



Valuing Green Infrastructure and Public Spaces

Monday 12 July 2021

Department of Planning, Industry and Environment

Acknowledgment of Country

I acknowledge that today we meet on many Aboriginal lands. I am working on Darug land in Western Sydney.

I acknowledge the traditional custodians of all Aboriginal lands and pay my respect for elders past, present and emerging.

I acknowledge that sovereignty of this land was never ceded.



Project background



Premier's Priority: Greener Public Spaces

Increase the proportion of homes in urban areas within **10 minutes' walk of quality green, open and public space** by 10% by 2023.



Premier's Priority: Greening our city

Increase the **tree canopy and green cover** across Greater Sydney by planting **one million trees** by 2022.



Our approach to valuing green infrastructure and public spaces

- provide robust, repeatable and reliable methods for valuation
- establish a consistent set of parameters values for use in economic appraisals and business cases
- build the evidence bank of existing knowledge and research from across the sector.

Project objectives

To develop an agreed framework on valuing green infrastructure and public spaces.

Main components of the framework will be:

1. identification of asset categories and commonly associated benefit types
2. methods to value these benefits and guidance on applying methods
3. some parameter values and guidance on application through benefits transfer.



Literature review and gap analysis

Desktop research and literature review (2020)

- identified preliminary set of transferable benefits
- audit of significant gaps in benefit valuation for NSW
- identified valuation methods used in other jurisdictions within Australia and internationally
- 2 x studies by Deloitte on Public Space benefits

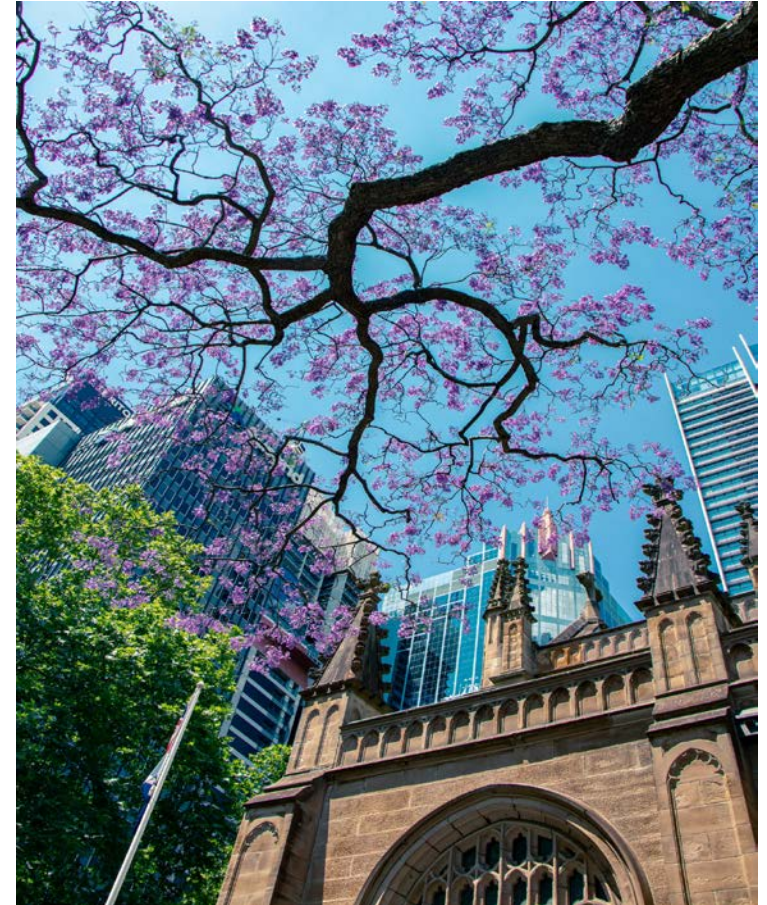


Engagement: practitioners and subject matter experts



Outcome of analysis and engagement

- Hedonic benefits
- Benefits transfer
- Other jurisdictions



Hedonic modelling

Benefits of parklands are often monetised through modelling variations in residential property prices to reveal market preferences for local environmental assets.

Limitations

- access to base case and scenario property data
- does not provide clear 'use' values or reveal the specific qualities of the parkland



Example: Western Sydney

12.2% increase in sales prices per 100 ha of new national park within 400m of a reserve

Benefits transfer

Practitioners often rely on benefits transfer from older primary studies from other jurisdictions to assess benefits of interventions.

Limitations

Can often be inaccurate and/or excluded from the analysis for not meeting NSW Government CBA Guidelines.



Value of native vegetation

Study	Study scope (ha)	Benefit in study year per ha per household (\$2009)	Benefit per ha per household (\$2019)
Mazur and Bennett 2009, Location differences in communities' preferences for environmental improvements in selected NSW catchments: A Choice Modelling approach.	1 050 000	\$0.0006	\$0.0008
Gillespie Economics 2009, Bulli Seam Operations Socio-Economic Assessment,	90 000	\$0.90	\$1.1
Gillespie Economics 2009, Mount Thorley Warkworth Operations Choice Modelling Study of Environmental and Social Impacts	90 000	\$0.41	\$3.43

Choice modelling study

Scope

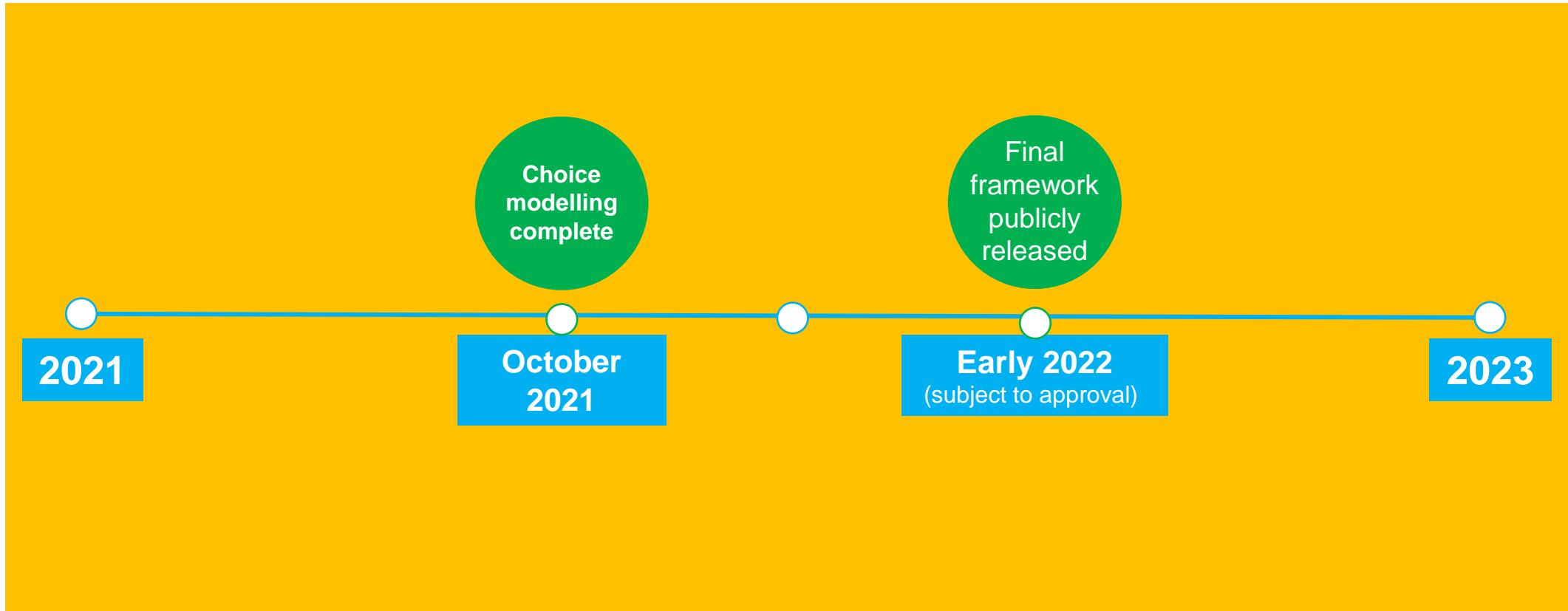
The discrete choice experiment will consider community values for:

- ecosystem services
- different typologies parkland,
- wellbeing benefits associated with urban parkland

The study will consider how different demographics value green and open space and how consumer's willingness to pay changes based on proximity to green infrastructure and public space.



Timing of framework



Remaining challenges for policy makers

Challenge of attributing climate adaptation and mitigation benefits

Urban greening and public spaces are often the front line defence of adapting to climate change.

Public spaces support community resilience, mitigate urban heat, reduce public health costs, and water filtration.



NSW Government Intergeneration Report 2021

Projections of total economic costs of natural disasters

\$5.1 billion in 2020-21
increase between \$15.8 billion - \$17.2 billion per year by 2061

Under the Intermediate warming scenario

\$30 million to \$75 million
in any single year

Direct fiscal costs under Disaster Recovery Arrangements (DRA)

Increase from \$200 million per year in 2020-21 to between \$630 million - \$700 million by 2061

What does economic theory tell us?

Determine
the scope
of
intervention

Quantify
impacts of
historical
weather
events

Quantify
changes in
future
weather
events

Model
impacts
without
adaptation

Model
impacts
with
adaptation

Analyse
options and
report
findings

Insights

- Opportunity to consider how business cases can support decision making on these assets
- It will remain a challenge to attribute marginal benefits of climate adaptation
- Differential discount rates
- Strong momentum to build the evidence base





Questions?

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Want to know more?

Sign up for project updates:

<https://www.dpie.nsw.gov.au/valuegreenpublicspaces>