Infrastructure for Resilience

March 2022

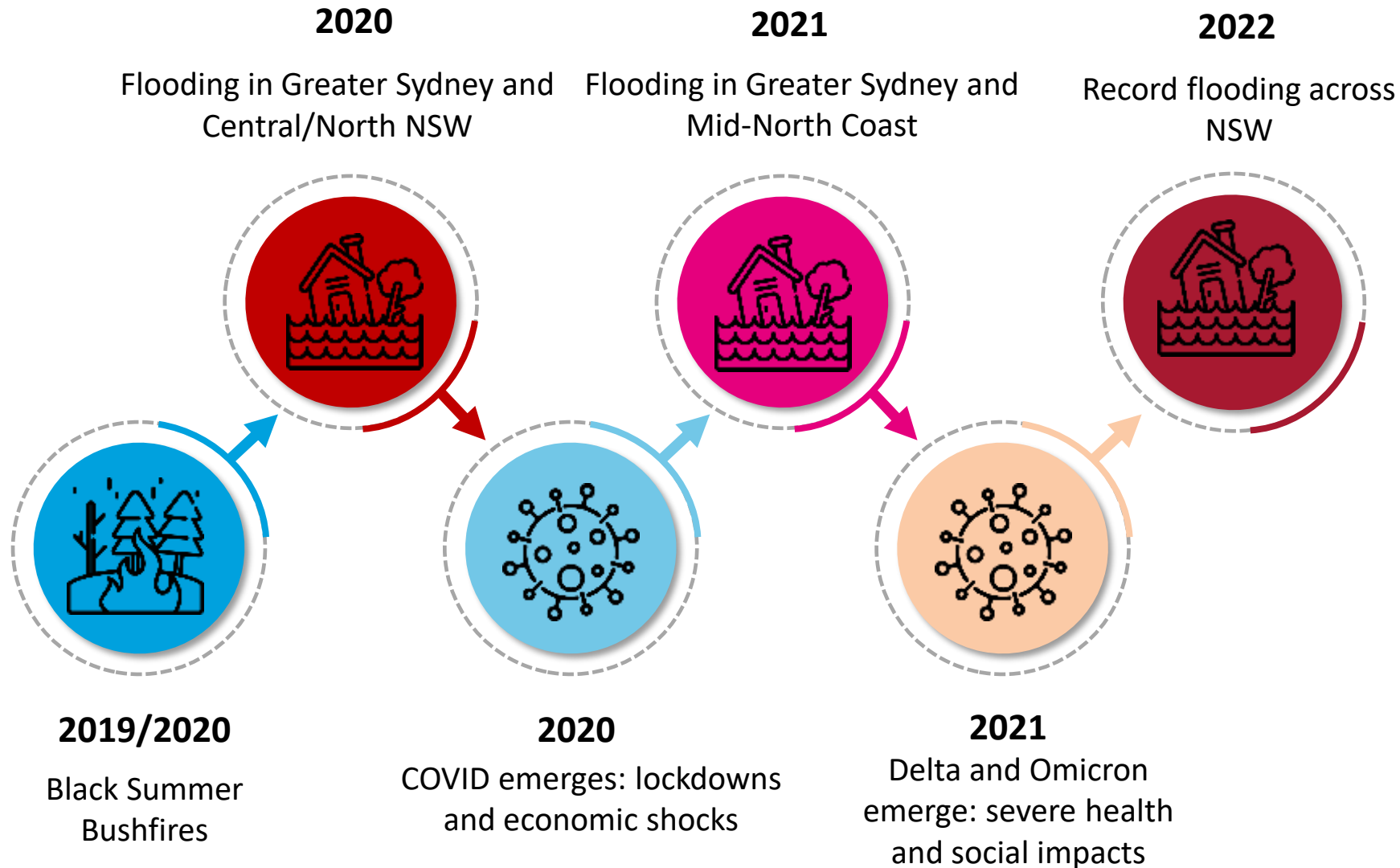Kieron Hendicott (kieron.hendicott@infrastructure.nsw.gov.au)
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Infrastructure NSW

Content

- Taking stock of the last two years and looking ahead

- From infrastructure resilience to *infrastructure for resilience*
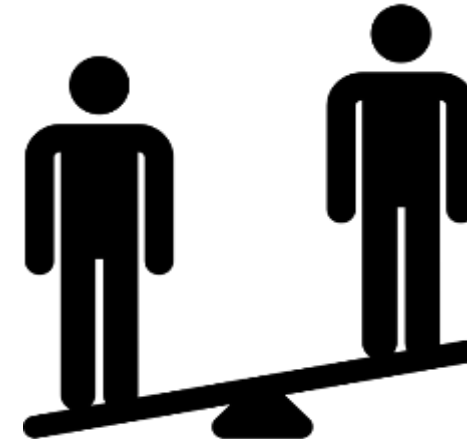
- Focus on Asset Management

Taking stock of the last two years…

2020
Flooding in Greater Sydney and Central/North NSW

2021
Flooding in Greater Sydney and Mid-North Coast

2022
Record flooding across NSW

2019/2020
Black Summer Bushfires

2020
COVID emerges: lockdowns and economic shocks

2021
Delta and Omicron emerge: severe health and social impacts

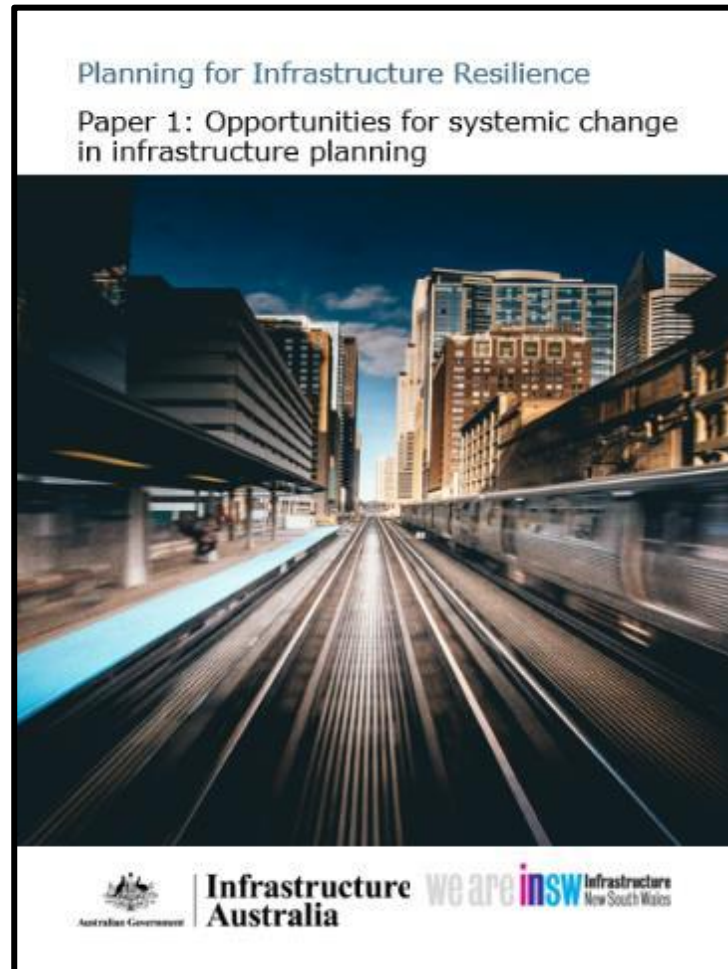NSW GOVERNMENT

What does the future have in store?

Increased impacts of more frequent and more severe natural disasters, chronic stresses, and human-induced threats
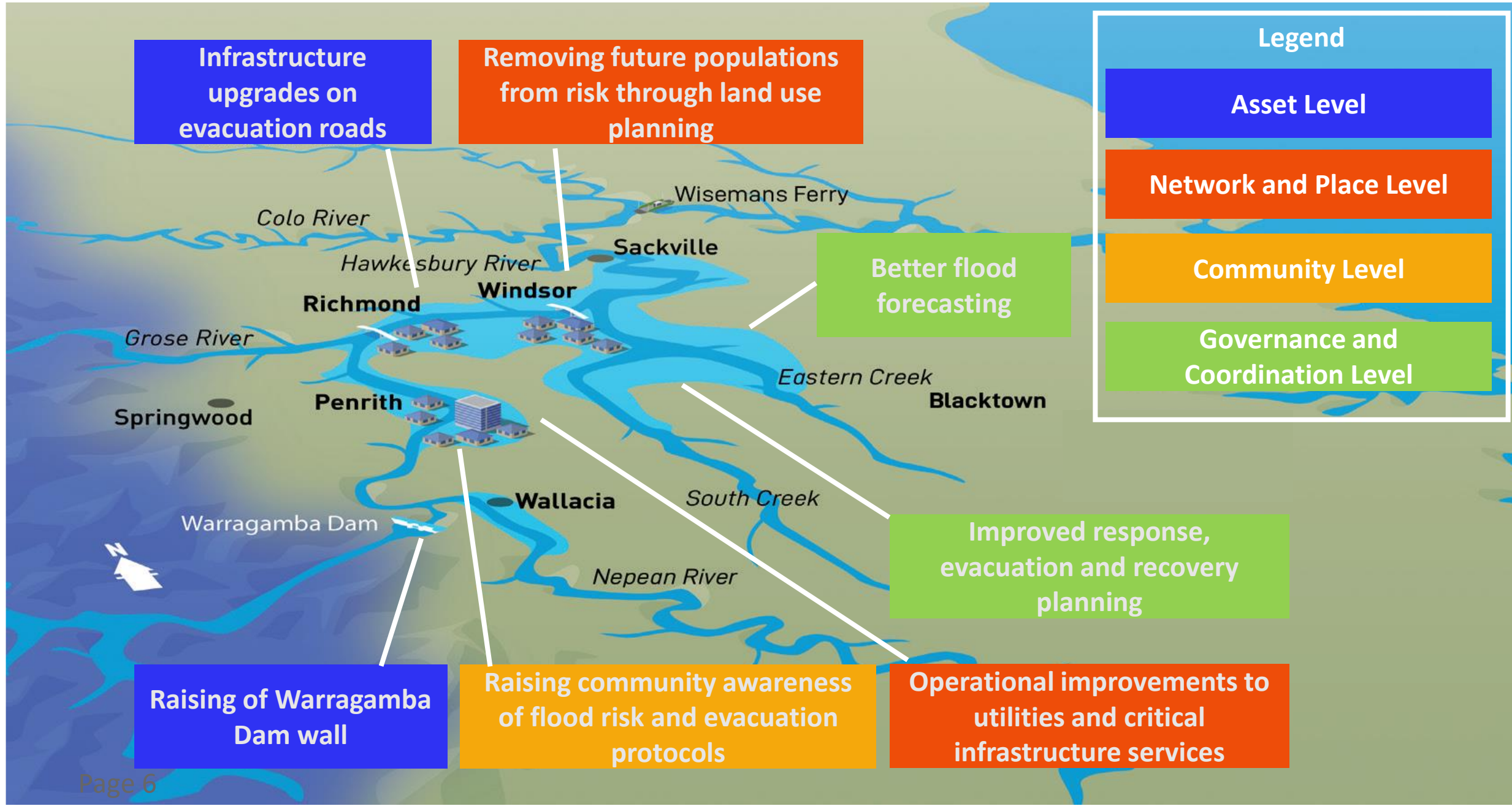
Unequal distribution of impacts most affecting those with least adaptive capacity

From infrastructure resilience to *infrastructure for resilience*

Planning for Infrastructure Resilience

Paper 1: Opportunities for systemic change in infrastructure planning
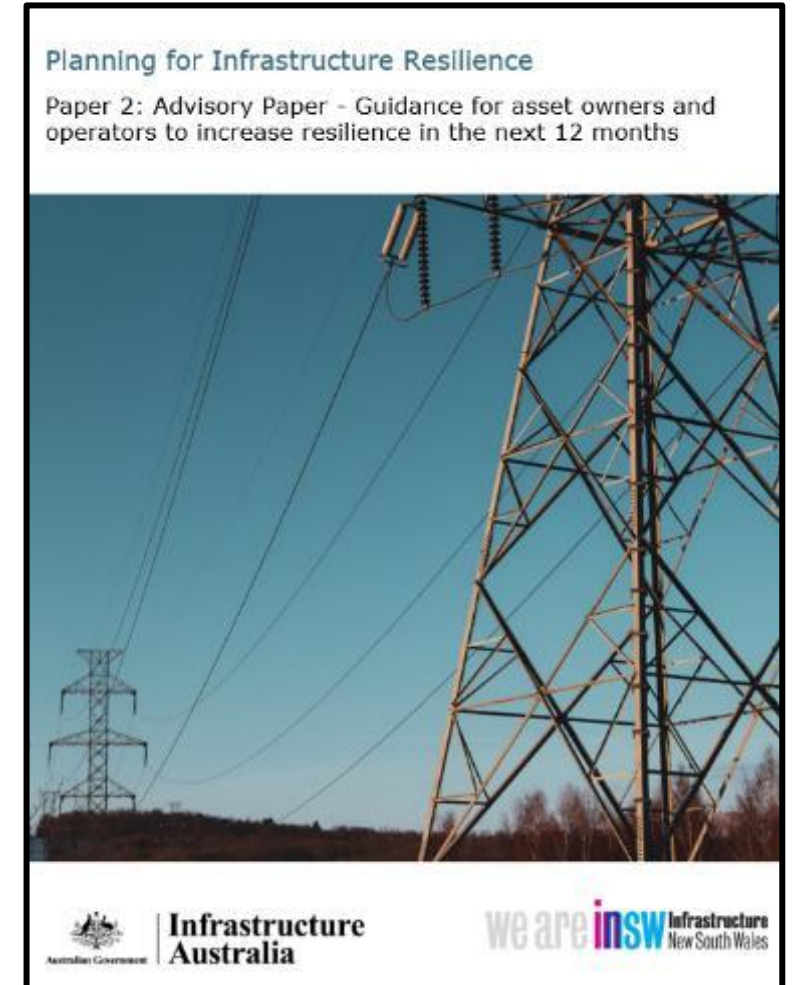
Infrastructure Australia

Taking a **systems-approach** to shift focus from the resilience of the asset, to the contribution of assets to the resilience of the system – or *infrastructure for resilience*.

Infrastructure for Resilience – an example

Infrastructure upgrades on evacuation roads

Removing future populations from risk through land use planning

Better flood forecasting

Improved response, evacuation and recovery planning

Raising of Warragamba Dam wall

Raising community awareness of flood risk and evacuation protocols

Operational improvements to utilities and critical infrastructure services

Legend

- Asset Level
- Network and Place Level
- Community Level
- Governance and Coordination Level

Map labels: Colo River, Wisemans Ferry, Sackville, Hawkesbury River, Windsor, Richmond, Grose River, Eastern Creek, Blacktown, Springwood, Penrith, Wallacia, South Creek, Warragamba Dam, Nepean River

Focus on Asset Management

- NSW's existing asset stock is large and growing

- Asset maintenance and maintenance can be overlooked when competing for funding

- Understanding interdependencies between different asset classes and operators

- Asset renewal must incorporate adaptation and "building back better"

- Maintenance and planning enhances resilience

- Embedding digitisation and technology

Planning for Infrastructure Resilience

Paper 2: Advisory Paper - Guidance for asset owners and operators to increase resilience in the next 12 months

Infrastructure Australia

we are inSW Infrastructure New South Wales

Scale of the portfolio

$410.8b
Current value

+ $110.4b over the next 4 years
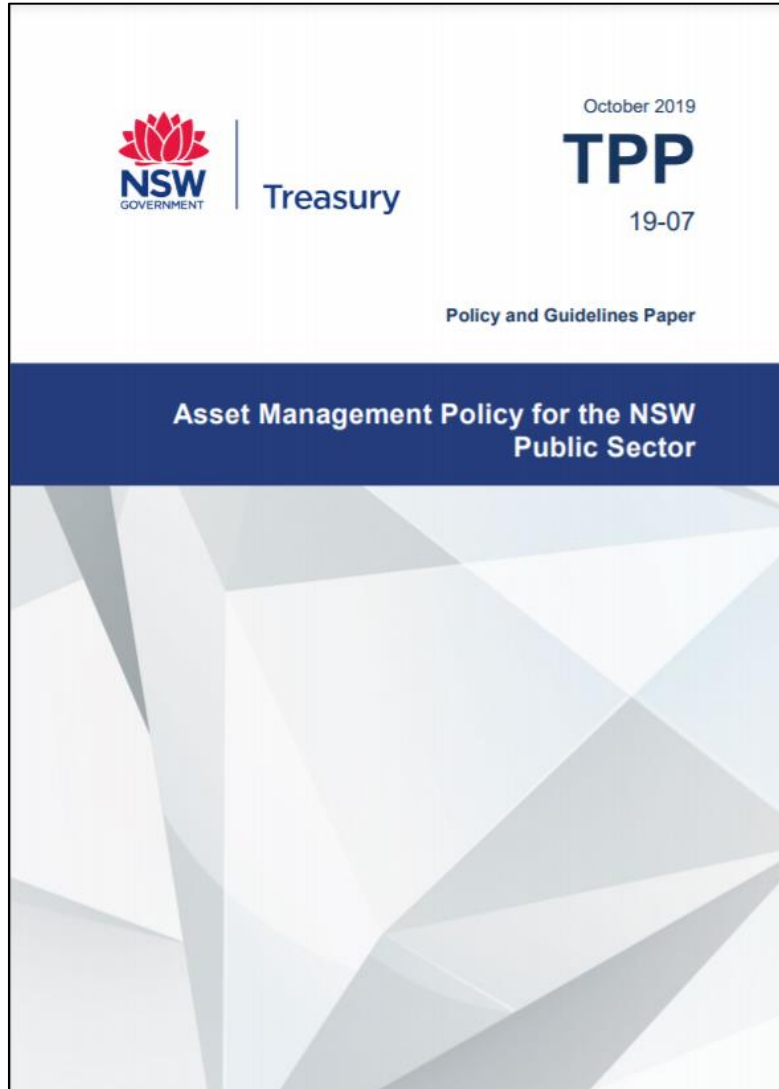
$70.2 billion for public transport and roads

$10.4 billion for hospitals and health facilities

$8.4 billion for schools and skills infrastructure

The NSW AM Policy – core requirements

October 2019

TPP

19-07

Policy and Guidelines Paper

Asset Management Policy for the NSW Public Sector

1 CORE REQUIREMENT 1

Asset Management Principles must be adopted by agencies and used to determine how assets under the agency's control are managed.

Principle 1
Assets exist to provide value by supporting government objectives

Principle 2
Agencies act as stewards of public assets on behalf of the Government

Principle 3
Asset management decisions must have regard to the appropriate balance of cost, risk and performance

Principle 4
Asset management decisions must be integrated with other organisational functions, processes, activities and data

Principle 5
Asset management decisions must be made using a whole-of-lifecycle approach

2 CORE REQUIREMENT 2

Asset Management Frameworks must be established and maintained in line with the NSW AM Policy. This includes production of Asset Management Plans, Strategic Asset Management Plans and an Asset Register.

Element 1
Establishing and managing the Asset Management Framework

Element 2
Lifecycle planning and operation

Element 3
Integration with other organisational asset policies, functions, processes activities and data

Element 4
Improving and reporting on performance

3 CORE REQUIREMENT 3

Policy Compliance and Disclosures require that Accountable Authorities must annually certify their compliance with core requirements 1 and 2 and periodically assess their asset management maturity.

AM Policy resilience requirements

NSW AM Policy mandates:

"a 'system-of-systems' approach across interconnected infrastructure networks to drive an integrated vision of infrastructure provision and management, and create value, reduce costs, manage risks and improve the resilience of assets"

asset management plans must include *"an assessment of the resilience and vulnerability of the agency's assets to the impacts of climate change, natural disasters, and human-related threats and proposed mitigations/ interventions"*

Outcomes being sought

Growth in new infrastructure	Asset use and resilience	Financial sustainability	Investment in existing assets
Outcome 1	**Outcome 2**	**Outcome 3**	**Outcome 4**
Increase NSW public sector asset management capability	Increase economic and social value of assets to meet future needs of communities	Decrease lifecycle costs and increase return from assets	Improve data and evidence supporting maintenance requirements

Thank you for listening