



Department of
**Creative Industries,
Tourism and Sport**

Guidelines for contingent valuation of cultural infrastructure

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Purpose of these guidelines

These guidelines provide direction for project teams and consultants undertaking cost benefit analyses on cultural infrastructure projects in Western Australia.

It is intended that these guidelines help streamline the non-market valuation process, promote consistency across project and support informed decision-making, efficient resource allocation, and successful project outcomes.

While there are a range of ways to capture the non-market value of cultural infrastructure, these guidelines focus on contingent valuation. For further information, see the Discussion Paper.

These guidelines provide instructions to:

- Undertake a contingent valuation survey, a form of stated preference to elicit both use and non-use values¹
- Undertake a benefit transfer.²

By outlining a structured approach to undertaking a contingent valuation survey, these guidelines ensure all relevant factors are considered and that the contingent valuation survey is undertaken at a high standard. This helps to mitigate the risk of oversight or omission of critical considerations that might undermine the veracity of the survey results during the Cost Benefit Analysis (CBA) process.

The objectives of the guidelines are to:

- Help identify and translate benefits of cultural infrastructure projects into monetary and quantitative terms
- Help decision makers to understand more than the qualitative benefits of the proposed investment and better evaluate these against other potential investments.

These guidelines serve as a tool for supporting consistency and coherence of approach. By achieving a more consistent and coherent approach, decision makers can be more confident that investments are directed towards initiatives that deliver maximum value and benefit to Western Australia.

Project threshold

Engagement with Treasury early in the development of the business case is recommended to ensure that the level and detail of economic analysis appropriately reflects the size, complexity, risk profile, nature and cost of the proposal.

A qualitative assessment of the costs and benefits to the community is sufficient for most lower value, lower risk proposals. Cost Benefit Analyses (CBA), expressed in monetary terms, as far as possible, are to be undertaken for high-value, high-risk proposals.

¹ Use value arises from engagement with the site (direct use value), from indirect use, such as passing through the site or from knowing it could be used in the future (option value). Non-use value arises from knowing the site exists (existence value), that it will be available to future generations (bequest value) and that it is available to other people alive today (altruistic value).

² The method of applying an estimated economic value (or benefits) of one or more sites to another site.

- A CBA evaluates whether the proposal would make a sufficient contribution to society's welfare that justifies the expenditure. That is, whether value for money is being delivered. These impacts include both market and non-market specific impacts.
- It is important to quantify and monetise benefits and costs to the community where possible. If impacts cannot be assigned monetary values, they are to be described in quantitative/qualitative terms. Such descriptions can include an outline of the likely magnitude and direction (positive or negative) of the impact.
- If a CBA is required, the social impacts are to be monetised where possible. In monetising social impacts, state the robust assumptions and available benchmark comparators included.³

Development of these guidelines and further enhancements

The development of these guidelines involved a comprehensive desktop review of similar guides as well as consultation with other government agencies within Western Australia. Consultation was undertaken with Daria Incarnato and Augustin Lagarde from Simetrica-Jacobs, with First Nations guidance from Moodjar Consultancy provided as part of the development of the contingent valuation for Perth Cultural Centre. There are currently no guidelines in Australia specifically for contingent valuation of cultural infrastructure.

A note on qualitative and quantitative data

The Treasury Strategic Asset Management Framework (SAMF) guidelines note the need for the inclusion of a social impact analysis in a CBA, identifying the sectors of the community that would gain, and which (if any) would lose by each shortlisted option. Common social impacts include urban amenity, heritage, sustainability, Native Title, quality of life, health and safety, intangible economic impacts (e.g. business confidence or state development), and law and order. Where possible and pragmatic to do so, it is recommended to monetise the social and environmental impacts. If impacts cannot be monetised, a qualitative assessment is appropriate.

Furthermore, with regards to economic analysis, where possible, agencies are encouraged to provide quantitative information, even if it is not monetised, that assists in evaluating the economic impacts of the proposal. It is appropriate to supplement the quantitative information with further qualitative economic analysis.

Stated Preference

According to Infrastructure Australia's Assessment Framework, where market prices or values are not available, applicants must provide the rationale for the technique/parameters chosen and the prediction of the scale of the benefits relative to each specific proposal.

The 2 broad techniques used in Australia for putting a dollar value on impacts that are not traded in a market are 'revealed preference' and 'stated preference' techniques.⁴ Both seek to

³ Department of Treasury (2024) 'Business Case Guidelines: Strategic Asset Management Framework'. Retrieved from <https://www.wa.gov.au/system/files/2025-01/samf-business-case-guidelines.pdf#:~:text=The%20SAMF%20Business%20Case%20Guidelines%20specify%20the%20structure,Expenditure%20Review%20Committee%20%28ERC%29%20for%20review%20and%20approval>

⁴ A third approach exists called wellbeing valuation. While a more recently developed method, it is now recognised in various best-practice policy manuals worldwide such as the UK HM Treasury Green Book (UK HM Treasury Green

measure willingness to pay (WTP). The WTP helps estimate in monetary terms the value held by individuals for the good in question, that is not fully captured in market transactions (if there are any).⁵

The key difference between revealed preference and stated preference is that revealed preference techniques estimate WTP based on households' preferences that are revealed by choices made in real markets, whereas stated preference methods assess households' preferences through their choices stated in a survey context.

Revealed preference methods are generally preferred to stated preference methods, as revealed preference methods tend to be more reliable, given they are more closely related to market prices and observed behaviour, however, they do not account for non-use value. For this reason, stated preference is preferable in the arts and culture context.

Stated preference approaches use data from a hypothetical market gathered using a survey and can therefore measure demand for goods and services that have not yet gone to market or that are not traded in a market. It relies on asking people hypothetical questions to see how they respond to a range of choices, and thus to establish the extent of collective WTP for a particular attribute or benefit.

The primary disadvantage of stated preference methods is that potential bias can occur when participants do not feel obligated by the financial constraint constructed in the hypothetical market or do not consider the full range of choices or their budget constraint when answering the survey. Stated preference valuation techniques are complex and generally need to be undertaken by specialists. Using a sound methodology, including extensive testing of the questionnaire, is critical to ensure the credibility of the results.

A realistic payment mechanism, such that respondents consider their budget constraints as per any traditional market transaction, is critical to attaining robust results from stated preference surveys. The accuracy of stated preference approaches is highly dependent on survey design and the types of outcomes being valued (value estimates for unfamiliar outcomes may be less accurate). It is essential that the application of the approach in the submission is applied transparently.

Book (2022) <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020#:~:text=1.-,Introduction,before%2C%20during%20and%20after%20implementation>), the CBA guidelines set out by the OECD (Atkinson, G, NA Braathen, B Groom, and S Mourato (2018) 'Cost-Benefit Analysis and the Environment - Further Developments and Policy Use'. Berlin, Germany: Organisation for Economic Co-Operation and Development (OECD). <http://www.oecd.org/environment/cost-benefit-analysis-and-the-environment-9789264085169-en.htm>), the New South Wales Treasury policy evaluation and cost-benefit analysis guidelines ((2017) 'NSW Government Guide to Cost Benefit Analysis'. https://www.treasury.nsw.gov.au/sites/default/files/2017-03/TPP17-03%20NSW%20Government%20Guide%20to%20Cost-Benefit%20Analysis%20-%20pdf_0.pdf) and New Zealand Treasury CBAX tool (2024) <https://www.treasury.govt.nz/information-and-services/public-sector-leadership/investment-management/investment-planning/treasurys-cbax-tool>. It uses subjective wellbeing data to infer the importance of different goods or activities to individual wellbeing and in turn estimate the monetary equivalent of such change in wellbeing to provide a monetary value for such activity or good.

⁵ For example, if a museum is free to access and there is no price for entry, then there is no direct economic measure to estimate how much a visitor valued the experience. Depending on how the WTP is captured it can cover i) visitors, ii) non-visitors or iii) visitors and non-visitors. Depending on the catchment area of the site being valued, this can reflect the value to the local population.

These guidelines help provide the rationale for the technique chosen, contingent valuation, and ensure the approach to data collection and analysis is presented transparently.

It is important to note that Infrastructure Australia urges strong caution for projects that rely on a large proportion of value that is captured by non-market valuation methods.⁶

Contingent Valuation

Contingent valuation estimates how much consumers are willing to pay (or accept) to retain (or avoid) something.

The survey format may be binary with a yes/no response applied to a specific policy change at a given price or range of prices.⁷ Alternatively, respondents are directly asked for their WTP either guided by a range of plausible values or through a free form. Questions may take the form ‘what is the maximum you would be willing to pay?’ or ‘are you willing to pay \$X?’.⁸

Ticketed institutions, such as theatres, have market values. However, considering only the market value could lead to an underestimate of the full public value of a cultural institution. The WTP value estimated from contingent valuation research is best framed as **above any payment to a ticketed performance**.

Willingness to pay

The WTP estimates should be collected from visitors (for example, use value from visitors), and non-visitors to truly capture the overall value of a site (see table 1).

Table 1 Willingness to pay use and non-use value for visitors and non-visitors

	Use value	Non-use value
Visitors	WTP for the service provided by the site. Benefits can be from engagement with culture (direct use value), from indirect use, such as passing through the site or from knowing it could be used in the future (option value).	WTP for the maintenance and conservation of collections and for the continued existence of the site. Benefits arise from knowing the site exists (existence value), that it will be available to future generations (bequest value) and that it is available to other people alive today (altruistic value).
Non-visitor	While non-visitors are primarily expected to hold non-use values, non-visitors may hold elements of	

⁶ Infrastructure Australia (2021) ‘Guide to economic appraisal’. Retrieved from <https://www.infrastructureaustralia.gov.au/sites/default/files/2024-02/Assessment%20Framework%202021%20Guide%20to%20economic%20appraisal.pdf>. See also a summary of key issues provided in Fujiwara, D and R Campbell (2011) ‘Valuation Techniques for Social Cost-Benefit Analysis: Stated Preference, Revealed Preference and Subjective Well-Being Approaches A Discussion of the Current Issues’ Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/209107/green_book_valuationtechniques.pdf (Adapted from <https://www.planning.nsw.gov.au/sites/default/files/2023-10/framework-valuing-green-infrastructure-public-spaces.pdf>).

⁷ NSW Treasury, 2023, NSW Government Guide to Cost-Benefit Analysis, TPG23-08, p. 52 treasury.nsw.gov.au/financeresource/guidelines-cost-benefit-analysis, 2023

⁸ Note that more recent use of CV studies have included payment card (i.e. listing payment amount at different intervals from \$0 to \$X) or open payment choices (i.e. blank \$ for respondent to fill) to avoid respondent anchoring. See also Pearce, D and E Özdemiroglu (2002) ‘Economic Valuation with Stated Preference Techniques Summary Guide’, www.gov.uk/government/publications/green-book-supplementary-guidance-stated-preference-techniques.

	use value, such as the option value to visit the site in the future or having used it online for research or recreational reasons.	
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Guidance for survey design: Survey components

Appropriate survey design is essential to prevent potential bias in the ordering of questions and valuation scenarios.

The following guidelines provide examples of best practice.

It is recommended that advice be sought from professionals in the preparation and analysis of survey results.

It is highly recommended that an initial survey pilot be undertaken to test the survey design and obtain feedback from respondents.

The following headings provide information with regards to specific elements of the survey:

- Information about sites
- Hypothetical scenario
- First Nations elements
- Validity testing

Information about sites

- Information is provided on each site's collection, location, activities, and other general characteristics to provide respondents with a short summary (and a collage of pictures) of the site they are valuing. They provide general information about each site, how they are funded and run and their community engagement work.
- It is important to work closely with both the institution and any First Nations consultants to approve the language and information displayed to the public.
- Information about each site should be edited to reduce respondent fatigue with key site information bolded, to maximise information consumed by survey respondents.
- Where multiple sites are considered, Simetrica-Jacobs recommends researchers to consider asking respondents to distribute their WTP value across all sites at once. This approach reduces the **cognitive burden** on respondents (as they have fewer questions to answer).⁹

Hypothetical scenario

- Contingent value surveys elicit WTP by presenting hypothetical scenario(s) to survey respondents.
- Within Western Australia a 'state levy' is likely the most realistic and robust way to elicit respondents' WTP values for cultural sites of state-wide relevance and in such circumstances is the recommended approach.

⁹ It is worth noting the tendency for respondents to value the 'whole' less than the sum of the parts, as such more conservative approach is to ask to value all parts (sites) at once. This has been attributed by Daniel Kahneman to prototype theory. That is, when respondents are asked about their WTP for a single site or a wider range of sites, the prototype applied is very similar, if not the same, across all scenarios appearing to be very similar to the respondent.

- The term ‘state levy’ is used as tax is not generally collected by the Western Australian government, and so tax would not be an appropriate term to use. A levy indicates that it is a compulsory payment for all Western Australians.
- A state levy presents a realistic funding method for sites that are of state significance.
 - A state (Western Australia) levy as the payment vehicle reduces the risk of free riding (where respondents assume they would be able to avoid paying, compared to other payment vehicles such as donations where avoidance of payment could occur). It is important this be specified as a state levy (and not be left unclear if it is local, state or national).
 - A compulsory levy as the payment vehicle increases the consequentiality of the valuation survey and avoids providing different respondents with different payment vehicles (for example, it does not distinguish between locals and the general population) and is a consistent payment vehicle across both visitors and non-visitors, rather than entry fees that can only be directed at those who plan to visit the site.¹⁰
- **There are instances when a state levy may not be a realistic funding method**, such as:
 - For sites of more local significance, rather than state significance, a state levy is likely not appropriate and other payment vehicles should be considered. An increase to specific council rates is likely to be more realistic and can apply to the local population (of both visitors and non-visitors).
 - An entry fee may be suitable for certain cultural events, such as a music or film festival. It is likely that the value of such events will mainly be held by visitors, so it is acceptable to have a payment vehicle that only applies to visitors.
 - Lastly, the physical site may also create digital content e.g., granting access to digital archives, film content etc. When valuing these digital assets, a council rate may not be realistic, and an entry fee does not apply. A subscription-based payment vehicle may be most appropriate. Again, this only applies for visitors of the site, rather than non-visitors.
- **Potential questions include:**
 - Would you be in favour of a new State levy (or increase in council rates), to support the continued existence of the [site] and its activities?
 - What is the maximum you would be willing to pay annually, in the form of a new State levy (or increase in council rates), to ensure the continuation of the [site]’s services and activities at their current level?
- The state levy or council rate would be levied on behalf of the household. A household payment is important to establish for aggregation and financial spending decisions are usually made/considered at the household level.
 - Note that there is debate amongst cultural economists around the necessity of a household payment. With state levy or increase in council rate being for the whole household, asking respondents their willingness to pay on behalf of their whole household may be more realistic. However, an individual payment may reveal different preferences within households. If using a different payment vehicle (such as entry fee), a payment for themselves may be more realistic. Whether an individual or a household payment is used will need to be taken into account when aggregating.

¹⁰ Entry fees and donations were two alternative options, but entry fees are not relevant to non-visitors and donations are not incentive compatible.

- Conversely, for an entry fee or subscription payment it is more realistic to set the payment at an individual visitor level. This is also a more robust approach for the aggregation stage.
- The payment term is likely to affect the WTP values.
 - It is recommended that the payment amount is set at an annual cadence for the state levy and/or council rate. The payment term is recommended to be for four years as a reasonable period within a hypothetical scenario. The number of years for which the levy increase will be relevant must be stated, as well as whether it is a one off or annual payment.
 - For an entry fee, it is recommended that the payment is set as a one-off. For a subscription-based payment this can be set as monthly or annual payment cadence. The payment period is recommended to be no longer than four years.

Accounting for hypothetical bias

- **Testing the survey:** During the pilot stage, respondents are asked additional feedback questions on the realism, clarity and validity of the information and scenarios presented in the survey.
- **During the survey:** Counteractive treatments through so-called entreaties in the survey text are designed to reduce hypothetical bias and make the survey incentive compatible with standard welfare theory.
 - Respondents are asked to be realistic and to promise to answer as truthfully as possible, reminded of household budgetary constraints and asking them to answer as they would in a real payment situation.
 - All language should remain neutral and focus solely on budget realism, avoiding references to competing priorities which may bias results.
 - Respondents are informed that ‘studies have shown that many people answering surveys, such as this one, say they are willing to pay more than they would actually pay in reality’.
 - When valuing multiple cultural institutions, respondents are asked their WTP for individual institutions (this also enables preference testing, where some institutions are favoured more than others). This leads to more efficient value estimates as respondents can develop a better understanding of the task at hand (they can readjust the WTP value if they believe the first valuation does not accurately cover the full value when considering the sum of individual institutions that make up the overall).
- **After the survey:** Follow up responses are used to determine inconsistencies with some respondents removed during data cleaning:
 - Those who responded that they ‘did not believe they would really have to pay’ are excluded as this is an indicator that the valuation scenario was not answered in a realistic way.
 - Those who completed the survey in an unrealistically fast time are excluded. Removal of so-called ‘speedsters’ is recommended practice in CV analysis.

First Nations elements

The design of an economic valuation survey to capture the right approach should undertake consultation with First Nations people of the Country where the cultural infrastructure is located.

In the PCC example, feedback was sought from Moodjar consultancy, led by Emeritus Professor Dr Len Collard, an academic with expertise in Aboriginal Studies and Nyungar theoretical and

applied research models. Dr Collard is also a Traditional Owner of the area on which the Perth Cultural Centre is situated.

The addition of specific questions can assist to make the survey more accessible for First Nations people.

In the first instance, relevant elements and questions may include:¹¹

1. Acknowledgement of Country

An Acknowledgement of Country began the contingent valuation survey for the valuation of the Perth Cultural Centre in both the English and Noongar languages. For example:

The Department of Local Government, Sport and Cultural Industries acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of Australia and recognises their ongoing role, responsibilities and continuing connection to land, waters and culture. We acknowledge the Whadjuk People as the Traditional Custodians of the land on which the Perth Cultural Centre is located. We pay our respects to Elders past, present and emerging.

Ngulluckiny moort nitja mia Perth Cultural Centre mia katitjiny Whadjuk Noongar Boordier nitja boodjar ngulluckiny nyinniny. Ngulluckiny katitj buranginy quop koorndan noonar Noongar birdier buranginy moorditj woortbirniny wer doordook nitja birrit boodjar.

2. Cultural Heritage definitions

Define important terms such as arts, culture and cultural heritage. For example:

In this survey, we will be asking you to consider the values you hold for arts and culture (i.e., going to the theatre, viewing artworks, looking at historical artefacts) and cultural heritage (i.e., the heritage and stories of the land on which these sites sit). We want you to consider both the values you hold for arts and culture, and cultural heritage in the value of place.

By continuing this survey, you acknowledge that you understand and will consider both kinds of values.

3. Self-identification of Cultural Heritage

Ask survey respondents whether they identify as an Aboriginal and/or Torres Strait Islander person and, if so, which group/s they identified with.

4. Traditional Land question

Ask survey respondents whether they recognise the traditional Country they are residing on and to provide the traditional name if they know it.

5. Cultural significance of the land

¹¹ These are an illustrative example of important features added to the PCC contingent valuation survey due to consultation with Moodjar Consultancy. On different Country, alternative features may be more appropriate and we recommend that Elders and First Nations consultants in the area are engaged.

Following the presentation of the site information, present respondents with information on the significance and historical use of the land on which the site is located.

For example, with regards to the Perth Cultural Centre:

The Perth Cultural Centre sits on a significant cultural site to the Noongar people. This land has important cultural heritage.

- The wetlands were used for food, water, and shelter before colonialism.
- The land holds cultural significance as a meeting place (corroboree) and a birthing site.
- The land is a place of important historical events, such as activism and political oppression, such as the history of the Prohibited Area.
- The land has been used as a place of reclamation for contemporary cultural sites, through Acknowledgement of Country and programming of Aboriginal artwork and culture.

6. Importance of protection of Aboriginal culture question

Survey respondents are asked how familiar they are with the history of Noongar Whadjuk people and how important they believe it is to provide more information and visible representation of Noongar culture on the site.

PCC Case Study: Attitudes to First Nations arts and culture

Respondents were also asked specifically about their attitudes towards First Nations' arts and culture. Table 2 shows that most respondents believed it important to provide more information and visible representation of Noongar culture in the PCC (79% across visitors and 57% across non-visitors). A small portion were familiar with the site's history, and the cultural significance to Noongar Whadjuk people (12% across visitors and around 6% across non-visitors). Intuitively, a larger portion of visitors (72%) than non-visitors (45%) had a keen interest in the arts and culture of First Nations within Western Australia. Around a quarter of respondents (across visitors and non-visitors) growing up had been taken to places of First Nations cultural and heritage significance. This is significantly lower than the portion of respondents that had been introduced to art growing up.

Table 2 Attitudes towards First Nations' culture and heritage

	Visitor	Non-visitor
Agree that it is important (moderately to very important) to provide more information and visible representation of Noongar culture in the PCC (%)	78.8%	56.8%
Familiarity (very to extremely familiar) with the history of Noongar Whadjuk on the PCC site (%)	12.3%	5.6%
Keen interest (somewhat agree to strongly agree) in Aboriginal cultures and cultural heritage (%)	72.0%	45.4%
Growing up taken to places of Aboriginal cultural and heritage significance (%)	25.5%	24.4%

Validity Testing

Validity testing, as per best practice in contingent valuation,¹² includes:

- construct validity: whether the value estimates correlate in expected ways with known drivers of WTP (e.g., income, demographic factors, cultural engagement).
- content validity: whether the respondents' answers are aligned with the key characteristics of the value that the survey is designed to elicit.
- external validity: whether the estimates align with what is known from other contingent valuations of other institutions.

To undertake validity testing, a range of questions are required which explore respondents' demographics, previous cultural engagement, and follow up questions to understand their willingness to pay.

PCC Case Study: Validity testing

Using multivariate regression analysis, the willingness to pay figures were explored for theoretically consistent drivers of WTP values in ways that accord with prior expectations and previous findings from the literature. Table 3 presents the results with respect to visitors and non-visitors. This is an important test of the validity of the results obtained. WTP an annual state levy on behalf of their household for the PCC was positively and significantly associated with household income for visitors and with employment for non-visitors. This is in line with previous findings in the cultural economics literature.¹³

Listing arts and culture in one of the top five areas for public spending was positively and significantly associated with WTP for visitors. Being taken to art or cultural sites when growing up was positively and significantly associated with WTP for non-visitors. Having a keen interest in the art of Western Australia was positively and significantly associated with WTP across both visitors and non-visitors. This is in line with other CV studies which tend to find a positive and significant relation between WTP and attitudes more generally towards arts and culture.¹⁴

The model fit (Adjusted R-squared) was lower than previous research studies conducted on behalf of DCMS and Arts Council England, however broadly in line with their recent benefit transfer reports.¹⁵

Table 3 Factors associated with willingness-to-pay a state levy for the for PCC

¹² Bateman, I, RT Carson, B Day, M Hanemann, N Hanley, T Hett, M Jones-Lee (2002) 'Economic Valuation with Stated Preference Techniques: A Manual.' Cheltenham, UK: Edward Elgar.

¹³ For example, the Local Museums Report (2022) noted the positive and significant association between public funding for arts and culture as one of the top five priorities and WTP for entry or to support local museums for both visitors and non-visitors. See <https://www.artscouncil.org.uk/sites/default/files/download-file/Local%20Museums%20Report.pdf>.

¹⁴ For example, there was considerable variance in the validity tests in the Regional Theatres (2021) across regressions. See <https://www.artscouncil.org.uk/sites/default/files/download-file/Arts%20Council%20England%20-%20Regional%20Galleries%20and%20Theatres%20Benefit%20Transfer%20Report.pdf>.

¹⁵ For example, the Local Museums (2022) noted the low explanatory power of the regressions with the pooled model explaining 12.6% of the variation in WTP. See <https://www.artscouncil.org.uk/media/19746/download?attachment>.

	Visitors	Non-visitors
Female	0.876	-5.161
Log age, using age midpoint	3.15	13.994
Log of household income	6.419*	2.081
Degree	5.751	9.744
Employed	-3.136	14.513**
Taken to art or cultural sites when growing up (up to 15 years old)	0.261	9.674*
Keen interest in art of Western Australia	19.647***	14.032**
Public spending – arts, culture and heritage	19.099***	12.907
Membership – member of a cultural, heritage, conservation, or environmental organisation	7.35	4.752
Constant	-74.20602	-83.147
Observations	445	127
Adjusted R-squared	0.0944	0.1626
Notes: ***significance at <1%; **significance at <5%; *significance at <10%. Heteroskedasticity-robust standard errors		

Previous cultural engagement

Respondents are asked preliminary questions about:

- their cultural engagement (for example, *‘In the past month, which of the following have you engaged with digitally or in-person? Growing up, were you taken to museums and art galleries? Are you a member of any cultural organisation?’*)
- familiarity and use of cultural institutions (for example, *‘Which of the following sites have you visited in the past three years? How familiar were you with this information before?’*)
- and the value they place on culture and their preferences in terms of allocation of government funding (for example, *From the following, select your top five areas that you think should be prioritised for public funding*).

In relation to the sites they visited, ask respondents:

- how often they visited
- how much they paid on their last visit (if relevant)
- how satisfied they were with their last visit.

PCC Case Study: Attitudes to culture and heritage

Data collection took place in August and September 2022, shortly after the reopening of museums, theatres and galleries following the COVID-19 lockdowns in Australia. This is likely to have had an impact on the reported visitor numbers. Overall, respondents were asked about their physical visits over the past three years. Three years was a more liberal period to use (compared with, say, one year), given that so many arts and cultural organisations had been closed for large periods in this time.

Table 4 The split between visitors and non-visitors to the PCC

	PCC split
Visitor	64.2% (680/1,059)
Non-Visitor	35.8% (379/1,059)

The COVID-19 context likely had an impact on attitudes towards culture and heritage, with a stronger public focus towards supporting the health and wider economy sectors with 91% of respondents listed health as one of the top five areas for public funding. Table 5 shows that when asked which top five areas should be prioritised for public funding, 58% of visitors and 19% of non-visitors listed arts, culture and heritage.

As Table 5 shows, most respondents had been taken to art galleries and museums by their parents, guardians, or school before they turned 15 years old. This suggests that respondents have had long-term engagement with arts and cultural organisations (particularly with respect to visitors).

Most respondents had a keen interest in the arts and culture of Western Australia (87% across visitors and 55% across non-visitors). A portion of respondents were a member of a cultural organisation (32% across visitors and 8% across non-visitors) suggesting these respondents had some broader engagement with culture or the environment beyond the PCC.

Table 5 Attitudes towards arts and culture

	Visitor	Non-visitor
Introduced to art under 15 years old (%)	80.4%	59.4%
Keen interest in the arts and culture of Western Australia (%)	87.4%	55.2%
Arts, culture and heritage amongst the top 5 priorities for public spending (%)	57.5%	19.3%
Member of a cultural, heritage, conservation, or environmental organisation (%)	31.6%	8.3%

Follow-up WTP questions

To explore potential biases or misinterpretations of the questions, the survey should include follow-up questions related to the individual's WTP responses. These follow-up questions help to determine the content validity of the WTP estimates.

For example, these may include questions such as those in Table 6.

Table 6 WTP follow up questions

Topic investigated	Question
Certainty	"How certain are you that you would really be content to pay this annual 'state levy' to obtain the outcomes in the hypothetical scenario 2? Please indicate as a percentage on the slider below, where 0% is 'not at all certain' and 100% is 'completely certain'."
Motives	"Which of the reasons below best describes the reasons for you being prepared to pay a 'state levy' to preserve the site?"
Plausibility of the scenario	"Which of the reasons below best describes why you chose not to pay - I do not believe that a state levy would be raised to pay for the site"
Adequacy of payment vehicle	"Which of the reasons below best describes why you chose not to pay - I would be willing to pay a donation but not a state levy"

PCC Case Study: WTP follow up questions

The content validity of the WTP estimates was verified using follow-up questions which investigated how certain visitors were that they would be willing to pay for the PCC. Respondents were asked this about their initial stated WTP amounts and in relation to their modified WTP amounts (if indeed the respondent had modified the WTP amounts). Table 7 shows that most visitors and non-visitors were certain both initially and with their modified amounts that they would really be content to pay this annual state levy.

Table 7 Respondent certainty that would be willing to pay annual state levy for the PCC

	Visitor		Non-visitor	
	Initial certainty	Modified certainty	Initial certainty	Modified certainty
Certainty would be WTP annual levy	87.0%	91.5%	77.1%	60.6%

Note that those respondents who were 0% certain they would be willing to pay were flagged for potential screen-out.

Respondents were also asked why they were willing or why they were not WTP the annual state levy (Tables 8 and 9).

When respondents were asked to provide their motivations behind why they were willing to pay the state levy, the most frequently selected reason for visitors (29%) was that their willingness to pay was not just for the PCC, but also an expression of their support for all arts and culture in the area. This suggests that the wider arts and culture in the area is considered in their stated WTP value for the PCC. The implication is that at least 45% of respondents (across both visitors and non-visitors) provided values that strictly speaking were out of scope of the study given that the valuation scenario asked respondents to consider what they would be willing to pay for the PCC (and its seven sites) only. However, most of the art and cultural sites within the central Perth area are located within PCC, which may have an impact on the popularity of the response. The second most common selected reason for visitors (20%) was that PCC is an important arts and cultural site that should be protected. The most

frequently selected reason for non-visitors' willingness (22%) was that having the PCC in Perth contributes to the identity of the city.

Those respondents who were not certain they would have to pay (i.e., those who selected 'I don't believe that I would really have to pay' as the reason behind their WTP value) were flagged for screen-out (n=21). This provides comfort that most respondents viewed the scenario as realistic.

Table 8 Reasons behind WTP a state levy for the PCC

WTP Categories	Visitor	Non-visitor
I like visiting/I enjoyed my visit to the Perth Cultural Centre	8.9%	2.8%*
I think visitor enjoyment could be improved if the PCC had more funds	3.2%	3.6%
I may want to visit the Perth Cultural Centre in the future	5.8%	12.4%
The PCC is an important arts and cultural site that should be protected	20.1%	16.1%
My willingness to pay is not just for the Perth Cultural Centre, but also an expression of my support for all arts and culture in the area	29.2%	16.7%
Having the Perth Cultural Centre in Perth contributes to the identity of the city	11.9%	22.2%
My willingness to pay is an expression of my support for culture in general	13.5%	13.7%
The amount I stated is not only for the Perth Cultural Centre but to maintain and protect other sites in the area	3.9%	9.1%
Other	3.5%	3.3%

* We note that this result, non-visitors being satisfied with their previous visits to the PCC site as their primary reason for their WTP, is strange. However, this is likely due to how visitors have been classified as respondent who have visited the PCC site within the last three years. Therefore, the 3.9% are likely historic visitors, but have not visited within the past three years.

For those not willing to pay, the most frequent selected reason for visitors (25%) was I am already contributing enough to arts and cultural organisations through my taxes. For non-visitors, the most frequently selected reason (44%) was 'there are more important things to spend my money on than the PCC.' Again, this may reflect some other concerns at the time of data collection (such as public health concerns).

Table 9 Reasons behind Not WTP a state levy for the PCC

WTP Categories	Visitor	Non-visitor
There are more important things to spend my money on than PCC	17.4%	44.3%
I cannot afford to pay to support the Perth Cultural Centre	10.2%	20.8%
I did not enjoy my visit much	0%	0%
I don't plan to ever visit again	0%	1.6%
I am already contributing enough to arts and cultural orgs through my taxes	25.4%	13.8%
I don't mind making a donation but I don't want to pay a state levy	12.1%	6%
I need more information to answer this question	4.4%	0%
I don't feel confident stating a value that I would be willing to pay in the current uncertain climate	4%	5.6%
I don't believe that a state levy would be introduced to maintain the services of the Perth Cultural Centre	9.9%	1.6%
The period of 4 years is too long	0%	0%
Other	16.6%	6.3%

Data cleaning

To ensure validity of the results, survey responses need to be reviewed, and inadequate responses removed from the sample. Underage, spam and duplicate responses should be removed from the outset.

Other responses should be removed if they are:

- Unreliable: respondents who are given multiple flags: responses suspicious/gibberish in open text or they could not promise to answer honestly.
- Did not believe in the hypothetical: stated chose a WTP amount because they did not believe they would really have to pay, as not considering in relation to financial constraints was not considered realistic.
- Speedsters: people who completed the survey in an unrealistically fast time. For PCC this threshold was set as 5 mins.
- Those who gave multiple open-text responses that were unrelated to their respective questions.
- Those who reported a certainty they would be WTP of 0% (i.e., they were not certain of their stated WTP value).
- Those who reported a WTP outside the scope of the valuation scenario but still gave a valid response, do not need to be removed. For PCC project, this related to those who stated their willingness to pay was not only in relation to the PCC site but an expression of their support for all arts and culture.

Data cleaning is undertaken so to have a more robust set of responses that provide greater confidence in the WTP estimates.

Sampling strategy

Appropriate sampling (ensuring representativeness of the sample) enables robust estimates regardless of split between visitors and non-visitors.

- Within Western Australia we recommend sampling using a geographical clustering approach, focused on residents within Western Australia with quotas established for each of the nine regions (Gascoyne, Goldfields-Esperance, Great Southern, Kimberley, Mid-West, Peel, Pilbara, South-West, Wheatbelt, and the Perth metropolitan area) to ensure a representative sample based on age, gender, and geographical location.
- Only Western Australian residents are included in the valuation.
- For sites of more local importance, a smaller sampling frame may be used. For example, sampling residents from only one of the nine regions.

A sampling approach of 50/50 (half visitors, half non-visitors) should be used for sites of state importance

- A minimum sample of 1,000 adult (18 years and over) respondents (roughly 500 visitors and 500 non-visitors) should be the target for data collection to ensure that survey responses collected are sufficient for future valuation work such as benefit transfer
- For the visitor sample, member lists of the sites can be used to recruit while relying on panel to contact WA State residents constitutes a natural candidate for the non-visitor population (or in the case of a more local site, the relevant wider resident population).
- For sites or cultural events where it is expected only visitors will hold a value, this should

form part of the sampling restrictions. For example, excluding from the sample those who are non-visitors and targeting only visitors (for example the institution's own newsletter or communication channels may be used).

For the pilot stage a sample of between 50-100 respondents should be targeted. If the pilot responses are deemed suitable, these can be included in the overall sample of 1,000 respondents.

This sample should be cleaned to ensure reliable responses, resulting in a smaller final sample size.

Social cost benefit analysis: How to apply values using cultural estimates

- To err on the side of caution, the **lower confidence values** should be used in business cases as they provide more conservative WTP estimates.
- To aggregate the WTP values, one must multiply the respective WTP amounts by the relevant population to the business case institution.
- Use and non-use values should be represented separately. Non-use values should be drawn on as part of the sensitivity analysis rather than relying on them as part of the core estimate.

Determining populations for aggregation

- When it comes to the composition of the aggregated figure, the non-visitor value will be held at different levels depending on the reach or catchment level of the site. For example, for a site of state importance, such as State Museum or State Library, the non-visitor value is held at a state level (Western Australian population). Conversely, for a site of more local importance, such as a local theatre, the non-visitor value is held at a more concentrated level (such as, local metropolitan area population of Perth) (see table 10). This should have been reflected in the payment method adopted.
- The aggregation split between visitors and the non-visitor population reflects the proportion of visitors. Generally, there is a higher population of non-visitors than visitors.

Table 10 Determining populations for valuation for different sites

Site being valued	Visitor population	Non-visitor population	Avoid double counting
Local site (e.g., local theatre)	Total number of annual visitors to the local site (e.g., local theatre)	A local catchment area. For example, the greater Perth metropolitan population. ¹⁶	To avoid double counting of visitors and non-visitors, the number of visitors within the defined catchment area should be subtracted from the non-visitor population. Where data is not available, subtract a plausible percentage.
State site (e.g., State Museum or State Library)	Total number of annual visitors to the state site	A state-wide catchment area i.e., Western Australian population	

¹⁶ Aggregation to a national level would be disproportionate to the relative importance of the site and produce unrealistically large values, which would not be credible.

Table 11 below provides guidance on how to include the public value of a local site in social cost benefit analysis.

Table 11 Aggregation of local site case study willingness-to-pay values to a business case

	Visitor value		Non-visitor value
Lower confidence interval (CI) (95%) WTP value	Visitor WTP value		Non-visitor WTP value
	\$X.XX		\$X.XX
	X		X
Local site data	Total annual visitor households ¹⁷		Local population households (within local visitor catchment area) excluding total annual visitor households ¹⁸
	=		=
Aggregate Value	Aggregated WTP value for visitors	+	Aggregated WTP value for non-visitors
	=		
	Total non-market value of the local site case study¹⁹		

- If the institution being valued is only of value to the visitor population (and does not hold a non-use value) then the aggregation should be focused only on the visitor population. An example could be an institution solely running very localized events which do not hold a non-use value, such as a local free film festival.
- **The above example (table 11) is based on a household payment method. If instead an individual payment method is adopted, this should be reflected in the aggregation methodology i.e., taking into account the total annual individual visitors (rather than households).**
- If the total non-market value is more than the total income received by the institution, it suggests that non-market value is a substantial part of its overall societal offering.
- Failing to account for this would substantially underestimate the benefits that the institution provides to its visitors and the local population.
- Combined earned income and non-market value could then be presented in a business case which attempts to demonstrate the value of the institution to funders and the public.
- It is possible to combine **annual visitor WTP aggregated value** with the **catchment population non-visitor WTP aggregated value** to calculate the **total non-market value of your institution** without risk of double counting (subject to the exclusion of visitor numbers from the non-visitor catchment population), however it is recommended to show the use and non-use values separate.
- This non-market aggregated value can be added to a business case alongside Gross Value

¹⁷ To derive accurate estimates of visitors in the local population, analysts should run a bespoke survey of the local population. In the absence of accurate local survey data, an estimate may be made from national data to derive a plausible percentage of visitors in the local population. This may be reduced slightly to account for an overestimation.

¹⁸ Generally, subtracting 20% of households from the catchment area when aggregating non-visitor values is a plausible assumption. It is possible that the population is reported in terms of individual visitor numbers (as such suitable adjustments will need to be made when subtracting the number from the non-visitor household population number). The average number of people per household in Western Australia is 2.5 (2021 Census).

¹⁹ Please note that while a total may be provided, it is essential that both use and non-use values be expressed separately as more weight may be placed on the use values.

Added (GVA) economic impact evaluations.

- However, if business cases also include valuations based on travel cost or house price uplift studies, then it is not recommended to add WTP values as this could lead to double counting of benefits.

Weighting

- To ensure that the survey results are representative of the population of interest (for example, the residents of Greater Perth metropolitan area), calibration weights are applied to the data.
- Census data disaggregated on region, gender, and age can be used.
- For the PCC project, the weighting approach was based on whether the residents of Greater Perth have visited any facility within the site in the last 3 years (visitors) or if they have not (non-visitors). A different calibration weight was applied for each case based on gender and age.
- For the PCC project, calibration weights were produced using a method referred to as poststratification. This method uses available information on the cross-classification of the categories we wish to weigh on. In other words, it needs the information from crossing several variables (in the PCC case, gender split by age from a certain region). The weights produced are the inverse of the selection probabilities, which are calculated as:

$$wi = \frac{pi}{si}$$

- Where pi refers to the share of the population meeting a certain weighting criterion (for example from a certain region, age group and gender) and is derived from the census, and si refers to the share of the sample meeting that criterion and is derived from the survey.

PCC Case Study: Sociodemographic characteristics

Sociodemographic information was elicited from survey respondents, as is common practice in CV surveys. Table 12 shows a comparison on the weighted characteristics between those who have visited any facility of PCC the last three years (visitors) and those who have not (non-visitors).

It is important to note that a low number of respondents self-identified as Aboriginal and Torres Strait Islander (n=32, 3% of total respondents). An analysis for those respondents was not included in our results as the low sample size would not provide robust results.

As illustrated below, the annual household income is greater for visitors than for non-visitors, and the portion of visitors that have a degree qualification is greater for visitors compared to non-visitors. This result is in line with previous contingent valuation studies for cultural engagement, where it has been reported that people with higher education qualifications and income tend to engage with culture more.

Table 12 Socio-demographic characteristics

	Visitor	Non-visitor
Female (weighted)	50.5%	50.5%
Age (weighted) (mean)	46	47
Household annual income (mean)	\$92,856	\$90,254
Has dependent children under 16	23.0%	22.7%
Married/Civil Partner	46.0%	52.0%
University education	70.1%	39.7%
In employment (full-time, part-time, self-employed)	73.4%	67.4%

Benefit transfer

A benefit transfer is the exercise of taking estimated WTP values from existing sites (study sites) and applying them to another comparable site (policy or business case site). This method allows previously estimates valued to be transferred onto other sites. This reduces the need for additional primary data collection and survey design.

There are some different types of benefit transfers. For example, a simple unit transfer, relates to transferring the pooled average study site visitor and non-visitor WTP values to comparable sites. Conversely, adjusted transfer relates to adjusting the pooled average study site WTP values by the income differences between the visitors and non-visitor populations surveyed in the study sites and the income of policy site populations. The transfer of values into business cases should always be performed with the support of an appropriately qualified professional.

This can be used in a business case.

A benefit transfer is a recognised method by Infrastructure Australia. It may be appropriate to transfer an average willingness-to-pay estimate from one primary study, transfer willingness-to-pay estimates from many studies, or transfer a willingness-to-pay function. The first option is the most practised.

In the context of culture, however, it is expected that no two institutions are the same. It is therefore recommended that at least four source sites are used to transfer the value onto the valuation site. By obtaining WTP values for similar sites we can derive an average WTP value that can be transferred and applied to the business case site (the institution that you want to value in your business case or social cost benefit analysis). It is imperative that the business case site is comparable to the set of source sites used to derive the average WTP value.

- In selecting the appropriate WTP values for transfer, understanding of the quality of the original studies and the new context is required.
- The following criteria should be similar enough between the source sites and the policy site to ensure a valid result:
 - Physical characteristics of the sites
 - Changes being valued in study
 - Policy context
 - Catchment / reach of the site (e.g., state importance or more local reach)

- Cultural and socio-economic characteristics of the populations.²⁰

To undertake a benefit transfer:

- An average WTP value is taken from each of the study sites and used to calculate a pooled average WTP representative of all study sites. We can apply this average to the site to be valued (policy site).
 - NOTE: an average value will always be an approximation, and some error will be introduced if we assume that other sites have that same WTP value, because no two sites are the same.
- While Infrastructure Australia suggest one site can be sufficient, we recommend that at least four source sites should be used to transfer the value onto the policy site. The fewer sites that are used the more likely it is that the value cannot reliably be transferred, so ideally, we would have even more than four sites. However, as sites are not identical, we do expect some error on the value of the policy site.
 - To test whether the transfer of an average WTP value to the business case site is likely to be accurate, we compare the value of each one of the study sites to the pooled average of the other (generally three) study sites. This procedure recreates the process of transferring values from study sites to a policy site for business case purposes.
- It is necessary to place these non-market benefits alongside the operating cost of the institution (for example, the cost for operating a museum could include programs, marketing, cost of generating funds, governance, overheads, care, conservation and acquisition of collections).
- If the total non-market value estimated is larger than that of the total running cost of the museum, this suggests that the museum has a positive benefit-cost-ratio and therefore provides net social benefits to society.

Quick step-by-step guide to a benefit transfer

Step 1: Identify context for the benefit transfer

- Conduct initial scoping by comparing your policy / business case site's characteristics to the (generally four) study sites' characteristics
- Identify the relevant population and catchment area of the policy site (visitors and non-visitors)
- Seek advice from a qualified valuation professional / economist

Step 2: Identify and collect data

- Identify the study sites
- Collect primary data (if required, such as estimates of the number of visitors to the policy site)

Step 3: Conduct benefit transfer

- Conduct benefit transfer

²⁰ Infrastructure Australia (2021) 'Guide to economic appraisal'. Retrieved from <https://www.infrastructureaustralia.gov.au/sites/default/files/2024-02/Assessment%20Framework%202021%20Guide%20to%20economic%20appraisal.pdf>.

- Record what form of benefit transfer (simple unit transfer, adjusted unit transfer or function transfer) is applied and the reasons why

Step 4: Conduct post transfer procedures

- Aggregate values to relevant population
- Uprate, or raise the value of, prices (if required)

Step 5: Report

- Include values in business cases with assistance of valuation professional / economist.

Table 13 Worked example of a museum's net social benefits to society

Worked Example	Visitor value		Non-visitor value
Museum average WTP (based on lower bound confidence interval)	Visitor pooled (uprated) average WTP value (based on study sites)		Non-visitor pooled (uprated) average WTP value (based on study sites)
	X		X
Relevant group	Annual visitors to museum		Non-visitors catchment population
Aggregate value	Aggregated WTP value for visitors	+	Aggregated WTP value for non-visitors
Total non-market value	Combined Aggregated visitor and Non-visitor WTP²¹		
	-		
Total operating costs	Indicative annual museum operating costs		
	=		
	Net social value to society		

²¹ Please note that while a total may be provided, it is essential that both use and non-use values be expressed separately as more weight may be placed on the use values.

Table 14 Worked numerical of a museum's net social benefits to society

Worked Example	Visitor value		Non-visitor value
Museum average WTP (based on lower bound confidence interval from similar pooled study sites)	\$6.16 per visit		\$3.25 per household per year
	X		X
Relevant group	426,367 annual museum individual visits		408,597 households of non-visitors within the catchment area (510,746 total catchment area households – 20% as possible visitors)
Aggregate annual value	\$2,626,421	+	\$1,327,940
Total annual non-market value	\$3,954,361²²		
	-		
Total annual operating costs	\$1,978,146		
	=		
Net social benefits to society	\$1,976,215		

Note: This example is taken from research produced for Arts Council England which used a combination of individual level payments for visitors and household payments for non-visitors.²³

²² Please note that while a total may be provided, it is essential that both use and non-use values be expressed separately as more weight may be placed on the use values.

²³ Arts Council England (2020), How to quantify the public benefit of your Museum using Economic Value estimates A Resource for Understanding the Economic Value of Museums, available at: <https://www.artscouncil.org.uk/sites/default/files/download-file/Guidance%20Note%20-%20How%20to%20estimate%20the%20public%20benefit%20of%20your%20Museum%20using%20the%20Economic%20Values%20Database.pdf>

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