 years; Investment: 5-10 years)
57. Infrastructure NSW recommends that Transport for NSW complete the business case for the Western Sydney Airport motorway for delivery in time for opening of the Western Sydney Airport. Corridor planning and protection for future strategic road links in the Western Parkland City and to the Illawarra-Shoalhaven should

continue to be progressed. (Planning: 0-5 years; Investment: 5-10 years)

58. Infrastructure NSW recommends that Transport for NSW lead the development of a bulk materials transport and handling plan for Greater Sydney by the end of 2019 to support the construction and waste management sectors. (Policy: 0-5 years)
59. Infrastructure NSW recommends that the Department of Planning and Environment update the relevant State Environmental Planning Policies by the end of 2019 to further protect strategically important ports, airports, industrial lands, freight precincts and key corridors from incompatible uses to ensure the efficient movement of freight in Sydney and NSW, now and into the future. (Policy: 0-5 years)
60. Infrastructure NSW recommends that Transport for NSW finalise business cases by the end of 2018 to enable the NSW Government to partner with the Commonwealth Government to fund investment in Sydney Gateway, Port Botany Rail Duplication and Foreshore Road/Botany Road, as well as the Moorebank Intermodal Terminal Road Access Strategy, to remove bottlenecks on connections to and from Sydney Airport and Port Botany and to capitalise on development of the Moorebank Intermodal Terminal. (Planning: 0-5 years; Investment: 0-5 years)

Transport – Eastern Harbour City

61. Infrastructure NSW recommends that, by the end of 2018, Transport for NSW develop business cases for on-road rapid transit and

priority infrastructure that caters for buses and high efficiency vehicles on Parramatta Road and Victoria Road in support of the Sydney Metro West project. (Planning: 0-5 years; Investment: 0-10 years)

62. Infrastructure NSW recommends that Transport for NSW develop business cases by the end of 2019 for staged investment in on-road rapid transport links for buses and high efficiency vehicles on key corridors at the periphery of the Harbour CBD over the next five to 10 years. (Planning: 0-5 years; Investment: 5-10 years)

Transport – Central River City

63. Infrastructure NSW recommends that Transport for NSW develop a business case by the end of 2019 to augment the capacity and productivity of the Liverpool to Parramatta and North West T-Ways with additional services, enhanced signal priority and a Wentworthville T-Way-to-T-Way connection to link the two separate networks. (Planning: 0-5 years; Investment: 0-5 years)
64. Infrastructure NSW recommends that Transport for NSW develop a business case by the end of 2019 to establish an outer Parramatta ring road bypass to protect the Parramatta CBD from traffic intrusion. (Planning: 0-5 years; Investment: 5-10 years)
65. Infrastructure NSW recommends that Transport for NSW develop business cases by the end of 2019 for the progressive upgrade of key north-south arterials between the M2 and the M5 to Smart road facilities to improve connectivity,

safety and reliability. (Planning: 0-5 years; Investment: 5-10 years)

66. Infrastructure NSW recommends that Transport for NSW develop business cases by the end of 2019 for investment in on-road rapid transit links for buses and high efficiency vehicles between Greater Parramatta and surrounding strategic centres such as Bankstown, Hurstville, Kogarah and Macquarie Park. (Planning: 0-5 years; Investment: 5-10 years)
67. Infrastructure NSW recommends that Transport for NSW develop the business case for Stage 2 of Parramatta Light Rail project by the end of 2018 to enable the NSW Government to make an informed investment decision on the project. (Planning: 0-5 years; Investment: 0-10 years)
68. Infrastructure NSW recommends that by the end of 2018, Transport for NSW and the Greater Sydney Commission develop a Greater Parramatta Access Plan leading to a strategic business case for a program of works under the pilot growth infrastructure compact. (Planning: 0-5 years; Investment: 0-20 years)

Transport – Western Parklands City

69. Infrastructure NSW recommends that the NSW Government plan and protect the corridors and precincts necessary for future transport, freight, logistics, energy and communications facilities and infrastructure in the Western Parkland City. (Policy: 0-5 years)
70. Infrastructure NSW recommends the NSW Government partner with the Commonwealth Government to plan the staged investment in

mass transit to support the Western Parkland City over the period from 2036 to 2056. (Planning: 0-5 years; Investment: 20-40 years)

71. Infrastructure NSW recommends that investment in rapid, express rail services to Western Sydney Airport be considered only as a long-term proposition when an expected step-change in airport patronage occurs. (Planning: 0-5 years; Investment: 20-40 years)

10 Energy

72. Infrastructure NSW recommends that the NSW Government implement the COAG Energy Council endorsed recommendations and, through leadership and close monitoring, ensure that actions taken by the energy market closely reflect the specific needs and circumstances of NSW energy consumers. (Policy: 0-5 years)
73. Infrastructure NSW recommends that the NSW Government avoid funding new generation capacity or introducing schemes that send distortionary price signals that prevent private sector investment. (Policy: 0-5 years)
74. Infrastructure NSW recommends that the NSW Government undertake a review of the benefits of transitioning the existing State-based transmission and distribution reliability standards to a national framework administered by the Australian Energy Regulator. The review should be undertaken by mid-2020 prior to a further review of Regulatory Investment Tests, to be commissioned by the COAG Energy Council. (Policy: 0-5 years)

75. Infrastructure NSW recommends that by mid-2018, the Department of Planning and Environment accelerate the competitive release of exploration areas, in accordance with the NSW Government's *Strategic Release Framework for Coal and Petroleum Exploration*. (Policy: 0-5 years)
76. Infrastructure NSW recommends that during 2018, the Department of Planning and Environment review local planning rules and the electricity supply regulatory framework to enable new technologies and energy infrastructure and other solutions including vehicle charging. This includes using regulatory trials to determine whether these solutions are eligible to be complying developments. (Policy: 0-5 years)
77. Infrastructure NSW recommends that by the end of 2019 the Department of Planning and Environment accelerate national and state regulations for consumer protection and safety requirements for new energy technologies. (Policy: 0-5 years)
78. Infrastructure NSW recommends that the NSW Government continue to use the Climate Change Fund to deploy demand management and new energy technologies. (Policy: 0-5 years)
79. Infrastructure NSW recommends that the NSW Government focus existing mechanisms, such as the Regional Economic Growth program, on supporting skills development and jobs for industries affected by the energy transition. (Policy: 0-5 years)
80. Infrastructure NSW recommends that by mid-2019 the Department of Planning and Environment further strengthen the regulated energy efficiency standards for retail, commercial and multi-use developments and infrastructure developments. (Policy: 0-5 years)
81. Infrastructure NSW recommends that by the end of 2018, the Office of Environment and Heritage develop an updated NSW Government Resource Efficiency Policy with targets and minimum standards for demand management and energy efficient measures to ensure compliance across all agencies. (Policy: 0-5 years)
- 11 Water**
82. Infrastructure NSW recommends that the NSW Government assesses the climate science capability it requires for water resource management and infrastructure investment decision-making and act to meet its requirements by mid-2019. (Policy: 0-5 years)
83. Infrastructure NSW recommends that by early 2019, the NSW Government publish a NSW Water Statement to set out the current overarching policy context, targets and strategic outcomes for the allocation, conservation, management and control of water resources to meet the challenges of climate change and population growth, and ensure a prosperous economy. (Policy: 0-5 years)
84. Infrastructure NSW recommends that the NSW Government commence the development of regional water strategies for all catchments by early 2019 to underpin the proposed NSW Water Statement. (Policy: 0-5 years)
85. Infrastructure NSW recommends that by the end of 2018, the Department of Industry and Water NSW complete the development of regional water strategies that identify investment priorities and other policy options in the priority catchments of Gwydir and Macquarie. (Policy: 0-5 years)
86. Infrastructure NSW recommends that by early 2019, the Department of Industry, in consultation with relevant water service providers, develop regional water strategies for the Richmond and Bega priority catchments. (Policy: 0-5 years)
87. Infrastructure NSW recommends that the Department of Industry, in consultation with NSW Health, develop a risk-based approach by early 2018 to identify priority infrastructure projects that protect drinking water safety in regional NSW towns. (Policy: 0-5 years)
88. Infrastructure NSW recommends that the Department of Industry finalise the Hunter regional water strategy by early 2018 to achieve longer-term water security for the region, including the Central Coast. (Policy: 0-5 years)
89. Infrastructure NSW recommends that the Department of Industry review water-sharing arrangements by early 2019 to enable an informed response to the closure of power generation plants in the Hunter region. (Policy: 0-5 years)
90. Infrastructure NSW recommends that by early 2019, Water NSW prepare a strategic business case for the option of connecting Lstock and Glennies Creek dams. (Planning: 0-5 years)

- 91. Infrastructure NSW recommends that by early 2019, Hunter Water prepare a strategic business case for the option of constructing a potable water pipeline to Singleton, connecting to the Hunter Water network. (Planning: 0-5 years)
- 92. Infrastructure NSW recommends that Sydney Water develop a 20-year Strategic Capital Plan for Sydney's water and waste water systems by early 2019 for consideration by the NSW Government and inclusion in its Pricing Submission to the Independent Pricing and Regulatory Tribunal due in mid-2019. (Policy: 0-5 years)
- 93. Infrastructure NSW recommends the completion of the South Creek Corridor Strategic Business Case by late 2018. (Planning: 0-5 years)
- 94. Infrastructure NSW recommends that Water NSW and Sydney Water consider a portfolio of options for the augmentation of Sydney's water supply, including the findings of the South Creek Strategic Business Case, and provide advice to the NSW Government for its consideration by early 2019. (Planning: 0-5 years)

12 Health

- 95. Infrastructure NSW recommends that the NSW Government continue the high-level of investment in fit-for-purpose health infrastructure over the 10-year period from 2018 to 2028. (Investment: 0-10 years)
- 96. Infrastructure NSW recommends that NSW Health develop a 20-year Health Infrastructure Strategy by early 2019 that supports the future delivery of health services and includes:

- a future-focused analysis of emerging healthcare and non-healthcare technological disruptors and the likely impact on infrastructure required over the next 20 years
- an assessment of the suitability of existing facilities to support future care requirements and enable a higher volume and complexity of services to be delivered in the community
- investigating sites for future health facilities where new development is expected such as North Bringelly and Leppington
- a 20-year strategy for asset management and renewal
- an examination of the role of NSW Health in the delivery of future models of care, for example identifying and securing land for additional integrated community care facilities, health and medical research hubs and research centres, remote monitoring facilities and rapid response units
- further investment in ambulatory rehabilitation and mental health clinics and investment in assets to house vehicle fleets and mobile medical equipment
- consideration of options for innovative procurement models and increased private and non-government sector delivery of health infrastructure and services. (Policy: 0-5 years)

- 97. Infrastructure NSW recommends that NSW Health continue to deliver the *NSW eHealth Strategy 2016-2026*, including full delivery of eHealth Integrated Digital Patient Records and the eHealth whole-of-system digital platform. (Policy: 0-5 years)

- 98. Infrastructure NSW recommends that NSW Health periodically refresh the eHealth strategy to:
 - assess IT infrastructure requirements in acute care facilities to enable digital innovation such as clinical command centres and artificial intelligence, including data storage, communications networks and technology, as well as digital platforms
 - investigate the implications of integrating a robotic workforce into existing acute care facilities, including space allocation for robot command centres and robot pathways through hospital corridors, redevelopment of pathology labs and pharmacy, and ward, theatre and room configurations
 - assess the availability of ICT infrastructure to facilitate in-home monitoring and response, including data storage, access to next generation communications networks and digital platforms
 - assess the ability for existing research infrastructure to support ongoing health technology research. (Policy: 0-5 years)
- 99. Infrastructure NSW recommends that the NSW Government increase investment in walking and cycling infrastructure and parks and open spaces as part of the ongoing integration of health into land use planning and transport strategies. (Investment: 0-5 years)

13 Education

100. Infrastructure NSW recommends that the NSW Government fully fund and implement the *School Assets Strategic Plan*. (Investment: 0-20 years)
101. Infrastructure NSW recommends that the Department of Education develop and implement a comprehensive *School Assets Strategic Plan* program management and reporting framework by the end of 2018. (Policy: 0-5 years)
102. Infrastructure NSW recommends that the Department of Education establish a consultation framework by the end of 2018 that ensures consideration of community views and whole-of-government and place-based outcomes in the delivery of new and upgraded schools. (Policy: 0-5 years)
103. Infrastructure NSW recommends that the Department of Education develop a program to progressively convert all existing permanent learning spaces to Future Learning environments over the long term. (Investment: 0-40 years)
104. Infrastructure NSW recommends that in its next review of the *School Assets Strategic Plan*, the Department of Education:
- assess the impact of operational policies and procedures on infrastructure requirements
 - identify how the functional limitations of demountable classrooms can be addressed
 - assess the vulnerability of its assets to the impacts of climate change, natural disasters and human-related threats, and identify cost-effective adaptation and mitigation measures. (Policy: 0-5 years)
105. Infrastructure NSW recommends that the Schools Community Planning process routinely consider:
- opportunities for joint and shared use arrangements
 - opportunities to partner with the private sector
 - supporting place-making by working with local councils and government agencies in strategic land use planning
 - opportunities for locating schools on surplus government land and government development sites, or through land transfers between government agencies
 - infrastructure resilience issues. (Policy: 0-5 years)
106. Infrastructure NSW recommends that the Department of Education prepare a School Energy Strategy (2018 – 2030) by mid-2018. (Policy: 0-5 years)
107. Infrastructure NSW recommends that the Department of Education prepare a Schools *Digital Transformation Strategy (2018-2025)* in partnership with the Department of Finance, Services and Innovation by the end of 2018. (Policy: 0-5 years)
108. Infrastructure NSW recommends that the Department of Education prepare a business case by mid-2018 for a *Connecting Metropolitan Schools* program to improve digital connectivity in metropolitan schools. (Planning: 0-5 years)
109. Infrastructure NSW recommends that the Department of Education support the non-government school sector to meet its growth challenges and to identify and, where possible, remove barriers to that sector growing its student share. (Policy: 0-5 years)
110. Infrastructure NSW recommends that the Department of Education facilitate joint and shared use arrangements by:
- finalising the Joint Use Policy and Guidelines for implementation as part of Schools Community Planning by mid-2018
 - developing and promoting standard use agreements
 - ensuring appropriately skilled resources are dedicated to promoting and facilitating joint and shared use
 - working with the Greater Sydney Commission and Department of Planning and Environment to promote the integration of school and community facilities in masterplanning processes
 - working with NSW Treasury to explore flexible funding and financing options within the Capital Planning Process. (Policy: 0-5 years)
111. Infrastructure NSW recommends that TAFE NSW prepare a 20-year TAFE NSW Infrastructure Strategy by the first quarter of 2019, which considers:
- right-sizing of the asset portfolio through continued delivery of the Interconnected Training Network and the divestment of assets that are not fit-for-purpose or underutilised
 - the delivery of training services across NSW, including regional NSW and to people facing disadvantage, through the strategic

location and standardised design of the Interconnected Training Network

- pursuing partnerships with third parties to support the rollout of the Interconnected Training Network. (Policy: 0-5 years)

14 Justice

112. Infrastructure NSW recommends that the Department of Justice undertake a review of asset management across the Justice Cluster. The review should be completed by mid-2018 and include:

- a baseline asset condition and capacity assessment
- a detailed review of the role of digital technology in asset management and service delivery
- an end-to-end assessment of system pressure points
- identification of opportunities for co-located services. (Policy: 0-5 years)

113. Infrastructure NSW recommends that the Department of Justice prepare a long-term 20-year Justice Infrastructure Strategy. The Strategy, to be informed by the asset management review, should be completed by the first quarter of 2019. (Policy: 0-5 years)

114. Infrastructure NSW recommends that by the end of 2018, the Department of Justice prepares business cases to address court capacity in the Sydney CBD, South West Sydney and key locations in regional NSW. (Planning: 0-5 years; Investment: 5-10 years)

115. Infrastructure NSW recommends that the Department of Justice prepare a business case and undertake site investigations and related community consultation by the end of 2018 to address the requirement for additional long-term prison bed capacity in Greater Sydney. (Planning: 0-5 years; Investment: 0-10 years)

15 Culture, sport and tourism

116. Infrastructure NSW recommends that, following appropriate consultation, the NSW Government publish its response to the recommendations of the *2016 Cultural Infrastructure Strategy*. (Policy: 0-5 years)

117. Infrastructure NSW recommends that by mid-2018, the Office of Sport complete a Sport Infrastructure Strategy, a whole-of-sector, evidence-based investment framework and management plan. (Policy: 0-5 years).

118. Infrastructure NSW recommends that the Office of Sport:

- completes, during 2018, business cases for three facilities: Sydney Football Stadium, Stadium Australia and the proposed new Sydney indoor sport arena.
- deliver, with local government, sports and other private partners, regional and metropolitan district sports infrastructure programs. (Planning: 0-5 years; Investment: 0-10 years)

119. Infrastructure NSW recommends that by the end of 2018, the NSW Government develop a Tourism Infrastructure Strategy and whole-of-sector, evidence-based investment framework to guide investment in state-owned tourism and nature-based scientific, education, recreation and entertainment facilities. (Policy: 0-5 years)

120. Infrastructure NSW recommends that the NSW Government prepare strategic business cases by the end of 2018 for:

- providing additional cruise berthing capacity in Sydney
- renewing Circular Quay. (Planning: 0-5 years; Investment 5-10 years)

121. Infrastructure NSW recommends that the NSW Government continue the Regional Growth, Environment and Tourism Fund for a further 10 years once the current Rebuilding NSW reservation is exhausted around 2023. (Investment 5-10 years)

122. Infrastructure NSW recommends that concurrent with the update to the Sydney Airport Master Plan in 2019, the NSW Government encourage the Commonwealth Government and Sydney Airport to conduct a review of regulatory settings to improve operation in the period preceding the opening of Western Sydney Airport. (Policy: 0-5 years)