“People rightly ask what is the contribution made to the lives of Queenslanders by our cultural organisations. The Queensland Museum and cultural organisations in general must be prepared to respond in an informed way. This is especially true in challenging economic times as the Museum plans the next developments on its campuses throughout the State.

Valuing the Queensland Museum: A Contingency Valuation Study provides a new way of assessing the public value of the Queensland Museum. The Study presents evidence of this ongoing value in economic terms, based on sound, well-established survey and analysis techniques. The findings are comprehensive and provide a clear picture of the Museum's importance to its various stakeholders state-wide.

This is the first time a cultural organisation in Australia has conducted such a study and it provides a model that might usefully be an exemplar for other organisations. I congratulate all those involved in the Study, both for the rigour of the research and analysis process and for the clarity of the reported outcomes.

I commend the Study to our many supporters and friends. These are very exciting times for our Museum.

Peter Swannell AM, Chair
Board of the Queensland Museum

The Queensland Museum wishes to thank Gillian Savage and Dr Rob Hall from Environmentics and Professor David Throsby from Macquarie University for their support in developing and implementing this CVM Study of the Queensland Museum. As well the Museum expresses it’s thanks to McNair Ingenuity Research for conducting the actual web-based survey.
Valuing the Queensland Museum:

A Contingent Valuation Study 2008

Report prepared by Deborah Tranter
April 2009

On behalf of the Steering Committee:

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EXECUTIVE SUMMARY

In 2008 the Queensland Museum commissioned a Contingent Valuation Study to determine the public value of the Queensland Museum. It was intended that the results would deliver a new way of valuing the Queensland Museum by providing a mechanism for demonstrating this in economic terms which could be used to influence policy and key government decisions.

A Contingent Valuation Methodology (CVM) format was chosen because it was considered the most reliable and valid methodology to identify how much Queenslanders, both visitors and non-visitors, value the Queensland Museum. CVM studies use sophisticated formats to describe hypothetical scenarios and ask participants, both users and non-users of a public good, to indicate their willingness to pay (WTP) or willingness to accept (WTA) compensation for a change in the public good as described in the scenario.

Besides eliciting economic values expressed in dollar amounts, this CVM study would also investigate a range of non-market values important to both users and non-users of the Queensland Museum as well as providing a raft of detailed demographic and psychographic data. In the Queensland Museum study participants were asked two WTP questions. The first question referred to existing products and services and the second to new developments proposed by the Queensland Museum for the next 5 to 7 years.

Contingent Valuation is one of the more credible methodologies that have been used extensively in environmental studies and more recently in the cultural arena. Despite international scrutiny and a number of decades of use, CVM studies are still not uncontested. Consequently the Queensland Museum adopted a very cautious approach. It referenced best practice international models, addressed the major criticisms that have been levelled at previous CVM studies and adopted a conservative attitude to interpreting the data collected.

The whole process took nearly a year to complete. Professor David Throsby from Macquarie University acted as the project’s economic advisor. He provided both theoretical models and practical examples of successful CVM cultural product studies and assisted the Museum’s Steering Committee and Industry Reference Group to develop the brief for the CVM study.

Consultants were appointed to undertake the web-based study in December 2008 and January 2009. In total 1,174 questionnaires were completed which covered four main geographical areas Brisbane/Ipswich, Toowoomba, Townsville and the rest of

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1 David Throsby is internationally known for his work in the economics of the arts and culture. His research and writing has covered the economic role of the visual and performing arts as well as cultural heritage, cultural development and policy and sustainability of cultural processes. His seminal work is Economics and Culture (2001). More recently he co-edited The Handbook of the Economics of Art and Culture (Ginsburgh & Throsby, 2006) and Beyond Price: Value in Culture, Economics and the Arts. (Hutter & Throsby, 2008) Professor Throsby works extensively in the UK and North America especially with the Getty Institute and with ICOM and UNESCO.

2 The Industry Reference Group consisted of representatives from the Queensland Museum Board, The Steering Committee, Arts Queensland, State Library of Queensland, Queensland Performing Arts Centre and Queensland Art Gallery. The Committee was chaired by the Director of the Queensland Museum.
Queensland. These regions reflected the location of the Museum’s campuses with potentially higher user numbers than would be expected from residents living in ‘the rest of Queensland’.

The study concluded that across this wide range of geographic and demographic characteristics, there was a great deal of enthusiasm for supporting the Queensland Museum even by those who self-acknowledged they were non-users of its services and/or not very interested in museums in general.

Results indicated that Queenslanders were willing to pay more for the Queensland Museum’s existing services. On average this amounted to between 2.3 and 2.9 times the current levels of funding which is $6.50 per Queensland adult per annum. The conclusion drawn is that the people of Queensland place a value on the Queensland Museum that is more than twice that reflected in current government funding for day to day operations.

The second scenario referred to $24 million worth of proposed new Queensland Museum developments for the next 5 to 7 years. It is evident that the Queensland public would be in favour of funding the proposed level of new facilities and services through a one off-levy as suggested in the survey.

The results of this CVM study attest to Queenslanders’ commitment to their State Museum. In general they believe that the Queensland Museum is important for the people of Queensland and is creating a legacy for the future. This is reflected in their desire to have it adequately resourced to provide better products and services not just in Brisbane and the South-east corner but across the whole State.

The study also aimed to develop a consistent methodology that could be adopted by other cultural institutions to assist with the development of a shared common language for expressing the value of arts and culture in Queensland. In the spirit of collaboration this report will be made readily available to other cultural organisations.

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3 The Study found Queensland adults would be willing to pay between $14.73 and $19.15 each per annum to support the ongoing operations of the Queensland Museum.
RATIONALE

In its Strategic Plan 2007-08 the Queensland Museum had adopted as its first objective, its intention “to increase awareness of the cultural, social, intellectual and economic benefits and value of Queensland Museum to the State.” (Queensland Museum, 2008b, p. 34) This priority was closely aligned to both its vision of being “valued as an innovative, exciting and accessible museum of science, environment and human experience, of international standing” and its mission to “enrich and enliven Queensland communities”. (Queensland Museum, 2008b)

To achieve this end fully, the Museum embraced a survey methodology that would enable it to measure both the market and non-market benefits of the Museum as perceived by its public, defined as Queensland residents, both users and non-users. Although it would prove a difficult exercise, a contingent valuation study was considered the most reliable and valid methodology to use to elicit Queenslanders’ willingness to pay for both existing products and services and a raft of new developments proposed by the Queensland Museum for the next 5 to 7 years. Besides eliciting economic values expressed in dollar amounts, the CVM study would also investigate a range of non-market values important to both users and non-users of the Queensland Museum as well as providing a raft of detailed demographic and psychographic data.
REPORT STRUCTURE

This report will first provide a brief analysis of the contingent valuation methodology and its recent use within the arts and cultural arena. These studies indicate a number of issues which had to be addressed in the development of the questionnaire and its administration to ensure the Queensland Museum study would deliver ‘robust’ results.

The procedure undertaken by the Queensland Museum to involve other players in the arts and cultural sector in Queensland will be outlined. The process involved a public lecture and master class; appointment of a Steering Committee and Industry Reference Group; development of a study brief and appointment of consultants who worked with the Steering Committee to prepare a draft questionnaire, undertake a pilot study, administer the final questionnaire and provide the data.

The major section of the report analyses the five sections of the questionnaire and the results obtained. The overall outcomes of the study and suggestions for further research are discussed in the conclusion to this report.

CONTINGENT VALUATION METHODOLOGY (CVM)

Contingent Valuation is one of the more popular methodologies that have been used extensively in environmental studies and more recently in the cultural arena. In essence contingent valuation uses a survey instrument to encourage respondents to make an economic decision concerning a public good which has economic values but also non-market values that cannot be completely described by traditional economic analysis. The respondents are presented with a hypothetic scenario and asked to indicate the maximum amount they would be willing to pay (WTP) for an increase in benefits or the maximum amount they would be willing to accept (WTA) as compensation for a reduction in services. Another important feature of CVM studies is that they enable the total value of the good, incorporating both its direct use and passive use values, to be calculated.

The real breakthrough in acceptance of CVM studies as a useful technique for environmental issues (which has been extrapolated to the cultural landscape) came with the 1993 NOAA Report which concluded that this methodology can produce reliable

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4 A public good has two distinct characteristics. It is ‘non-rival’ in that it can be used or consumed by a number of individuals simultaneously without reducing its value for further consumption. It is also ‘non-excludable’ also in that no one is excluded from consuming it. (Hesmondhalgh, 2007, p. 21)

5 WTP is defined as the maximum amount a person would willingly pay, given their current income as well as current levels of market prices and other background conditions, to receive a specified increment of a public good (or to avoid a loss). WTA is the minimum amount of compensation a person would willingly accept, to forego a proposed increment (or to accept a threatened loss), under similar given conditions. (Kling, Revier, & Sable, 2004, p. 2026)

6 Passive use value was the term adopted by US Court in 1989 to encompass a number of frequently used terms such as non-use value, existence value, bequest value, stewardship value, intrinsic value and even option value even though this concept incorporates potential use benefits in the future. (Carson, Flores, & Meade, 2001, p. 198)

7 A panel of eminent experts co-chaired by Nobel Laureates Kenneth Arrow and Robert Solow was appointed by the US National Oceanic and Atmospheric Administration (NOAA) to assess environmental damages caused by the severe oil spill when the Exxon Valdez crashed into Bligh Reef in Prince William Sound off the coast of Alaska.
enough estimates if certain design guidelines and procedures for the administration of the questionnaires are followed. (Arrow et al., 1993, p. 4610)

Despite this report and fifteen years of further use and refinement, CVM studies are still not uncontested. Consequently the Queensland Museum adopted a very cautious approach to the methodology it would apply to developing and administrating its CVM questionnaire as well as taking a conservative attitude to interpreting the data collected.\(^8\)

Reference was also made to a number of significant international CVM studies of cultural goods including libraries, museums, galleries, historic sites, performance centres and festivals. Methodological assessments of individual studies was undertaken where sufficient information regarding the study was available\(^9\), and these were cross-referenced with the meta-data analysis carried out by Douglas Noonan on 65 CVM studies of cultural goods. (Noonan, 2003) Jeanette Snowball has provided an update on Noonan’s work which also proved useful in assessing strengths and weaknesses of a number of more recent CVM studies in the cultural arena. (Snowball, 2008)

From the literature review there emerged a number of issues that needed to be addressed. These included sample type and size, minimising non-responses, survey administration (mail, face-to-face, telephone or web-based), questionnaire design, elicitation format and scenario descriptions.

Other issues of concern focused on the respondent’s approach to the actual questions relating to willingness to pay for a public good or more specifically for changes in a public

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\(^8\) A consistent point of reference was the general guidelines for CVM studies advocated by the NOAA Panel on Contingent Valuation. (Arrow et al., 1993, pp. 4611-4613)

\(^9\) Relevant CVM studies include
- Pioneering study on the Mildura Arts Centre. (D. Throsby, 1982)
- Assessing the benefits of the arts in Australia. (Thompson, Throsby, & Withers, 1983)
- Billie Hansen’s often quoted study of the Royal Theatre in Copenhagen in 1993. (Bille, 1998)
- The 1997 World Bank study of the advantages of renovating the Medina of Fez in Morocco. (Greffe, 2002)
- The Napoli Musei Aperti, a public cultural program provided by the city of Naples to improve neglected areas of a city. (Santagata & Signorello, 2000)
- Historic shipwrecks off North Carolina’s coastline. (Whitehead & Finney, 2002)
- The National Library of New Zealand’s economic valuation of its National Bibliographic Database (NBD) and National Union Catalogue (NUC). (McDermott Miller Ltd, 2002)
- Social benefits of the Stan Rogers Folk Festival (Stanfest) in Canso, Nova Scotia, Canada. (Dayton-Johnson & King, 2003)
- Salvation and restoration of the Northern Hotel, an important landmark in downtown Fort Collins, USA. (Kling, Revier, & Sable, 2004)
- The combined CVM study of the municipality of Bolton’s cultural facilities including three museums, 15 local libraries and its central archive service. (Jura Consultants, 2005)
- Investigation of the public library system in Norway. (Aabo, 2005)
- South African arts festivals. (Snowball, 2008)
- Entry charges to museums in Sweden. (Lampi & Orth, 2009)
good. Specific concerns relate to ‘free-riding’ and non-revelation of true preferences\textsuperscript{10}, the embedding problem,\\textsuperscript{11} starting-point bias, and discrepancies in outcomes between willingness to pay (WTP) and willingness to accept (WTA).\textsuperscript{12}

Finally, the elicitation format to be used in the WTP questions needed special consideration. The choice was between using either a dichotomous choice format with single bound or multiple bound questions using set dollar amounts or the alternative of using open-ended responses. Proponents argue that presenting respondents a set of dollar amounts from which to choose is likely to create anchoring bias with a limited range of values, but using open-ended questions is a very difficult task for respondents and often results in a wide spectrum of results that may not be realistic given the respondents circumstances. (Hanemann, 1994, p. 23) It was eventually agreed for the Queensland Museum study to again follow the NOAA Panel’s recommendation to present a dichotomous question that asked respondents to vote for or against a particular level of taxation. (Arrow et al., 1993, p. 4612) Another difficulty with the dichotomous choice format is setting appropriate amounts from which respondents are asked to make their choice. To increase accuracy this process should be repeated a number of times adjusting the WTP amount until 50% of respondents accept the amount and 50% have rejected it. Unfortunately time and cost considerations make this an impossible task. The Queensland Museum CVM Study used three optional WTP dollar amounts but provided only one option to each respondent.

In analysing the WTP data there was additional need for caution in distinguishing between average, mean and marginal values. Again the Queensland Museum CVM Study adopted the conservative approach as will be discussed when analysing these results. (Epstein, 2003; Hanemann, 1994, p. 25; Thompson, Throsby, & Withers, 1983, pp. 7-16; David Throsby, 2003, p. 277)

In designing the survey instrument, particular attention was paid to ensuring that information bias was minimised due to respondents’ exposure or otherwise to Queensland Museum. Deciding on the level of information to provide to respondents is

\textsuperscript{10} The ‘free rider’ problem in CVM surveys occurs when respondents may deliberately over-state their true value of the good (knowing they won’t really have to pay the amount they nominate) in order to ensure that it is provided. (Snowball, 2008, p. 87)

\textsuperscript{11} Embedding effects can mean a number of different things especially:

- “The warm glow” impact of moral satisfaction gained in supporting a public good; (Arrow et al., 1993, pp. 4067-4068)
- Interview bias if the respondent tries to please the interviewer by agreeing (or not agreeing) to pay a particular amount which the respondent might otherwise not have considered; (Carson, Flores, & Meade, 2001, p. 177)
- The apparent inconsistency between WTP results and what economic theory predicts would happen in the situation, and is especially significant in responses to changing scope and sequencing (of questions) of the amount of the good being valued; (Carson & Mitchell, 1993, p. 1267; Epstein, 2003, p. 273)
- The debate over the willingness to pay for a composite change in a group of public goods, such as the Queensland Museum as an entity, which may be less than the sum of the willingness to pay for individual changes in component parts of the composite good. (Hanemann, 1994, p. 34)

\textsuperscript{12} Although WTP formats elicit more conservative results than corresponding studies using WTA scenarios, it was decided to conform to the NOAA guidelines and only consider WTP questions in the QM study. (Aabo, 2005, p. 492; Arrow et al., 1993, p. 4612; Kling, Revier, & Sable, 2004, p. 2027)
one of the most problematic features of designing a CVM study. In general it seems likely that information bias is affected by two things, the quality of the argument for change and the personal relevance of the good or situation to the respondent. (Snowball, 2008, p. 143)

As the Queensland Museum is made up of a number of campuses and programs, there was a possibility of distorted outcomes resulting from considering individual campuses as opposed to the Queensland Museum as a whole. Describing the existing Queensland Museum, its campuses, programs and services as well as the proposed developments in a clear and concise manner was a difficult but critical task as was the decision about where this information would appear in the questionnaire. One of the reasons for choosing a web-based questionnaire format was its visual nature and it’s potential to be able to describe complex information more clearly to the participants. The pilot study was seen as crucial in assessing if respondents understood and could make considered judgements about the scenarios presented.

There was also discussion over the need or otherwise to provide some indication of the current level of public support for the Queensland Museum. As the study involved an established policy, it was agreed that respondents would probably want this as “a point of reference for the framing of their responses”, even though this could ‘anchor’ the results around the given amount and result in a ‘starting point’ bias. (Papandrea, 2002, p. 7)

Despite all these qualifications and concerns, the questionnaire had to be easy to comprehend, provide sufficient detail for the respondents to understand the scenarios presented, not be too complicated or too long but yet provide the “theoretical validity to enable proper testing of the desired hypotheses.” (Thompson, Throsby, & Withers, 1983, p. 41) The CVM study also had to be able to pass various validity and reliability tests such as replication, comparison with estimates from other sources, and comparison with actual behaviour where that is possible. (Hanemann, 1994, p. 29)

It would appear that on-going research into the application of contingent valuation methodologies has determined that studies that conform to the NOAA stringent guidelines are providing more ‘robust’ results. Unfortunately one of the side effects of this ruling is that to produce a reliable CVM survey is “neither simple nor inexpensive to

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13 On the one hand, Bohm (1972, 1979, 1984) argued strongly for the need for detailed information to be provided so respondents could express their WTP accurately, while Niewijk in his 2001 study paper took an opposing view. He maintained that CVM studies are supposed to measure pre-existing values, but if respondents are not directly aware of the existence of a particular good before the survey, the information provided might in fact create the value it proposes to measure. (Snowball, 2008, p. 142)

14 Queensland Museum South Bank (QMSB) in Brisbane; Cobb+Co Museum (Cobb+Co) in Toowoomba; The Workshops Rail Museum (TWRM) in Ipswich and Museum of Tropical Queensland (MTO) in Townsville.

15 Programs include Scientific and Historical Research, the Web, Publications, the Inquiry Centre, Museum Development Officers and the Education Loans Service.

16 See Appendix 3 for a copy of the final survey instrument which shows the wording, use of a map to show the state wide services of the Queensland Museum and placement of the descriptive information about the Queensland Museum.

17 Validity refers to the correspondence between what one wishes to measure and what is actually measured. Reliability refers to the ability of the results to be reproduced by correlating results from different respondents from the same sample or the results from the same respondents at different times. (Carson, Flores, & Meade, 2001, pp. 193-195)
implement", (Carson, Flores, & Meade, 2001, p. 196) which was the case in the Queensland Museum CVM Study.¹⁸

¹⁸ This has been described as raising the ‘price’ for ‘reliable CV’ results above the maximum willingness to pay for the information. (Smith, 2006, p. 22)
QUEENSLAND MUSEUM CVM STUDY METHODOLOGY

Project Outline

The Queensland Museum adopted the following process to implement its proposed CVM Study. Professor David Throsby from Macquarie University, visited Brisbane on 2-3 April 2008 and delivered a public lecture at the Queensland Museum South Bank, entitled “How to Value Arts and Culture: Why We should be Proactive in Queensland”. More than eighty people including a wide range of industry personnel from Brisbane and nearby regions attended.

A master class followed the public lecture on 3 April for 24 senior executives from the Queensland Museum, the State Library of Queensland, the Queensland Art Gallery, The Queensland Performing Arts Centre, The Museum of Brisbane, Museum and Gallery Services Queensland, The Queensland Heritage Commission, Arts Queensland and The University of Queensland. This day-long workshop evaluated the contingent valuation process and a number of the more pertinent international case studies before formulating a briefing document for a CVM Study of the Queensland Museum that would be general enough for any of the other statutory authorities to adopt for their own purposes while maintaining a consistent approach.

The Queensland Museum set up a small Steering Committee whose first task was to establish an Industry Reference Group (IRG) from among participants in the master class. Professor Throsby was invited and accepted the offer of being the Reference Group’s economic advisor. To have the other major Queensland cultural statutory authorities involved in the whole process was thought to be the best way to encourage an understanding of the CVM process and promote uptake of similar studies.20

The Steering Committee developed the Queensland Museum CVM Study project brief and advertised for consultants to develop and deliver the questionnaire and provide tables of results and economic analysis of the WTP scenarios.

Appointment of consultants to conduct the CVM study

An Invitation to Offer was advertised nationally on 5 July 2008. The purpose of the study in essence was to assess the value the public equates with Queensland Museum’s natural and cultural heritage collections and its public programs (based on research and credibility) and services.21

19 It consisted of the Project Manager, the Manager Corporate Communications and Marketing and the Director of Regional Services.

20 Invitations were issued to representatives from the Queensland Museum Board, the State Library of Queensland, Queensland Performing Arts Centre, The Queensland Art Gallery, Arts Queensland and the Brisbane City Council. The Industry Reference Group would be chaired by the Queensland Museum CEO, Dr Ian Galloway.

21 “The Queensland Museum (QM) is seeking proposals from creative agencies to develop and deliver a mechanism to determine the public value of QM incorporating a contingent valuation study. It is intended that the results will deliver a new way of valuing QM and provide a mechanism for demonstrating this in economic terms to be used to influence policy and key government decisions.
It was decided that the study would only focus on Queensland residents\textsuperscript{22}, both users and non-users of Queensland Museum and the public interface (ie campuses via its regional services activities and via its popular publishing and website). The study would interview the following sample groups using methodologies that are practical considering the geographical spread of these Queensland residents.

1. Museum visitors to campuses in Brisbane, Ipswich, Townsville and Toowoomba;
2. Non visitors in local target areas; and
3. Other Queensland residents.

Environmetrics was the successful tender and had proposed to use an on-line survey even though to some extent it meant that the participants were self-recruited and would be ‘paid’ $10 each for their involvement. In general, the Steering Committee was happy with the proposed sample size of 800 to be selected covering a variety of categories (age, gender, location, museum exposure) from a database of over 90,000 people. It was agreed that while face-to-face interviewing can be biased it was really the overwhelming expense of using this method considering the geographical spread of the four major sites across Queensland that needed to be surveyed, that precluded it being used in this study. Telephone surveys were canvassed but it was decided that the dwindling number of landlines used by the population especially younger people was a limitation as well as the problem of ‘sighting’ information needed to elicit responses to WTP scenarios. It was argued by the consultant that responses to telephone interviews paralleled that to on-line responses for attitudinal surveys and that there was only a marked difference in the use of the two techniques for purchase arrangements. (Discussions with Rob Hall, 11 August 2008) The Steering Committee was also aware of the increasing internet usage by Australians and with this trend showing no signs of change, it would be expected that surveys would be conducted on-line much more frequently in the future.\textsuperscript{23}

The survey methodology precluded children and young people under the age of 18 from participating. This was not considered a major impediment as most adults respond to questionnaire on behalf of their household including other adults and children. (Discussions with Rob Hall, 11 August 2008) Also the WTP scenarios with their tax implications as presented in the survey would not have been applicable to children and the majority of young people under the age of 18.

The project will also see the development of a consistent methodology that can be adopted by arts and cultural institutions in Queensland to enable the maximum impact from individual studies. This will allow the development of a shared common language for expressing the value of arts and culture in the State. The project will also provide a detailed report with quantitative and qualitative results analysed.” (Queensland Museum, 2008a, p. 6)

\textsuperscript{22} As the Queensland Museum is a Queensland Government Statutory Authority, it was decided to limit input into the survey to Queensland residents, as it is these residents who effectively provide the bulk of funding for the institution.

\textsuperscript{23} The Australian Communication and Media Authority March 2008 indicated percentage of total households in Australia with broadband access was currently 63.4\% and predicted it would rise to 76.4\% by 2012.
Museum Campuses

Queensland Museum South Bank, Brisbane (QMSB)
Corner of Grey & Melbourne Streets, South Bank, South Brisbane
Queensland Museum South Bank (QMSB) is dedicated to telling a “whole-of-Queensland” story. It is also home to many of the Queensland Museum’s research staff and unique collections. Queensland Museum South Bank has a proud tradition of displaying iconic treasures of the State and of engaging audiences in a wide variety of public programs across the disciplines of Biodiversity, Geosciences, Cultures, History and Science. The Museum features a range of permanent and changing interactive exhibits including:

- Dandiiri Maiwar (the Queensland Aboriginal and Torres Strait Islander Cultures Centre)
- The Sciencentre
- The Inquiry Centre.

Queensland Museum South Bank is located adjacent to Brisbane’s CBD, and is part of the Queensland Cultural Centre that includes the Queensland Art Gallery and Gallery of Modern Art, the Queensland Performing Arts Centre and State Library of Queensland. This precinct sits alongside South Bank, a vibrant mix of parkland, recreational and commercial space on the Brisbane River.

The Workshops Rail Museum, Ipswich (TWRM)
North Street
North Ipswich
An Australian Tourism Award winner 2008, The Workshops Rail Museum (TWRM) is the birthplace of rail in Queensland. Located in North Ipswich and the newest campus of the Queensland Museum, today the site is a $20 million, state-of-the-art museum, home to researchers and an extensive collection of rail history.

More than 15 interactive zones on the public floor bring to life a different aspect of the rail story including: building the railways, grand railway travel, the transition from steam to diesel and the future of rail.

TWRM also features the oldest continually operating railway workshop in Australia, giving visitors the opportunity to step back in time during a Behind the Scenes Tour of the Working Workshops.
Cobb+Co Museum, Toowoomba

27 Lindsay Street
Toowoomba

The Cobb+Co Museum in Toowoomba opened as a campus of the Queensland Museum in December 1987 to display the National Carriage Collection. The Museum is a research and information centre on horse-drawn vehicles, heritage trades, early transport and communication.

In 2001 the Museum was redeveloped in conjunction with the local Toowoomba community to provide displays on the cultural heritage and natural environment of the Darling Downs.

As well as hosting temporary exhibitions and conducting innovative school and holiday programs, the Museum also conducts popular heritage trades workshops for blacksmithing, silversmithing, leatherwork and many others.

Museum of Tropical Queensland, Townsville (MTQ)

70-102 Flinders Street East,
Townsville

Located in Townsville the Museum of Tropical Queensland (MTQ) is the only campus of the Queensland Museum North of Brisbane. MTQ focuses on the research and interpretation of the cultural and natural heritage of tropical Queensland. MTQ’s new and modern exhibition spaces showcase life in the tropics from prehistoric times through to modern lifestyles, a highlight being the exhibition of artefacts from HMS Pandora, the ship sent to recapture the Bounty and her mutinous crew.

The Museum houses internationally recognised research collections of reef building corals of the Great Barrier Reef and Staghorn corals of the world. MTQ also coordinates the Queensland Museum’s maritime heritage program and archaeology of shipwrecks along the Queensland coast.

The Museum, close to the CBD and backing onto Ross Creek, is a significant tourism venue that attracts international, interstate and regional visitors.
Survey Development

The main purpose for the survey was to establish how much Queenslanders value the Queensland Museum in its current format and how much they would be prepared to pay (or support a Government subsidy) to enhance its offerings. There was considerable debate over the inclusion of some comparative value framework in the survey. It was finally decided to provide information about the average per head subsidy for the Queensland Museum as well as alternative State Government per capita allocation of resources to services such as health, education, prisons, tourism and transport. To insure the validity of the survey instrument there was the need to indicate that for any real-balancing of resources towards the Queensland Museum there would have to be a corollary impact on other State Government services. A CVM survey, to be properly practised, reminds respondents of their budget constraints and available substitutes. (Noonan, 2004, p. 206) In common with Throsby’s earlier Australian study on community benefits from the arts, it was also decided to ask participants to indicate where they think any re-balancing should occur.

Issues relating to how much information and in what format (photographs and other digital formats) it would be presented as part of the survey were discussed in relation to embedded values in any visuals used. (Mathews, Freeman, & Desvousges, 2006, pp. 111, 130) It was recognised that respondents’ background knowledge of the Queensland Museum would vary greatly as would their familiarity with the Museum’s campus structure and its various services and programs and that for a number of respondents some information about the Queensland Museum would be imperative. Complicating the issue are the multi-faceted experiences and public offerings from the different campuses; the value and public understanding of the Queensland Museum research profile especially in the field of biodiversity and geosciences in contrast to the economic value of this research to commercial operators and government institutions; and the varied opportunities to charge the public for different offerings and experiences.

Considerable debate arose over the desire to elicit a current valuation for the Queensland Museum, as well as asking respondents their WTP for a variety of enhancements. This, to some extent, contradicts the basic premise that “in CVM, researchers ask a sample of individuals how much they would be willing to pay for a change in the quantity of a good provided.” (Noonan, 2004, p. 206) As there were to be two scenarios, this raised the issue of respondents’ ability to comprehend each and how they are currently impacted and how they could be affected by the changes advocated.

The core of the survey would be the WTP questions and it was decided to follow the advice of the NOAA Report and not use an open-ended question format where

24 There were suggestions that comparisons be provided with alternative leisure experiences which have well-understood associated costs like movie tickets or theme parks admission prices.
25 Over 80% of respondents indicated they would prefer any increase in funding for the arts to come from reductions in other government spending rather than increase taxes, identifying they would support reductions in social services and defence followed by sport and recreation outlays. (Thompson, Throsby, & Withers, 1983)
26 Queensland Museum South Bank is free entry for all visitors but with a charge on the Sciencentre; The Workshops Rail Museum in Ipswich has a relatively high entry fee but operates a well patronised membership program; Cobb+Co Museum in Toowoomba and The Museum of Tropical Queensland in Townsville both have relationships with their regional councils which enable free entry to all local residents.
respondents would suggest whatever amount they like. Instead the so-called dichotomous choice format with a double bound question was employed. Initially respondents were asked if they were in favour of increasing funds for the Queensland Museum. Each respondent would then be presented with one fixed amount to pay that they can accept or reject and so ‘vote’ for the amount as reasonable or not.\(^{27}\)

The second comparison issue to be tackled was whether to provide the dollar value for the existing public funding for the Queensland Museum.\(^{28}\) It was agreed to leave the actual amount of State Government funding that goes to the Queensland Museum of $6.50 per adult Queenslander in the pilot study to ascertain how it would be treated by respondents.

The final survey instrument used the following questionnaire format:-

1. Leisure activities and attitudes to museums and museum visitation (questions 1-2)
2. Attitudes to the QM
   (a) campuses (questions 3-16)
   (b) products and services (questions 17-23)
3. Setting the scenarios– non-market values of QM (question 24)
4. WTP using two scenarios
   (a) on-going WTP for existing products and services (questions 25-29)
   (b) one-off WTP for increased prescribed products and services (questions 30-34)
5. Demographics and some general attitudes and interests (questions 35-44).

\(^{27}\) It was agreed to leave the actual amount of State Government funding that goes to the Queensland Museum of $6.52 per adult Queenslander in the pilot study to ascertain how it would be treated by respondents.

\(^{28}\) In his review of the then published thirty-three original CVM studies of arts resources, Noonan makes the following observations, “an information bias may be present when researchers inform respondents of their current tax liability for the arts; this tends to bias their WTP answers toward that amount. The bias both pushes the average WTP closer to the anchor-point given in the survey and narrows the spread of answers around that anchor.” (p. 212)
Pilot Study

It was agreed that pre-testing, incorporating a process of cognitive interviewing, was essential to ensure the level of information being conveyed and how it was presented was appropriate and understood by the respondents. This can be difficult considering the hypothetical scenarios involved and the wide spectrum of respondents’ educational levels, technical backgrounds and opinions. (Mathews, Freeman, & Desvousges, 2006, p. 112). It was equally important to ensure that the respondents interpret the survey terminology, instructions and questions as the researchers intended.

The pilot study of 25 participants was undertaken in November 2008. It aimed to check respondents’ comprehension and the logic of the survey and to verify the usefulness of the dollar amounts used in the willingness to pay questions. The pretesting results showed that

- 48% were prepared to pay more for annual recurrent expenses for existing services with only 4% indicating they wished to pay less than the existing level of $6.50 per adult per year.
- 76% were prepared to contribute to a one-off expense to enhance services planned that may cost about $24 million.
- Responses were mixed between decreasing other services or increasing taxes to fund the extra Museum costs.
- Where people chose to reduce other services, the only services that were earmarked for reduction were prisons and tourism.
- There was no difference between options A, B and C in terms of willingness to pay. This was not surprising as the amounts were small and close to each other in value. (Environmetrics, 2008)

The consultants suggested that the final survey be modified to offer only 3 options for both scenarios. Option A to be an extra $2 in recurrent funding; B increasing to $4 and C moving to $8 to give a stronger indication of the limits of willingness to pay. For the one-off increase option, the values would be A $4, B $6 and C $12. There were three questionnaire formats using the three option amounts as described above. (See Appendix 3 for the survey using Option B the middle amounts). Each respondent would therefore be presented with one amount chosen at random and, as a consequence, around one-third of respondents in the final sample considered each amount when making their choice. (See Table 6.21)

---

29 Pre-testing can also be useful to elicit what information is missing from the survey that would assist respondents in making their decisions. (Mathews, Freeman, & Desvousges, 2006, p. 123)
30 Of those, five people were given option A an increase of $1 in recurrent funding; seven were given option B, an increase by $2; six were given option C, an increase by $4 and seven were given option D, an increase by $6. The same ratios were used for the WTP for a one-off increase in funding for proposed major developments and service enhancements planned by the Queensland Museum, though the values offered were $2, $4, $6 and $8.
Web-based survey

The Internet-based survey was conducted by McNair Ingenuity using their online national panel from which samples are recruited for use for a range of government and commercial research. Adult panel members resident in Queensland were invited to participate in the survey in return for a standard fee of $10.\textsuperscript{31} The survey took place between 5 December 2008 and 15 January 2009 avoiding the Christmas and New Year periods. Table 6.1 provides a summary of the sample and how it was selected.

<table>
<thead>
<tr>
<th>Method used</th>
<th>Sample size</th>
<th>Sampling method</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online survey</td>
<td>1174</td>
<td>Purposive to include • proportion of residents from Brisbane/Ipswich, Toowoomba and Townsville; • museum-goers and non-goers; • age and gender balance.</td>
<td>Queensland residents recruited from the McNair Ingenuity on-line panel</td>
</tr>
</tbody>
</table>

Table 6.1 Queensland Museum CVM survey sample.

Sample Representation

While proposing a sample size of 800 respondents, it was found that during the fieldwork stage of the project, there were not sufficient numbers of respondents from the smaller areas of Toowoomba and Townsville so additional recruiting was conducted as summarised in Table 6.2. Both Townsville and Toowoomba\textsuperscript{32} were eventually oversampled in proportion to the total population. This did allow for a closer analysis of the views of people from these centres.

<table>
<thead>
<tr>
<th>Sample size/ geographical spread</th>
<th>Proposed Sample</th>
<th>Obtained sample</th>
<th>Obtained sample %</th>
<th>Population %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane/Ipswich</td>
<td>300</td>
<td>545</td>
<td>46%</td>
<td>43%</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>150</td>
<td>126</td>
<td>11%</td>
<td>3%</td>
</tr>
<tr>
<td>Townsville</td>
<td>200</td>
<td>208</td>
<td>18%</td>
<td>3%</td>
</tr>
<tr>
<td>Rest of Queensland</td>
<td>150</td>
<td>295</td>
<td>25%</td>
<td>51%</td>
</tr>
<tr>
<td>Total</td>
<td>800</td>
<td>1,174</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 6.2 Original geographical spread for the proposed 800 respondents and the final sample of 1,174 completed surveys obtained. The table also shows the effect of oversampling in Toowoomba and Townsville regions.

\textsuperscript{31}“Quality checks were in place to ensure that the respondents were who they said they were; that they currently lived in appropriate areas of Queensland and that each participant responded to the survey only once.” (Environmetrics & Ingenuity, 2009, p. 12)

\textsuperscript{32}The final sample for Toowoomba was slightly less than planned (126 compared to 150 respondents) but is still adequate to represent the area for the kinds of analyses necessary for this project. (Environmetrics & Ingenuity, 2009, p. 9)
The final survey figures were presented in both unweighted and weighted table formats to account for the over-sampling as shown in Table 6.2. Where required for a statewide result, the weighted sample was used, for example, when estimating the average willingness to increase funding to the Queensland Museum. The final survey sampling results are described in the tables below. The spread of ages was particularly uniform except for the under 24 age group which was just over half the number of respondents compared to the other four categories.

<table>
<thead>
<tr>
<th>Age/geographical spread</th>
<th>Obtained sample</th>
<th>Under 24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane/Ipswich</td>
<td>545 (46%)</td>
<td>60 (41%)</td>
<td>121 (45%)</td>
<td>124 (44%)</td>
<td>100 (42%)</td>
<td>140 (57%)</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>126 (11%)</td>
<td>26 (18%)</td>
<td>38 (14%)</td>
<td>33 (12%)</td>
<td>22 (9%)</td>
<td>7 (3%)</td>
</tr>
<tr>
<td>Townsville</td>
<td>208 (18%)</td>
<td>31 (21%)</td>
<td>51 (19%)</td>
<td>50 (18%)</td>
<td>51 (21%)</td>
<td>25 (10%)</td>
</tr>
<tr>
<td>Rest of Queensland</td>
<td>295 (25%)</td>
<td>29 (20%)</td>
<td>56 (21%)</td>
<td>73 (26%)</td>
<td>65 (27%)</td>
<td>72 (30%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,174 (100%)</td>
<td>146 (12%)</td>
<td>266 (23%)</td>
<td>280 (24%)</td>
<td>238 (20%)</td>
<td>244 (21%)</td>
</tr>
</tbody>
</table>

Table 6.3 Survey sample showing age distribution using unweighted scores.

Overall the ratio of females to males was 3:2; but more than 60% of males were from the Brisbane/Ipswich region. In contrast there was a more even spread of females across the four geographical regions that were surveyed. (Refer Table 6.4)

<table>
<thead>
<tr>
<th>Gender/Geographical spread</th>
<th>Obtained sample</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane/Ipswich</td>
<td>545 (46%)</td>
<td>282 (60%)</td>
<td>262 (37%)</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>126 (11%)</td>
<td>36 (8%)</td>
<td>90 (13%)</td>
</tr>
<tr>
<td>Townsville</td>
<td>208 (18%)</td>
<td>51 (11%)</td>
<td>156 (22%)</td>
</tr>
<tr>
<td>Rest of Queensland</td>
<td>295 (25%)</td>
<td>103 (22%)</td>
<td>191 (27%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,174</td>
<td>472 (40%)</td>
<td>699 (60%)</td>
</tr>
</tbody>
</table>

Table 6.4 Sample survey showing gender distribution using unweighted scores.

---

33 For those situations in which the results of this research needed to be expressed in terms of the ‘adult residents of Queensland’, the obtained sample was weighted by age group, gender and region. This allowed the overall sample size to remain constant while the proportion of males and females in each broad age group in each of the four geographic regions matched the actual population pattern reflected in the 2006 census.
Data analysis

According to Environmetrics, the raw data was captured directly from the website after each respondent completed answering the questions and submitted their response. This data was then checked and edited to remove any spurious respondents - a small number of panel members were no longer living in Queensland and an even smaller number did not complete the full questionnaire.

The data was then input into two software packages, STATA - a statistical package well known in the economic and social research arenas, and MRDC - a package used in commercial marketing research for the efficient production of large numbers of tables derived from survey data.

The amounts people were willing to pay for the two scenarios were estimated using a probit regression in STATA.\textsuperscript{34} (Environmetrics & Ingenuity, 2009, p. 14)

\textsuperscript{34} A more detailed technical description of these analyses was provided by the Consultant’s and is contained in Appendix 2.
QUESTIONNAIRE FORMAT AND RESULTS

1. Information about leisure activities and attitudes to museums and museum visitation (questions1 -2)

In addition to age, gender and geography, the survey also sought to provide a representative sample of respondents with regard to their interest in museums. Two questions were included which allowed a comparison with results obtained from other relevant Australian studies. Question 1 asked how recently, if ever, a respondent had visited any museum or gallery. For the question “When was the last time that you personally visited a museum or gallery in the last 6 months?”, 34% (unweighted percentage) or 36% (using the weighted figures)\textsuperscript{35} indicated they had made such a visit. These results were comparable to other recent Australian studies which typically show a third of the population would likely visit a museum or gallery within a six month time frame. (Hall, 2005, p. 5) (Refer Table 6.5)

<table>
<thead>
<tr>
<th>Users and non-users of museums</th>
<th>Total Unweighted scores</th>
<th>Total Weighted scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the last 6 months</td>
<td>398 (34%)</td>
<td>422 (36%)</td>
</tr>
<tr>
<td>6 months to a year</td>
<td>263 (22%)</td>
<td>259 (22%)</td>
</tr>
<tr>
<td>More than a year ago</td>
<td>415 (35%)</td>
<td>383 (33%)</td>
</tr>
<tr>
<td>Never</td>
<td>66 (6%)</td>
<td>65 (6%)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>32 (3%)</td>
<td>33 (3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,174</strong></td>
<td><strong>1162</strong></td>
</tr>
</tbody>
</table>

Table 6.5 When was the last time you personally visited a museum or art gallery? Note both unweighted and weighted scores are comparable. There is no appreciable difference in the overall effect of using raw scores rather than weighted scores for all results except for the calculations of total Queensland Museum value for all Queenslanders.

The second question addressed the respondent’s stated level of interest in museums and compared these results with exit surveys conducted in 2005 at two of the Queensland Museum campuses; Queensland Museum South Bank (QMSB) and The Workshops Rail Museum (TWRM) in Ipswich (Refer Table 6.6). It would be expected from previous surveys of random samples of the Australian population using these self-description options that the proportion of people choosing each option would be more or

\textsuperscript{35} Effect of weighting on total scores for QM survey results.

<table>
<thead>
<tr>
<th>Regional weightings</th>
<th>Total</th>
<th>Brisbane &amp; Ipswich</th>
<th>T’mba</th>
<th>T’ville</th>
<th>Rest of QLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unweighted Row</td>
<td>1174</td>
<td>545</td>
<td>126</td>
<td>208</td>
<td>295</td>
</tr>
<tr>
<td>Weighted Row</td>
<td>1162</td>
<td>498</td>
<td>31</td>
<td>36</td>
<td>597</td>
</tr>
</tbody>
</table>
less equal. The sample for the present study has more people interested in special exhibits than might be expected in the general population but, importantly, the groups with both modest or no interest form a substantial portion (50%) of the sample. In contrast the studies from both QMSB and TWRM show the “no interest” group making up a consistently low percentage (8%) of the sample, but considering that these surveys were taken by exiting visitors from the museums, the low figures are probably understandable. The consultant’s conclusion was that

“Taken together, the patterns of responses to these two questions argue for the sample providing a reasonable representation of general interest in museums across the wider population…(and) was not based simply on people who might be called ‘museum enthusiasts’…” (Environmetrics & Ingenuity, 2009, p. 11)

<table>
<thead>
<tr>
<th>Interest in museums</th>
<th>CV</th>
<th>CV weighted</th>
<th>QMSB</th>
<th>TWRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>I keep an eye out for special activities at museums and go when they interest me</td>
<td>50%</td>
<td>51%</td>
<td>20%</td>
<td>66%</td>
</tr>
<tr>
<td>I go generally to see what is there; I don’t go to see special exhibits or activities</td>
<td>26%</td>
<td>27%</td>
<td>71%</td>
<td>25%</td>
</tr>
<tr>
<td>I am not really interested in museums and I don’t go very often at all</td>
<td>24%</td>
<td>22%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Sample size</td>
<td>1174</td>
<td>1162</td>
<td>1198</td>
<td>921</td>
</tr>
</tbody>
</table>

**Table 6.6** Pattern of responses to question 2 about interest in museums using weighted and unweighted figures. As can be seen the weighting had little impact on the percentages.

There was a more significant variation in regard to respondents’ age and lack of interest in museums with the youngest (under 24) being less likely to be interested in museums at 33% compared to the oldest group (55 and over) at only 18%. However the two groups are equally likely to be interested in museums at 48% and 50% respectively. So overall about 50% of each age bracket was interested and 50% only mildly or not really interested in museums as indicated in Table 6.6.

With regard to gender 58% of women were very interested in museums compared to only 45% of men. Considering the higher proportion of women respondents this could have had a slight impact on the overall results obtained. Again there was a slight variation in regional responses to this question as well. Brisbane/Ipswich recorded 56% very interested in museums (as could be expected considering the variety and quality of

\[36\text{ The difference between the other two interest levels across QMSB and TWRM could reflect the specificity of the public programs at TWRM in contrast to the broader topic range and limited marketing of public programs at QMSB.}\]
offerings in the capital city and surrounds) compared to the range from 42% to 49% for the other three geographical areas.

2. Attitudes to the Queensland Museum

2.1 Campuses (questions 3-16)

A range of questions were designed to elicit information about respondents’ knowledge, use and attitudes to the Queensland Museum. Common with most effective CVM surveys this section consisted of an introductory section which helps to set the general concept for the eventual WTP decision to be made and the institutional setting in which the ‘good’ will be provided.

Each question was repeated four times so as to enable the respondents to become more familiar with the concept of the Queensland Museum operating on four campuses: QMSB in Brisbane; Cobb+Co in Toowoomba; TWRM in Ipswich and MTQ in Townsville. These questions sought to find out how well or how little the respondents’ knew the four campuses of the Queensland Museum, when they last visited any one of them, what was the purpose of their visit, what was the experience like and what if anything, they learnt during their visit?

<table>
<thead>
<tr>
<th>Awareness of QM campuses</th>
<th>QMSB</th>
<th>Cobb+Co Museum</th>
<th>TWRM</th>
<th>MTQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know a lot about it</td>
<td>24%</td>
<td>6%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Know a little about it</td>
<td>53%</td>
<td>21%</td>
<td>35%</td>
<td>17%</td>
</tr>
<tr>
<td>Only know the name</td>
<td>18%</td>
<td>31%</td>
<td>32%</td>
<td>23%</td>
</tr>
<tr>
<td>Never heard of it</td>
<td>4%</td>
<td>40%</td>
<td>22%</td>
<td>49%</td>
</tr>
<tr>
<td>Not sure</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 6.7 Awareness of each Queensland Museum campus using weighted scores.

These scores indicated that respondents had limited prior knowledge of the Museum.

With regard to how well known the campuses were in their own geographical areas, QMSB registered 89% of respondents who knew a lot or a little about it, the same figure for Cobb+Co while MTQ in Townsville recorded 93%. TWRM in Ipswich recorded only 57% though this is reasonable since the survey considered both Brisbane and Ipswich residents within the one category. It would be surprising if this figure was not considerably higher if only Ipswich residents were surveyed.
The results analysed in Table 6.8 refer to the Cobb+Co Museum but are indicative of the outcomes across all four campuses.

<table>
<thead>
<tr>
<th>Awareness of C+C Museum</th>
<th>Total</th>
<th>Brisbane &amp; Ipswich</th>
<th>T’mba</th>
<th>T’ville</th>
<th>Rest of QLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know a lot about it</td>
<td>92</td>
<td>22</td>
<td>53</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>(8%)</td>
<td>(4%)</td>
<td>(42%)</td>
<td>(-%)</td>
<td>(5%)</td>
</tr>
<tr>
<td>Know a little about it</td>
<td>239</td>
<td>112</td>
<td>59</td>
<td>12</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>(20%)</td>
<td>(21%)</td>
<td>(47%)</td>
<td>(6%)</td>
<td>(19%)</td>
</tr>
<tr>
<td>Only know the name</td>
<td>353</td>
<td>193</td>
<td>14</td>
<td>61</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>(30%)</td>
<td>(35%)</td>
<td>(11%)</td>
<td>(29%)</td>
<td>(29%)</td>
</tr>
<tr>
<td>Never heard of it</td>
<td>464</td>
<td>207</td>
<td>-</td>
<td>125</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>(40%)</td>
<td>(38%)</td>
<td>(-)</td>
<td>(60%)</td>
<td>(45%)</td>
</tr>
<tr>
<td>Not sure</td>
<td>26</td>
<td>11</td>
<td>-</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(2%)</td>
<td>(2%)</td>
<td>(-)</td>
<td>(4%)</td>
<td>(2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,174</td>
<td>545</td>
<td>126</td>
<td>208</td>
<td>295</td>
</tr>
</tbody>
</table>

Table 6.8 Recognition of the Cobb+Co Museum in Toowoomba using unweighted scores. As expected, recognition of the Cobb+Co Museum was heavily concentrated in the immediate geographical area. Using weighted scores the total recognition for Cobb+Co Museum was 6% as seen in Table 6.7.

Respondents were then asked “When was the last time you personally visited each of the campuses?” Forty-seven percent of Brisbane and Ipswich residents had visited QMSB, while 57% of Townsville residents had visited MTQ, in comparison with 31% of Toowoomba residents having visited Cobb+Co Museum and only 13% of Brisbane and Ipswich residents at TWRM during the past 12 months[^37]. Considering the relatively small size of the Cobb+Co campus with its large permanent collection of horse-drawn vehicles, compared to the much larger sizes of the other three, this is probably not a surprising result.

[^37]: Results for TWRM are considerably skewed due to the inclusion of Ipswich with Brisbane in a single sampling category.
Table 6.9 “When was the last time, if ever, that you personally visited the Cobb+Co Museum?” Within the last 12 months (combining the top two rows) 31% of local Toowoomba residents had visited Cobb+Co Museum using unweighted figures.

When asked “What was the purpose for visiting the campuses?” the results were consistent with the largest percentages recorded against the categories “to see the museum in general” and “to take a child”. QMSB was the only campus to record a significant number of visitors expressing interest in seeing a particular exhibit.\textsuperscript{38} Although the sample of respondents was only small, Cobb+Co Museum did show a greater likelihood of visitors accompanying other adults and attending programs.\textsuperscript{39}

<table>
<thead>
<tr>
<th>Purpose for visit</th>
<th>QMSB</th>
<th>Cobb+Co</th>
<th>TWRM</th>
<th>MTQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>To see a particular exhibit</td>
<td>21%</td>
<td>9%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>To see the museum in general</td>
<td>37%</td>
<td>43%</td>
<td>32%</td>
<td>35%</td>
</tr>
<tr>
<td>To take a child or children</td>
<td>32%</td>
<td>34%</td>
<td>39%</td>
<td>37%</td>
</tr>
<tr>
<td>To accompany other adults</td>
<td>4%</td>
<td>18%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>To attend a program or event</td>
<td>2%</td>
<td>12%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>To do some research</td>
<td>1%</td>
<td>4%</td>
<td>-%</td>
<td>-%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>7%</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Table 6.10 “What was the purpose of your most recent visit to the individual campuses?” The results above were achieved using unweighted figures.

\textsuperscript{38} This could relate to the popularity of the Sciencentre and some new exhibits that have recently opened.

\textsuperscript{39} Cobb+Co is the only campus to offer an extensive range of programs for adults through its heritage trade workshops.
The survey wanted to reveal how visitors reacted to their museum experiences as this would probably colour their attitudes to the Queensland Museum and affect their WTP for services. Respondents’ were given a list of nine experiences and asked to rate their visits to each of the campuses against this list using four criteria very much, a little, none, or don’t know. Table 6.11 records the responses to the very much category for each of the campuses.

<table>
<thead>
<tr>
<th>Personal &amp; emotional responses</th>
<th>QMSB</th>
<th>Cobb+Co</th>
<th>TWRM</th>
<th>MTQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection with the stories of other people’s lives and achievements</td>
<td>51%</td>
<td>57%</td>
<td>34%</td>
<td>43%</td>
</tr>
<tr>
<td>Sense of spiritual dimensions</td>
<td>17%</td>
<td>16%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>New understanding of scientific or technical concepts</td>
<td>35%</td>
<td>19%</td>
<td>29%</td>
<td>36%</td>
</tr>
<tr>
<td>Experience of real beauty</td>
<td>40%</td>
<td>29%</td>
<td>15%</td>
<td>36%</td>
</tr>
<tr>
<td>Experience of things that are real and not fake</td>
<td>56%</td>
<td>64%</td>
<td>53%</td>
<td>51%</td>
</tr>
<tr>
<td>Appreciation of the monetary value of some objects on display</td>
<td>34%</td>
<td>37%</td>
<td>36%</td>
<td>33%</td>
</tr>
<tr>
<td>Inspiration to make something yourself</td>
<td>13%</td>
<td>8%</td>
<td>7%</td>
<td>12%</td>
</tr>
<tr>
<td>An appreciation of historic events</td>
<td>62%</td>
<td>66%</td>
<td>71%</td>
<td>62%</td>
</tr>
<tr>
<td>Pleasure and enjoyment of a stimulating visit</td>
<td>67%</td>
<td>62%</td>
<td>73%</td>
<td>66%</td>
</tr>
</tbody>
</table>

| Unweighted sample | 607 | 95  | 59  | 238 |

Table 6.11 Personal and emotional responses to visiting the campuses showing responses of very much to each of the outcomes using unweighted scores.

These results show some variations between the campus experiences. QMSB and MTQ recorded similar results probably based on their fairly comparable exhibition offerings. The Workshops Rail Museum seems to provide a slightly more pleasurable and stimulating visit or experience linked to an appreciation of historic events, while Cobb+Co Museum scored highly on the personal impact categories making connections,
appreciation of historical events and authenticity, and pleasure and stimulation from the visit.\textsuperscript{40}

The survey also sought information about learning outcomes from museum visits as other studies have shown this has a large bearing on visitor experience and overall attitude to museums. Environmetrics had developed a series of questions that form the Modes of Learning Inventory (MOLI). These questions have been used in a wide range of collecting institutions and MOLI gives some insights into the pattern of learning outcomes experienced by visitors during a visit. (Environmetrics & Ingenuity, 2009, p. 30) Table 6.12 compares responses to each of the MOLI questions. The table reports the percentage of respondents who chose the \textit{yes/some what} option.\textsuperscript{41}

<table>
<thead>
<tr>
<th>Learning outcomes</th>
<th>QMSB</th>
<th>Cobb+Co</th>
<th>TWRM</th>
<th>MTQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>I discovered things I didn't know before</td>
<td>85%</td>
<td>84%</td>
<td>90%</td>
<td>86%</td>
</tr>
<tr>
<td>I learnt more about things I already knew about</td>
<td>81%</td>
<td>78%</td>
<td>80%</td>
<td>82%</td>
</tr>
<tr>
<td>I remembered things I hadn't thought of for a while</td>
<td>78%</td>
<td>76%</td>
<td>76%</td>
<td>74%</td>
</tr>
<tr>
<td>I shared some of my knowledge with other people</td>
<td>62%</td>
<td>48%</td>
<td>51%</td>
<td>52%</td>
</tr>
<tr>
<td>I got curious about finding out more about some things</td>
<td>65%</td>
<td>45%</td>
<td>54%</td>
<td>53%</td>
</tr>
<tr>
<td>I was reminded of the importance of some issues</td>
<td>75%</td>
<td>66%</td>
<td>71%</td>
<td>76%</td>
</tr>
<tr>
<td>I was surprised by some of the things I discovered</td>
<td>78%</td>
<td>66%</td>
<td>69%</td>
<td>76%</td>
</tr>
<tr>
<td>I discovered a new perspective on things I already knew about</td>
<td>66%</td>
<td>56%</td>
<td>59%</td>
<td>64%</td>
</tr>
<tr>
<td>Some of the things I learnt will be very useful to me</td>
<td>51%</td>
<td>44%</td>
<td>47%</td>
<td>53%</td>
</tr>
<tr>
<td><strong>Unweighted sample</strong></td>
<td>607</td>
<td>95</td>
<td>59</td>
<td>238</td>
</tr>
</tbody>
</table>

Table 6.12 Pattern of Perceived Learning Outcomes using unweighted figures.

Considering the sample sizes for each campus, results show a high level of consistency across nearly all the categories. The variations can probably be accounted for in the broader exhibition themes at QMSB and the more limited facilities at Cobb+Co.

\textsuperscript{40} Disappointingly Cobb+Co did not rate highly on inspiration for personal creativity despite the emphasis on heritage trades and crafts.

\textsuperscript{41} The other two options were \textit{no/not really} and \textit{don't know}.
2.2 Queensland Museum products and services (questions 17-23)

The questionnaire then sought information from respondents about the level of their knowledge of other Queensland Museum products and services including the website, the Museum Development Officers, historical and scientific research, education loan kits for schools, publications and the Inquiry Centre service where people can ask Museum experts a question.

In general, website awareness was very low across all the campuses as shown in Table 6.13. As all the respondents are web users, it might be expected that these figures would be somewhat higher than for a comparable study using a different survey mechanism.

<table>
<thead>
<tr>
<th>Website visitations</th>
<th>QM Corporate website</th>
<th>QMSB</th>
<th>Cobb+Co</th>
<th>TWRM</th>
<th>MTQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the last 6 months</td>
<td>59 (5%)</td>
<td>111 (10%)</td>
<td>29 (3%)</td>
<td>56 (5%)</td>
<td>44 (4%)</td>
</tr>
<tr>
<td>6 months to a year</td>
<td>38 (3%)</td>
<td>78 (7%)</td>
<td>17 (1%)</td>
<td>29 (3%)</td>
<td>31 (3%)</td>
</tr>
<tr>
<td>More than a year ago</td>
<td>67 (6%)</td>
<td>109 (9%)</td>
<td>32 (3%)</td>
<td>72 (6%)</td>
<td>35 (3%)</td>
</tr>
<tr>
<td>Never</td>
<td>981 (84%)</td>
<td>848 (73%)</td>
<td>1075 (92%)</td>
<td>994 (86%)</td>
<td>1043 (90%)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>18 (2%)</td>
<td>15 (1%)</td>
<td>8 (1%)</td>
<td>11 (1%)</td>
<td>10 (1%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,174</td>
<td>1,174</td>
<td>1,174</td>
<td>1,174</td>
<td>1,174</td>
</tr>
</tbody>
</table>

Table 6.13 Website visitations by respondents including campuses and Queensland Museum’s corporate website using unweighted scores.

As expected, the most recently visited website was QMSB at 60%. Respondents may have difficulty in distinguishing between QMSB and the corporate site, hence the very high percentage for QMSB, as many people still refer to the South Bank campus as the Queensland Museum. The other three websites registered 11-12% response rates while Cobb+Co only recorded 6% of the Queensland Museum’s most recently visited websites.

When asked the purpose for visiting QM websites, planning a visit was consistently indicated as the prime reason for most campuses, followed by just browsing and finding information on a topic as shown in Table 6.14. Cobb+Co did rate more highly than the other websites on visitors seeking follow up information.

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42 TWRM, MTQ and QM corporate website. Respondents may have difficulty in distinguishing between QMSB and the Corporate site, hence the very high percentage for QMSB, as many people still refer to the South Bank campus as the Queensland Museum.
Table 6.14 Reasons for website visitations. As these unweighted scores are very low for four of the websites, caution needs to be taken in interpreting the results.

Other Queensland Museum services and programs were also not well known to the vast majority of respondents. Tables 6.15a and 6.15b provide information about six Queensland Museum programs and services. Between a third and a half of the respondents had never heard of any of these six programs. On average only 5% of respondents knew a lot about any of the programs.
<table>
<thead>
<tr>
<th>Other QM programs</th>
<th>Museum Development Officers (MDOs) working with regional museums</th>
<th>Historical Research</th>
<th>Education kits for Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know a lot about it</td>
<td>3%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Know a little about it</td>
<td>17%</td>
<td>37%</td>
<td>31%</td>
</tr>
<tr>
<td>Only know the name</td>
<td>17%</td>
<td>23%</td>
<td>25%</td>
</tr>
<tr>
<td>Never heard of it</td>
<td>56%</td>
<td>29%</td>
<td>33%</td>
</tr>
<tr>
<td>Not sure</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,174</strong></td>
<td><strong>1,174</strong></td>
<td><strong>1,174</strong></td>
</tr>
</tbody>
</table>

**Table 6.15a** Queensland Museum program recognition – MDOs, historical research and loan kits for schools using unweighted scores.

<table>
<thead>
<tr>
<th>Other QM programs</th>
<th>Inquiry Centre – ask a scientist</th>
<th>Publications</th>
<th>Scientific Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know a lot about it</td>
<td>4%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Know a little about it</td>
<td>22%</td>
<td>37%</td>
<td>33%</td>
</tr>
<tr>
<td>Only know the name</td>
<td>14%</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td>Never heard of it</td>
<td>53%</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>Not sure</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,174</strong></td>
<td><strong>1,174</strong></td>
<td><strong>1,174</strong></td>
</tr>
</tbody>
</table>

**Table 6.15b** Queensland Museum program recognition – Inquiry Centre, publications and scientific research using unweighted scores.
3. Setting the scenarios - non-market values of the Queensland Museum (question 24)

Before proceeding with a series of questions about attitudes to the Queensland Museum as a whole, the respondents were provided with information about the Museum’s collections and research, venues and outreach programs and a map of Queensland showing its spread of activities and services.\(^43\) This proved to be essential as the previous two tables indicated the very low level of knowledge about the Queensland Museum’s programs and services.\(^44\)

The CVM questions in this study were designed to estimate the non-market values of the Queensland Museum from the perspective of both users and non-users. Although a monetary figure would be sought, it was realised that respondents perception of non-market values would in fact underpin their decisions about willingness to pay for existing and new services. Consequently question 24 was designed to explore attitudes to the Queensland Museum as a public good. The consumers’ surplus estimated by CVM surveys on a specific cultural good such as the Queensland Museum is “a measure of the benefit individuals attribute to that good”. (Cuccia, 2003, p. 129) Five of the statements used in question 24 dealt with general or community public good, while the sixth statement asked about personal relevance.

<table>
<thead>
<tr>
<th>Perceptions of QM</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM does important things for the people of Queensland</td>
<td>43%</td>
<td>49%</td>
<td>4%</td>
<td>-%</td>
<td>-%</td>
<td>3%</td>
</tr>
<tr>
<td>QM is not relevant to me and probably never will be</td>
<td>2%</td>
<td>9%</td>
<td>11%</td>
<td>45%</td>
<td>29%</td>
<td>4%</td>
</tr>
<tr>
<td>In the future, I might want to visit one of the museums or use one of QM’s services</td>
<td>35%</td>
<td>54%</td>
<td>6%</td>
<td>2%</td>
<td>-%</td>
<td>3%</td>
</tr>
<tr>
<td>In years to come, people will think that QM achieved very little</td>
<td>3%</td>
<td>6%</td>
<td>13%</td>
<td>46%</td>
<td>27%</td>
<td>6%</td>
</tr>
<tr>
<td>I get personal benefit from things QM does</td>
<td>13%</td>
<td>37%</td>
<td>32%</td>
<td>10%</td>
<td>1%</td>
<td>7%</td>
</tr>
<tr>
<td>QM will leave an important legacy to future generations</td>
<td>48%</td>
<td>41%</td>
<td>6%</td>
<td>-%</td>
<td>-%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table 6.16 Perceptions of the Queensland Museum using weighted scores.

\(^43\) See Appendix 3 Survey question 24
\(^44\) Familiarity with the good has been described by some researchers as a necessary prerequisite to providing ‘meaningful’ responses to CVM valuation questions. However, many people purchase goods without a great deal of familiarity with them, especially new products on the market, and would spend little or no time in researching or considering their purchase of non-essential items worth between $2 and $12 as in used in this study. (Carson, Flores, & Meade, 2001, p. 178)
The pattern of these results indicates that respondents read the question carefully especially the negative statements. There is a high correlation of results for the general public good questions indicating a high level of bequest, existence and options benefits associated with the Queensland Museum. However, there was a relatively high level of uncertainty about the extent of personal benefit that is gained from the Museum. Almost one-third of the sample (32%) chose *neither agree nor disagree* to the statement about getting a personal benefit. This is most likely due to respondents' lack of personal contact with the Queensland Museum and its services as indicated in the previous survey tables.
4. WTP using two scenarios

4.1 Ongoing WTP for existing products and services (questions 25-29)

Questions 25-34 were related to the two willingness-to-pay scenarios. This section, in common with most effective CVM questionnaires, consisted of a detailed description of the good to be offered; the manner in which the good will be paid for; the method by which the survey elicits the respondents’ preferences with respect to the good and budget implications of WTP decisions. (Carson, Flores, & Meade, 2001, p. 179)

For the first scenario – ongoing WTP for existing products and services, each respondent to the survey was asked an initial question to ascertain interest in changing the current annual amount that the Queensland Museum receives from the State Government. The following information was provided to respondents before the WTP questions were asked.

“The Queensland Museum is partly funded by revenue earned by the Museum. The remainder of the money comes for the State Government. In 2007, State Government funding for the Queensland Museum and all its operations was $19.5 million, which amounts to $6.50 per Queensland adult per year.” (See Appendix 3 Survey Questionnaire)

The respondents were then asked in general terms if they were in favour of increasing, leaving the same or decreasing funding to the Queensland Museum. (See Table 6.17)

<table>
<thead>
<tr>
<th>WTP for existing QM services</th>
<th>Total</th>
<th>Brisbane &amp; Ipswich</th>
<th>T’mba</th>
<th>T’ville</th>
<th>Rest of QLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing the funds for QM</td>
<td>52%</td>
<td>53%</td>
<td>55%</td>
<td>58%</td>
<td>51%</td>
</tr>
<tr>
<td>Keeping the funds at the present for QM</td>
<td>44%</td>
<td>43%</td>
<td>45%</td>
<td>40%</td>
<td>44%</td>
</tr>
<tr>
<td>Reducing the funds for QM</td>
<td>4%</td>
<td>3%</td>
<td>-%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>Total unweighted row</td>
<td>1174</td>
<td>545</td>
<td>126</td>
<td>208</td>
<td>295</td>
</tr>
<tr>
<td>Total weighted row</td>
<td>1162</td>
<td>498</td>
<td>31</td>
<td>36</td>
<td>597</td>
</tr>
</tbody>
</table>

Table 6.17 Ongoing funding preference for the Queensland Museum using weighted scores. There was a high level of consistency across all areas of the State.
Overall, 52% of respondents indicated that they would be in favour of increasing the operational budget for the Queensland Museum, while only 4% indicated they would prefer a cut in the existing budget. The remaining 44% were content with the present level of funding the Museum received from the State Government. While these results were consistent across all geographical areas, there was a small variation in gender responses. 55% of males were in favour of increasing funding, while this was reduced to 50% for females. 41% of males and 47% of females wanted the funding levels to remain unchanged.

In line with recommendations from the NOAA Panel that respondents be reminded of substitutes and alternative expenditure possibilities, if a respondent accepted the idea of the Queensland Museum being given additional funds, they were then asked whether they thought the additional funds should come from an increase in taxation or from diverting funds from existing services. 69% preferred to reduce funding from some other service while 31% opted for a tax increase to provide additional funding to the Queensland Museum. Gender results were consistent with this overall figure.

<table>
<thead>
<tr>
<th>Payment options/ age</th>
<th>Total</th>
<th>Under 24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds to come from reducing some other services</td>
<td>69%</td>
<td>84%</td>
<td>76%</td>
<td>68%</td>
<td>68%</td>
<td>63%</td>
</tr>
<tr>
<td>Funds to come from tax increase</td>
<td>31%</td>
<td>16%</td>
<td>24%</td>
<td>32%</td>
<td>32%</td>
<td>37%</td>
</tr>
<tr>
<td>Total</td>
<td>610</td>
<td>55</td>
<td>96</td>
<td>111</td>
<td>125</td>
<td>223</td>
</tr>
</tbody>
</table>

Table 6.18 Payment options to cover hypothetical increased funding for the Queensland Museum.

The age continuum demonstrates a steady decline from 84% of young adults preferring to reduce other services to 63% of those 55 or older indicating this option. Correspondingly older adults preferred an increase in taxation – maybe thinking they would be able to avoid paying any such increase! There was a consistency in responses to this question from the regions surveyed, with the exception of Toowoomba, where an overwhelming 81% preferred a reduction in other services rather than a tax increase at only 19%.

The structure of the questionnaire and the wording of the questions were developed with the intent of minimising any tendency for a respondent to advocate spending on the Queensland Museum without any consideration of competing interests or personal loss in some other sector of public service. The aim was to make clear to the respondent that a trade-off of funding would be necessary. It was also decided to provide actual substitutes (decreased public services), which might occur if increased funding was provided to the Queensland Museum.

When making their choice, each respondent was given a list of services (health, education, corrective services, tourism and transport) and for each service there was an estimated reduction in that service that would be caused by diverting the funds to the
Queensland Museum. The level of these services varied with the optional value allocated to the questionnaire.  

<table>
<thead>
<tr>
<th>WTP and reductions in other services</th>
<th>Total</th>
<th>Brisbane &amp; Ipswich</th>
<th>T’mba</th>
<th>T’ville</th>
<th>Rest of QLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health -24 new bed</td>
<td>3%</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Education - 32 new classrooms</td>
<td>2%</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Prisons – 16 new prison beds</td>
<td>41%</td>
<td>46%</td>
<td>59%</td>
<td>38%</td>
<td>36%</td>
</tr>
<tr>
<td>Tourism -$12 million tourism promotion</td>
<td>48%</td>
<td>45%</td>
<td>32%</td>
<td>57%</td>
<td>50%</td>
</tr>
<tr>
<td>Transport infrastructure – 20 km of new roads</td>
<td>7%</td>
<td>6%</td>
<td>3%</td>
<td>-%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Table 6.19 Actual Government services which could possibly be reduced to fund an increase in recurrent funding to the QM. The examples appeared in this order in the questionnaire for Option B - $4 increase in funding using weighted scores.

Table 6.19 shows that for respondents favouring a reduction in services, there was an overwhelming preference to curtail tourism promotions and corrective services rather than cutbacks to education, health or transport infrastructure. Interestingly 45% of older adults were more interested in reducing funding to prisons than younger people at 28%. There were some regional variations again with Toowoomba proving the exception with 59% preferring to cut prisons but only 32% preferring a reduction in tourism promotions.

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45 For example, for Option A - $2 increase there could be built 16 new classrooms, for Option B - $4 increase that would relate to 32 new classrooms and for Option C - $8 increase it would be 64 new classrooms.
For those who were not in favour of an increase in funds, the questionnaire sought the main reasons for these responses as well. A series of statements was presented as indicted in Table 6.20.

<table>
<thead>
<tr>
<th>Reasons for not increasing funds to QM</th>
<th>Total</th>
<th>Brisbane &amp; Ipswich</th>
<th>T'mba</th>
<th>T'ville</th>
<th>Rest of QLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM get enough funds at the moment</td>
<td>11%</td>
<td>6%</td>
<td>-%</td>
<td>13%</td>
<td>16%</td>
</tr>
<tr>
<td>I value QM but I personally cannot afford/do not want to pay more</td>
<td>24%</td>
<td>24%</td>
<td>12%</td>
<td>43%</td>
<td>23%</td>
</tr>
<tr>
<td>I value QM but other services are more important</td>
<td>40%</td>
<td>40%</td>
<td>60%</td>
<td>30%</td>
<td>39%</td>
</tr>
<tr>
<td>I don’t value QM enough to give it more funds</td>
<td>2%</td>
<td>3%</td>
<td>9%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>I don’t know enough about it to decide</td>
<td>13%</td>
<td>11%</td>
<td>13%</td>
<td>8%</td>
<td>15%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>3%</td>
<td>-%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>No response</td>
<td>7%</td>
<td>12%</td>
<td>1%</td>
<td>1%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Table 6.20 Reasons for respondents not in favour of an increase in funds to the Queensland Museum using weighted scores.

Overall the most common motivation was that although the Museum was considered valuable other services were more important. There were some notable variations in responses especially from the smaller samples in Toowoomba and Townsville. Age also showed some variance. Not unexpectedly 35% of those over 55, in contrast to 7% of those 25-34 indicated that while valuing the Queensland Museum, they cannot afford, or do not want to pay more.

Ballot 1 – WTP additional amounts for ongoing funding for the Queensland Museum

Of the 610 respondents (in the weighted sample), who preferred an increase in the current level of funding to the Queensland Museum, each was subsequently presented with one possible increased amount, $2, $4, or $8, chosen at randomly. Approximately one-third of the sample considered each amount when making their choice as illustrated in Table 6.21.
As the amount of the proposed increase went up from $2 to $4 to $8, it was not surprising that interest in paying went down. This is an important result because it shows consistency with economic theory.\textsuperscript{46} However, even at the highest optional amount ($8), the amount was acceptable to the majority of people (75\%) as indicated in Table 6.22.

\begin{table}[!h]
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
\textbf{Spread of ballot types} & \textbf{Obtained Sample} & \textbf{Option 1 $2} & \textbf{Option 2 $4} & \textbf{Option 3 $8} \\
\hline
Brisbane/Ipswich & 545 & 201 & 182 & 162 \\
\hline
Toowoomba & 126 & 35 & 48 & 43 \\
\hline
Townsville & 208 & 52 & 81 & 75 \\
\hline
Rest of Queensland & 295 & 96 & 92 & 107 \\
\hline
\textbf{Total} & 1,174 & 384 & 403 & 387 \\
\hline
\end{tabular}
\caption{Table 6.21 Spread of ballot types across geographic regions for the question relating to QM recurrent funding.}
\end{table}

\begin{table}[!h]
\centering
\begin{tabular}{|l|c|c|c|}
\hline
\textbf{Ballot 1 increased WTP} & \textbf{Yes} & \textbf{No} & \textbf{No of respondents} \\
\hline
Option A - an increase of $2 per adult per year & 94\% & 6\% & 196 \\
\hline
Option B - an increase of $4 per adult per year & 82\% & 18\% & 209 \\
\hline
Option C - an increase of $8 per adult per year & 75\% & 25\% & 205 \\
\hline
Total/overall result & 84\% & 16\% & 610 \\
\hline
\end{tabular}
\caption{Table 6.22 Increased funding for the Queensland Museum using weighted scores and three set optional amounts, $2, $4, and $8.}
\end{table}

Overall results show that 84\% of respondents who had originally indicated their preference to increase ongoing funding to the Queensland Museum above the current $6.50 per adult per annum, accepted the optional additional amount they were allocated in their survey.\textsuperscript{47}

\textsuperscript{46} The percentage of respondents willing to pay a particular price should fall as the price they are asked to pay increases. (Carson, Flores, & Meade, 2001, p. 181)

\textsuperscript{47} Respondents who elected to decrease funding to the Queensland Museum (4\% of the original survey), were also provided with a ballot of the same amounts $2, $4 or $8. Overall 86\% voted yes to the optional amount they were allotted, demonstrating a very similar pattern to Table 6.22.
It was obvious that the optional amount chosen still underestimated the perceived value of the Queensland Museum to the public of Queensland. A very conservative approach had been adopted for this study expressed in the concern to ‘play safe’ and not set the levels too high, even though these final options had been increased after the results of the pilot study. Professor David Throsby suggests that it is not uncommon for the advocates of studies linked to cultural institutions to underestimate the perceived value of their institution. (Environmetrics & Ingenuity, 2009, p. 15)

The consultants then used a probit analysis to model the willingness to pay (WTP) data collected and to establish average (mean) and conservative lower-bound (two standard deviations to the left) dollar values. From these results the total value of increased funding for the Queensland Museum was aggregated from the individual responses.

Although the survey’s questions were phrased in terms of per-adult tax increases, there is a deal of debate about whether respondents would in fact answer on their own behalf or on behalf of their household unit. If museums are thought of in terms of individual taxation and individual benefit, then the adult figure is probably appropriate to use. If it is assumed that people will make decisions about museums and cultural institutions as a ‘household expense’, then the per-household analysis is probably better to use and this was the approach adopted in the analysis of the results from the Queensland Museum CVM Study.

48 To estimate the point at which the proportion of people agreeing to pay would be equal to the proportion unwilling to pay, it was assumed that the distribution of responses lie on a normal curve around the as yet unknown “true” average amount.

Graph 1. Extent of willingness to pay across ballot amounts

From the data, there were three readings linking acceptance to amounts—at $2, $4 and $8. These readings were used to establish the overall parameters of the hypothesised normal curve and, as a consequence, identified where the mean/median of the distribution would lie. The mean (or median) in this case being the point at which 50% of people are willing to accept the amount. (Environmetrics & Ingenuity, 2009, p. 16)
Table 6.23 Ballot 1 WTP results for increased recurrent funding for the Queensland Museum showing both adult population and household figures.

Respondents WTP for existing services, was calculated at between 2.3 and 2.9 times current levels of funding. The conclusion drawn is that the people of Queensland place a value on the Queensland Museum that is more than twice that reflected in current government funding for day to day operations.

**Distinctively Queensland Show** – a planned exhibition at QMSB which is a narrated, humorous, emotional and at times irreverent snapshot of life in Queensland from pre-history looking forward to our future.
4.2 WTP using two scenarios – one-off funding for additional products and services (questions 30-34)

The second ballot question was related to a *once-only levy* linked to a program of major infrastructure development at the four existing campuses and a new virtual campus (new website) over the next 5 to 7 years. Each development was described by a single sentence, and the statement that they were designed to provide “better access to collections and research via new displays, innovative learning programs and services and more user-friendly facilities.” Respondents were asked to consider all the proposed developments worth an estimated $24million as a package. To ensure that respondents provide thoughtful responses to the questions, they were told that the information they were providing will be used in the decision-making process. (Carson, Flores, & Meade, 2001, p. 180)

The respondents were informed that to achieve its Vision,

> “The Queensland Museum will require more funding and we are seeking your input in identifying how valuable or otherwise these new developments will be.” (See Appendix 3 Survey questionnaire)

As previously described under Ballot 1, respondents were asked the same series of questions. Three quarters of the sample were in favour of increasing funds for the Queensland Museum to provide more services, with 21% wanting to keep the funding at its present level and not undertake additional development and 4% registered a nil response. These were remarkable results and also demonstrated a very high degree of consistency of responses across gender, geographical region and ages. Replicating the format above, respondents were then asked how they wanted to fund these one-off donations. The results show that 72% of respondents preferred the funds to come from reducing services rather than a tax increase at 28%, with the same variation across ages also being recorded as previously to the question for Ballot 1. Eighty percent of those under 24 preferred to see a cut in services which gradually declined to 63% for the age bracket 55 years and older. Again Toowoomba was slightly out of step with the other geographical regions, but consistent with its previous results, with a higher propensity to favour reducing services at 80% rather than tax increases at only 20%.

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49 For example, the questionnaire included this statement about the development proposed at Cobb+Co Museum. “The National Carriage Factory at Cobb+Co Museum, featuring new exhibitions and community spaces alongside a unique demonstration and training site for rare heritage trades such as blacksmithing.”

50 Again as in Table 6.18, young adults under 24 did not conform to the average results. Only 58% of this age group wanted to fund increase services, 31% preferred to maintain the existing services at the current funding level and 10% made no response.
Relating the general preference to see reduced services to actual service delivery, the same response pattern was observed as previously with an overwhelming proportion of the respondents opting for reduction in prisons and tourism marketing. (See Tables 6.24 below compared with Table 6.19 above).

<table>
<thead>
<tr>
<th>WTP and reduction of other services</th>
<th>Total</th>
<th>Brisbane &amp; Ipswich</th>
<th>T’mba</th>
<th>T’ville</th>
<th>Rest of QLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health - 36 new beds</td>
<td>2%</td>
<td>3%</td>
<td>-%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Education - 48 new classrooms</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>-%</td>
<td>1%</td>
</tr>
<tr>
<td>Prisons – 24 new prison beds</td>
<td>46%</td>
<td>50%</td>
<td>50%</td>
<td>44%</td>
<td>42%</td>
</tr>
<tr>
<td>Tourism - $18 million tourism promotion</td>
<td>47%</td>
<td>43%</td>
<td>46%</td>
<td>53%</td>
<td>51%</td>
</tr>
<tr>
<td>Transport infrastructure – 30 km of new roads</td>
<td>4%</td>
<td>4%</td>
<td>2%</td>
<td>1%</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Table 6.24** Actual Government services which could possibly be reduced to fund new developments at the QM, in the order that they appeared in the questionnaire for Option B - $6 increase in funding using weighted scores.

**Ballot 2 – WTP for one off funding for additional products and services from the Queensland Museum.**

At this stage in the survey, the second ballot question was proposed. Approximately one third of the respondents who had indicated a willingness to pay a one-off levy so the Queensland Museum could provide additional services as previously described, were presented with the choice of paying $4, $6 or $12. These optional amounts were distributed similarly to that used for Ballot 1.  

Question 32 provided additional information about the impact of the $4, $6 or $12 options; for example a one-off levy of $6 from every adult in Queensland would provide $12 million towards the new facilities and services.  

51 For example if a respondent was allocated option A previously, which was the lowest amount of $2, that same respondent would again be only offered option A which for Ballot 2 was the lowest amount of $4.

52 A one-off levy of $4 would provide $6 million, while the $12 option would provide $18.5 million.
Table 6.25 One-off funding for the Queensland Museum for new developments using weighted scores and three set optional amounts, $4, $6, and $12.

Although this sample was 44% larger than in Ballot 1 (877 respondents as compared to 610) there was a slightly reduced number of respondents who were prepared to agree to the optional amount with which they were presented.\(^5\) Again there was the expected reduction in approval for the optional amount as it was increased from $4 to $6 to $12. The most notable variation was the reduction in support for the lowest amount $4 in this case. In Ballot 1 the lowest amount of $2 was supported by 94% of respondents while this time only 81% were willing to pay. Options A and C in Ballot 2 actually had doubled amounts in comparison to ballot 1 ($2 to $4 and $6 to $12). However, for Option B the amounts had only changed by 50% from $4 to $6, and the results were much closer for the two ballot questions (82% in favour for Ballot 1 and 80% in favour for Ballot 2).

This data was then subjected to a probit analysis as previously described and an aggregated total value was calculated. Again results were provided for both adults and households and were calculated using both the mean and the lower bound (two standard deviations to the left) figures.

Table 6.26 Ballot 2 WTP results for a one-off donation to enhance Queensland Museum programs and services.

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53 84% were in favour for Ballot 1 and 77% in favour for Ballot 2. (See Tables 6.22 for Ballot 1 and 6.26 for Ballot 2 results)
The questionnaire had presented a scenario of new developments proposed for the Queensland Museum worth $24 million. The more conservative results shown in Table 6.26 using households rather than the number of adults, indicated a range of WTP of between $19 and $27 million. This would suggest that even adopting this very cautious approach, the Queensland public would be in favour of funding the proposed level of new facilities and services proposed by the Queensland Museum to be developed over the next 5 to 7 years.54

"In other words, if development of the Museum could be achieved for a figure less than these estimates, it would be, from a technical perspective, a ‘good buy’ in that the actual expenditure would be less than the community would be willing to pay." (Environmetrics & Ingenuity, 2009, p. 18)
5.0 Demographics and some general attitudes and interests (questions 35-44)

Although this CVM study was concerned with estimating the overall dollar value of the Queensland Museum to its communities, it was also interested in how different audiences valued the Museum, and in common with other CVM studies, it collected a set of respondent characteristics including attitudes and demographic information. One of the overriding reasons for using a CVM study was its potential to include WTP of both users and non-users. The 146 tables of data collected enabled conclusions to be drawn about willingness to pay amongst various audience groups within the general population. These included:

- People with high or low interest in museums generally
- People who were recent visitors
- People with children in their household
- People of different ages
- People of different sexes
- People with different levels of education
- People in different work situations
- People who live in each of the geographic areas
- People from different lifestyle (psychographic) backgrounds.

WTP and interest in museums

As expected the more interested people are in museums the more likely they are to approve increased funding for using these facilities. However, this study also indicated that 53% of non-users to the Queensland Museum expressed a willingness to pay to maintain it, while 41% expressed a willingness to pay more to enhance the Queensland Museum. These respondents were motivated by reasons other than the value they gained from actually using the facility and services. Non-users perceive benefits of museums in communities, which can be a mixture of existence, bequest and options values. It is significant that only 7% of non-users advocated a reduction in funding for the Queensland Museum. This means that 93% of non-users view the Queensland Museum as valuable to others in their community, now or in the future.

One of the respondents to the CVM survey commented:

“I believe the Queensland Museum provides an essential service to the public, although I do not visit regularly it does not mean I do not appreciate the value of the work that the museum undertakes, it needs to be maintained and enhanced for the future generations.” (QM 2008 CVM Survey respondent)
Interest in Museums

<table>
<thead>
<tr>
<th></th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>I keep an eye out for special activities at museums and go when they interest me</td>
<td>59%</td>
<td>38%</td>
<td>3%</td>
<td>597</td>
</tr>
<tr>
<td>I go generally to see what is there; I don’t go to see special exhibits or activities</td>
<td>48%</td>
<td>48%</td>
<td>4%</td>
<td>311</td>
</tr>
<tr>
<td>I am not really interested in museums and I don’t go very often at all</td>
<td>41%</td>
<td>53%</td>
<td>7%</td>
<td>253</td>
</tr>
</tbody>
</table>

Sample size 610 507 40 1162

Table 6.27 WTP across levels of interest in museums using weighted scores.

WTP amongst recent visitors

In general, frequency of respondents visitations to museums would be expected to positively correlate with their WTP and this was reinforced by the results in this study.

<table>
<thead>
<tr>
<th>Recent visitors to campuses</th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visited QMSB in previous 12 months (Brisbane)</td>
<td>64%</td>
<td>32%</td>
<td>4%</td>
<td>393</td>
</tr>
<tr>
<td>Visited TWRM in previous 12 months (Ipswich)</td>
<td>57%</td>
<td>37%</td>
<td>6%</td>
<td>106</td>
</tr>
<tr>
<td>Visited Cobb+Co Museum in the previous 12 months (Toowoomba)</td>
<td>58%</td>
<td>41%</td>
<td>1%</td>
<td>57</td>
</tr>
<tr>
<td>Visited MTQ in the previous 12 months. (Townsville)</td>
<td>65%</td>
<td>33%</td>
<td>2%</td>
<td>129</td>
</tr>
</tbody>
</table>

Table 6.28 WTP amongst visitors to Queensland Museum campuses at least once within the 12 months prior to the present survey using weighted scores.55

There appears to be less willingness to pay by recent visitors to both TWRM in Ipswich and the Cobb+Co Museum in Toowoomba. Both these campuses currently have a single dominant exhibition theme, Queensland railways or horse-drawn vehicles respectively, compared to the more varied exhibition presentations in the other campuses. Environmetrics proposed an alternative opinion.

“It could be that the TWRM appears to some visitors as more like a tourist attraction and thus is thought able to raise funds from commercial activity, while Cobb+Co, being of a more modest scale

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55 The figures may contain some double counting as each campus was treated separately in creating the table.
may not trigger the desire to contribute funds to the same extent.”
(Environmetrics & Ingenuity, 2009, p. 20)

Ironically the local Toowoomba community has pledged $1.2 million over the past two years to support the National Carriage Factory Project and redevelopment at the Cobb+Co Museum showing a huge willingness to actually pay for new museum services.⁵⁶ This actual situation is reflected in a comment made by a survey respondent.

“The Cobb+Co Museum is great value for money and is a very educational and interesting place to take visitors when they are on holidays.” (QM 2008 CVM survey respondent)

WTP and children in the household

Thirty-one percent of respondents had indicated the purpose of their most recent visit to one of the campuses was to take a child or children.⁵⁷ Consequently it could be expected that the number and perhaps ages of children in a household might show a positive correlation with WTP.

<table>
<thead>
<tr>
<th>Children in the household</th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children aged 0 – 12 in household</td>
<td>46%</td>
<td>51%</td>
<td>3%</td>
<td>330</td>
</tr>
<tr>
<td>Children aged 13 – 18 in household</td>
<td>48%</td>
<td>49%</td>
<td>3%</td>
<td>205</td>
</tr>
<tr>
<td>No. children aged 0 – 12 in household</td>
<td>55%</td>
<td>41%</td>
<td>4%</td>
<td>833</td>
</tr>
<tr>
<td>No. children aged 13 – 18 in household</td>
<td>53%</td>
<td>43%</td>
<td>4%</td>
<td>957</td>
</tr>
</tbody>
</table>

Table 6.29 WTP and children of different ages in the household using weighted scores.

Surprisingly having children in a household shifted the willingness to pay downwards to a moderate extent. Households with children under 12, whom the Queensland Museum target as a primary audience, were the least willing to pay for more for the Museum’s services. This could, of course be related to other financial pressures on families with children rather than be a true reflection of these families attitude to the Queensland Museum.

Further analysis was conducted on households with at least one pre-teen resident. These households were distributed across the geographic regions in a similar pattern to the total population reported in the census.

⁵⁶ Of the actual $1.7million raised by the National Carriage Factory Appeal Committee, $1.2million was donated by Toowoomba based businesses or individuals. On a very rough calculation this would amount to $12.60 per adult or $24.60 per household in the Toowoomba region.
⁵⁷ “Museums are a great way to show our children about things that we couldn’t show or teach through just words and pictures.” (QM 2008 CVM survey respondent)
As would be expected, the highest proportion of responses from pre-teen households was provided by a person aged 35-44. Within pre-teen households 57% of respondents indicated that taking a child or children to a campus of the Queensland Museum was their main purpose for visiting,\(^{58}\) in comparison to only 20% of non-pre-teen households.

Having a pre-teen in the household may also trigger a modest increase in awareness of museums. In these households, 56% of respondents claimed to keep an eye out for special activities in museums in contrast to 49% of households without a pre-teen. Similarly it was not unexpected to find that pre-teen households at 18%, were less likely to record that they were “not really interested in museums and don’t go very often at all”, than other households at 23%. (Environmetrics & Ingenuity, 2009, p. 21)

### WTP for people of different ages

As would be expected from these results on pre-teen households, age of respondents was also somewhat significant in determining WTP, with young adults less likely to vote for increased funding than older adults. The corollary was also true that the youngest age group was most likely to favour a reduction in funding as shown in Table 6.31.

<table>
<thead>
<tr>
<th>Ages of respondents</th>
<th>Total</th>
<th>Under 24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing the funds for QM</td>
<td>52%</td>
<td>37%</td>
<td>46%</td>
<td>49%</td>
<td>62%</td>
<td>59%</td>
</tr>
<tr>
<td>Keeping the funds at the present for QM</td>
<td>44%</td>
<td>53%</td>
<td>50%</td>
<td>48%</td>
<td>38%</td>
<td>37%</td>
</tr>
<tr>
<td>Reducing the funds for QM</td>
<td>4%</td>
<td>10%</td>
<td>4%</td>
<td>3%</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>Total weighted row</td>
<td>1162</td>
<td>149</td>
<td>209</td>
<td>226</td>
<td>202</td>
<td>376</td>
</tr>
</tbody>
</table>

Table 6.31 Variation in ongoing funding preferences for the Queensland Museum based on age of respondents using weighted scores.

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\(^{58}\) A typical comment in the survey referred to taking children to the museum such as the following:- “I think that the Museum of Tropical Queensland in Townsville is fantastic! The kids (aged 3, 5 and 8) love it and we go about 6 times a year. The building and exhibits are well thought out, exhibitions relevant and ambiance excellent” (QM 2008 CVM Study respondent)
WTP based on gender

There was a slight tendency for men to be more supportive of increasing funding to the Queensland Museum though it is difficult to comment on reasons for this or to infer if the difference is of any real significance.

<table>
<thead>
<tr>
<th>Gender of respondents</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing the funds for QM</td>
<td>52%</td>
<td>56%</td>
<td>49%</td>
</tr>
<tr>
<td>Keeping the funds at the present for QM</td>
<td>44%</td>
<td>40%</td>
<td>47%</td>
</tr>
<tr>
<td>Reducing the funds for QM</td>
<td>4%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Total weighted row</td>
<td>1162</td>
<td>573</td>
<td>589</td>
</tr>
</tbody>
</table>

*Table 6.32 Variation in ongoing funding preferences for the Queensland Museum based on gender of respondents using weighted scores.*

WTP for people with different levels of education

There was a fairly even distribution of education among the survey participants. Just over a third of the respondents had completed primary or high school; a third had completed a TAFE or college course while just under a third had attended university.

<table>
<thead>
<tr>
<th>Education levels</th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary/High school</td>
<td>49%</td>
<td>47%</td>
<td>4%</td>
<td>39%</td>
</tr>
<tr>
<td>Trade/technical/business college</td>
<td>51%</td>
<td>45%</td>
<td>5%</td>
<td>33%</td>
</tr>
<tr>
<td>University – Undergraduate degree</td>
<td>61%</td>
<td>35%</td>
<td>4%</td>
<td>20%</td>
</tr>
<tr>
<td>University – Postgraduate degree</td>
<td>55%</td>
<td>42%</td>
<td>3%</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Table 6.33 Highest education levels and funding preferences using weighted scores.*

As higher levels of education were attained so WTP for Queensland Museum services also increased, though there is some contradiction in the postgraduate results. One would expect that this might be an aberration due to the relatively small sample size of this group.
WTP and work status

Respondents current work status provided reasonably consistent WTP results except for the two categories of student and retired. While the student numbers were very low and demand caution in interpreting the results, the retired grouping registered the highest WTP of any category. This was surprising except when one considers that older members of communities are more likely to express concerns that their heritage be preserved for present and future generations. Bequest values associated with the Queensland Museum could be highly significant to retirees.

<table>
<thead>
<tr>
<th>Work status</th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time work</td>
<td>54%</td>
<td>42%</td>
<td>4%</td>
<td>48%</td>
</tr>
<tr>
<td>Part time work</td>
<td>46%</td>
<td>49%</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>Looking for work</td>
<td>45%</td>
<td>52%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Home duties full time</td>
<td>55%</td>
<td>42%</td>
<td>4%</td>
<td>10%</td>
</tr>
<tr>
<td>Student</td>
<td>28%</td>
<td>66%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Retired</td>
<td>60%</td>
<td>36%</td>
<td>4%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Table 6.34 Work status and funding preferences using weighted scores.

WTP in different geographical areas

Respondents from geographical areas were discussed earlier with reference to Table 6.17. WTP was consistent across all geographical areas of the State. However, using the unweighted scores which enabled a much larger sample of respondents from Toowoomba and Townsville, there were some modest variations for these two regions as displayed in Table 6.35

<table>
<thead>
<tr>
<th>Geographical Area</th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisbane/Ipswich</td>
<td>54%</td>
<td>43%</td>
<td>3%</td>
<td>545</td>
</tr>
<tr>
<td>Toowoomba</td>
<td>47%</td>
<td>52%</td>
<td>1%</td>
<td>126</td>
</tr>
<tr>
<td>Townsville</td>
<td>49%</td>
<td>48%</td>
<td>3%</td>
<td>208</td>
</tr>
<tr>
<td>Rest of Queensland</td>
<td>54%</td>
<td>41%</td>
<td>5%</td>
<td>295</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>611</strong></td>
<td><strong>521</strong></td>
<td><strong>40</strong></td>
<td><strong>1,174</strong></td>
</tr>
</tbody>
</table>

Table 6.35 WTP in each of the four geographic areas using unweighted figures.
WTP and psychographic profile

The questionnaire used for this survey included the self-description questions used by Environmetrics in previous work with the Queensland Museum to sort people into the psychographic groups.

<table>
<thead>
<tr>
<th>Psychological segment</th>
<th>Previous 6 months</th>
<th>6 to 12 months</th>
<th>More than 12 months</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical and organised</td>
<td>26%</td>
<td>27%</td>
<td>40%</td>
<td>7%</td>
</tr>
<tr>
<td>Gregarious out &amp; about</td>
<td>49%</td>
<td>22%</td>
<td>24%</td>
<td>5%</td>
</tr>
<tr>
<td>Individualistic out &amp; about</td>
<td>37%</td>
<td>23%</td>
<td>35%</td>
<td>5%</td>
</tr>
<tr>
<td>Moderate &amp; unhurried</td>
<td>37%</td>
<td>15%</td>
<td>28%</td>
<td>20%</td>
</tr>
<tr>
<td>Discerning &amp; purposeful</td>
<td>42%</td>
<td>27%</td>
<td>27%</td>
<td>4%</td>
</tr>
<tr>
<td>Battlers</td>
<td>32%</td>
<td>15%</td>
<td>45%</td>
<td>8%</td>
</tr>
<tr>
<td>Conventional suburban</td>
<td>28%</td>
<td>17%</td>
<td>37%</td>
<td>18%</td>
</tr>
<tr>
<td>Self-contained, go with the flow</td>
<td>34%</td>
<td>26%</td>
<td>36%</td>
<td>4%</td>
</tr>
<tr>
<td>Social pleasure seekers</td>
<td>43%</td>
<td>25%</td>
<td>29%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Table 6.36 Recent visitation of any museum or gallery across psychological segments using weighted scores.

It is clear from the data in Table 6.36 that some segments are more recent visitors to museums or galleries than others. For example, people from the “Gregarious out & about segment” are nearly twice as likely, to have visited any museum or gallery within the last 6 months than have people from the “Practical and organised” segment.

Results displayed in Table 6.28 indicated that more recent museum visitors had a greater propensity for increasing funding to the Queensland Museum. However this does not seem to apply consistently to the psychological segmentation.

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59 “Psychographics” are the psychological parallel of demographics. The distinction between the two concepts can be characterised by saying that demographics is all about the age of a person’s head; psychographics is about what is in that head by way of attitudes, aspirations and general views about how to live life. (Environmetrics & Ingenuity, 2009, p. 23)

60 See question 36 in the Survey questionnaire.

61 See Appendix 1 for a more detailed description of each group.
Table 6.37 WTP across psychological segments using weighted scores.

<table>
<thead>
<tr>
<th>Psychological segment</th>
<th>Increase funds</th>
<th>Keep as is</th>
<th>Reduce funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical and organised</td>
<td>60%</td>
<td>37%</td>
<td>3%</td>
</tr>
<tr>
<td>Gregarious out &amp; about</td>
<td>44%</td>
<td>50%</td>
<td>6%</td>
</tr>
<tr>
<td>Individualistic out &amp; about</td>
<td>52%</td>
<td>43%</td>
<td>5%</td>
</tr>
<tr>
<td>Moderate &amp; unhurried</td>
<td>60%</td>
<td>32%</td>
<td>8%</td>
</tr>
<tr>
<td>Discerning &amp; purposeful</td>
<td>59%</td>
<td>38%</td>
<td>3%</td>
</tr>
<tr>
<td>Battlers</td>
<td>49%</td>
<td>51%</td>
<td>0%</td>
</tr>
<tr>
<td>Conventional suburban</td>
<td>40%</td>
<td>53%</td>
<td>7%</td>
</tr>
<tr>
<td>Self-contained, go with the flow</td>
<td>62%</td>
<td>34%</td>
<td>4%</td>
</tr>
<tr>
<td>Social pleasure seekers</td>
<td>34%</td>
<td>66%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Of the three segments that, in Table 6.36, are seen to have been to museums or galleries relatively recently (Gregarious out & about, Discerning & purposeful and Social pleasure seekers), only the Discerning and purposeful is relatively keen to see the funding for the Queensland Museum increased. While the least recent visitors, the Practical and organised are the most likely, together with the Self-contained, go with the flow segments and Moderate & unhurried, to be willing to pay extra for Queensland Museum services. Environmentics compared these results with their earlier studies and drew some additional conclusions about these behaviour patterns. In general,

62 The Self-contained, go with the flow segment (that previous research has shown as being at the centre of ‘friends’ activities associated with cultural institutions) is the one most inclined to favour increased funding.

The explanation lies in the observation drawn from previous studies that both the Gregarious out & about and Social pleasure seeker segments are drawn by a sense of ‘show’ and fashion. They represent the kind of fickle audience that will attend for the champagne opening but not return for the intellectual content.

The Individualistic out & about, in contrast, has all the same demographic characteristics as their gregarious and pleasure seeker cousins but is much more interested in the content of an exhibition and may become regular visitors at museums that tweak their interest.

These distinctions have an important bearing on the way messages about increased funding might need to be presented to the community.

For example, arguing that increased funding will ensure that the Queensland Museum is seen as ‘world class’ and appeals to international visitors and experts is likely to trigger a positive response from the Gregarious out & about and Social pleasure seekers. Especially if there is the opportunity for them to share in the reflected fame and possibly meet some important people.

Word of mouth across peer groups is, for these segments, a key means of establishing their identity. So being part of the experience and being able to talk about it is important to them. To excite them and gain their support, enhancements to the Museum would need to be clearly visible and act as a stage for their own performances.

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62 The Self-contained, go with the flow segment (that previous research has shown as being at the centre of ‘friends’ activities associated with cultural institutions) is the one most inclined to favour increased funding.
willingness to pay across all nine geographic and demographic criteria used in this study revealed that there was a reasonable degree of support for the Queensland Museum across all these groups. Although this is probably not surprising for most of the criteria, it is particularly significant that even those who described themselves as “not really interested in museums and don’t go very often at all” still thought that the Queensland Museum warranted increased funding.

Final Comments

There were a large number of responses to Question 44 which invited respondents to make any final comments. By far the largest numbers of comments, 73 in all, were about the survey itself and how much people enjoyed doing it. This was a significant response as it helped to validate the questionnaire used in this CVM study.

Many respondents also commented on the Queensland Museum or one of the campuses, or museums in general as being, “a great place to take kids”.

“I think the museums are a wonderful place to learn and a valuable asset especially for younger generations”.

“We love the children’s activities at the Rail Workshop - thank you” (QM 2008 CVM Study respondents)

There were also many comments about taking grandchildren to the museum.

“My grandchildren enjoy visits to the museum as much as I do.”

“Regularly take my grandsons to the Museum of Tropical Queensland; we love it.” (QM 2008 CVM Study respondents)

Interestingly, there were a few observations about the appropriateness of the five alternative Government services which were presented in the survey. These comments suggested alternative options such as reduced funding for elite sportsmen and sports venues in Brisbane or as one respondent wrote

“I thought question 28 was too restrictive in the alternative methods of funding it offered through Government cutbacks. There are many other opportunities where Government could reduce funding to increase grants to the museums e.g. grants to individuals and/or

For the Discerning & purposeful and Individualistic out & about, the sense of occasion is important but it needs to rest on a substantial intellectual base. For them, hearing about this base is critical and it gives a quite different meaning to ‘world class’. It is this intellectual base and the chance to be part of it that will trigger the greatest approval from the Self-contained, go with the flow.

In our view, the communication strategy that shapes both the argument for funding and communication about the argument needs to speak to each of these segments because, in comparison with the total population, all but the Self-contained, go with the flow (who are vigorous grass roots advocates) are over-represented at the higher levels in business and government decision making.

63 “I found the questions very interesting”; “Enjoyed this survey a lot as it really asked for my opinions”; “Was an easy survey to complete, easy to understand, used words that everyday people could understand - thanks”, were typical responses. There was only one adverse comment about the format of the survey. (QM 2008 CVM Study Q44 responses)
organisations that have little or no cultural relevance.” (QM 2008 CVM Study respondent)

Finally there were a couple of respondents who felt it necessary to explain their WTP decisions. Surprisingly these relate to cases where despite valuing the Museum highly, the respondent decided not to support any increase funding.

“I think museums do wonderful work … I have enjoyed special exhibitions at the Queensland Museum and thoroughly enjoyed my visit to Cobb+Co for research purposes. I don’t believe that everyone shares my positive view of museums however so I can’t agree with $12 per person tax.” (QM 2008 CVM Study respondent)

“I think the museums are essential to our culture and way of life. I believe that the Cobb+Co Museum is a vital part of the history of Toowoomba but I think at the moment pouring 24 million into the museums is not viable.” (QM 2008 CVM Study respondent)

Considering the deteriorating economy at the time this CVM survey was conducted, more comments like the second one above could have been expected.

Hands on learning at Cobb+Co
CONCLUSION

Results from the CVM study of the Queensland Museum should be regarded as ‘robust’ as the questionnaire used and its administration conformed to best-practice models based on the guidelines outlined by the NOAA Panel and addressed the major criticisms that have been levelled at previous CVM studies. The validity of the survey is based on the following:

- The sample reflected both geographic and demographic characteristics of the population of Queensland which was identified as the primary stakeholders of the Queensland Museum.
- There was an adequate response rate to the whole survey.
- Respondents demonstrated their understanding of the task in which they were asked to engage and spent adequate time, on average 11.48 minutes in completing the survey.
- There were 73 unsolicited positive comments about the survey being easy to follow and interesting.
- The nature of the payment for increased funding was clear as were alternative choices which detailed budget constraints.
- The questionnaire underwent vigorous analysis and was subjected to a pilot study.
- Participant responses reflected economic theory predictions.
- The results were comparable to more recent UK, European and American CVM studies of various cultural public goods such as libraries, museums, theatres, festivals and cultural heritage sites.
- The results reflect the actual situation in the Toowoomba community where fund-raising has occurred to construct the National Carriage Factory Project at the Cobb+Co Museum.\(^6\)

Although still somewhat contested, the CVM format was chosen for this study because of its ability to estimate non-market values held by both users and non-users as well as indicating the nature of the non-market value from the respondents’ perspective. Willingness to pay, it can be argued, is underpinned by a belief that an institution possesses qualities and attributes that, while not directly reflected in monetary terms, generate perceptions of value. (Environmetrics & Ingenuity, 2009, p. 6) It was clear from the results that the Queensland Museum as a whole and as the sum of its campuses is held in high regard by the vast majority of respondents. In general they believe that the

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\(^6\) Since the completion of this CVM Study the State Government has provided $4 million to the Cobb+Co Museum for the construction of the National Carriage Factory. This was a direct response to the Toowoomba community’s previous efforts in actually pledging $1.2 million towards this project, hence supporting the validity of the CVM survey in that the respondents’ WTP is matched by their actual payment for the public good in question.
Queensland Museum is important for the people of Queensland and is creating a legacy for the future.

In response to the willingness to pay options there was majority support for both scenarios. For the first scenario, it is concluded that the people of Queensland place a value on the Queensland Museum that is more than twice that reflected in current Government funding for day to day operations. (See table 6.23)

The second scenario described a series of new developments proposed for the Queensland Museum to be developed over the next 5 to 7 years worth $24 million. The results shown in Table 6.26 would suggest that even adopting a very cautious approach, the Queensland public would be in favour of funding the level of new facilities and services proposed by the Queensland Museum.

This CVM study had been commissioned to determine the public value of Queensland Museum. It was always intended that the results would deliver a new way of valuing the Queensland Museum and provide a mechanism for demonstrating this in economic terms to be used to influence policy and key government decisions. The results of this study attest to Queenslanders’ commitment to their State Museum and their desire to have it adequately resourced to provide better products and services not just in Brisbane and the South-east corner but across the whole State.  

The project also attempted to develop a consistent methodology that could be adopted by arts and cultural institutions in Queensland to enable the maximum impact from individual studies which might be conducted by these institutions. Hopefully the questionnaire format and delivery mechanism piloted by the Queensland Museum in this study will be used as the basis of further research within cultural institutions in Queensland so as to develop a shared common language for expressing the value of arts and culture in the State.

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65 There were a number of comments making the point that too much Government funding is spent in Brisbane and the South-east corner of the State. “Museums are important for all the reasons mentioned in this survey, however, for those of us living out of the major centres, distance and equitable access is compromised.” (QM 2008 CVM Study Q44 final comment)

66 Although initially the CVM Study was considered to be of primary importance to other Queensland cultural institutions, many other interstate and national cultural institutions have also expressed interest in this project.
REFERENCES


APPENDIX 1 – PSYCHOGRAPHIC SEGMENTS

After extensive research through the 1990’s, Environmetrics developed a set of psychographic groupings into which the population can be divided. The groupings are based on the way in which people answer a set of self-description questions.

The groups are derived from statistical modelling such that the profile of answers within any group is more similar than is the profile across groups. On average, the groups differ in the kinds of leisure activities they enjoy and, our research has shown, in their responses to cultural institutions.

Practical and organised

Achievement oriented in terms of home projects (will garden and potter). Enjoy building and making things. Like routine and have an organised approach to life - will write lists of things to do and approach them methodically. Would rather have a BBQ than eat at a restaurant, and would watch TV on a Saturday night rather than go out.

A strong emphasis on their family and immediate residential surroundings. The home and the local neighbourhood are the focal points for much of their life.

*Become a museum audience when it is of benefit to their children.*

Gregarious, Out and About

Very fashion conscious and like getting dressed up. Like to stand out in a crowd, but also like to feel part of the social group. They enjoy indulging themselves and like to experiment with new things. Want to get somewhere in life: job, money, and material possessions.

Life for them has a strong social component. They measure their own achievements and status against their peers. Very conscious of what is 'in'; yet are more likely to be trend followers than setters. Quick to adopt new fashions and ideas, but also quick to move onto the next one.

Attend events to be “where the action is”—indeed they tend to think that they are the action.

Individualistic, Out and About

Also very achievement and socially oriented, but without the fashion consciousness of their Gregarious counterparts. However, still like to get dressed up now and then and will make their presence felt in a crowd.

Like to feel they are different to everyone else. They don't feel they are guided by the latest trends and fashions (although in fact they may be). Generally appreciate life on a more 'cerebral' level. They like to be challenged and to learn and they look for originality in the world around them.

*Can be an important part of the repeat audience in museums and galleries if the content interests them.*
**Moderate and unhurried**

Consider themselves to be 'homebodies'. Like to garden and potter around the house. They don't say they want to 'achieve a lot', probably because they tend to be older and are reasonably set in their ways. However, they are content with what they have and still want to enjoy themselves.

They enjoy company, but are also happy being alone. Will watch TV on a Saturday night rather than go out. They do not have extravagant taste. They have a relaxed attitude to life and enjoy comfortable surroundings and the pleasures brought from extended family and friends.

*Tend to husband their resources and only come to museums when there is something of an international blockbuster in town. On those occasions, they can be a significant portion of the audience.*

**Discerning and purposeful**

Achievement oriented, enjoy company and appreciate some of the finer things in life. Although they like to potter at home, they wouldn't call themselves a 'homebody'. Like a challenge and are interested in ideas and education.

They enjoy having people around them whether family or friends. Although they like to get out on a Saturday night, having people over for dinner or a BBQ is also a pleasurable pastime for them.

Their strong sense of individualism means they may buy or participate in 'fashionable' things, but they would like to think that their decision to do so is based on good judgment, rather than an urge to follow trends.

*They tend to be ABC listeners/viewers and broadsheet readers. Consistent museum patrons and tend to be represented amongst “friends” groups. Likely to use museum resources and libraries for their own research.*

**Battlers**

Battlers claim they have little interest in achievement or experiencing anything new. They claim that they generally 'get by' in life. While they may want more, they perhaps can't see themselves getting much more or are content enough with what they have. They tend to express what they see as the real Australian values – hence “battlers”. Many of them are, in fact both wealthy and successful despite protesting that they are just ordinary blokes. John Singleton, Gerry Harvey and Alan Jones might well fit the profile.

They don't like getting dressed up and are not very social in the “interested to meet a lot of new people” sense. Life is focused on their home, circle of friends and specific sporting interests at whatever socioeconomic level they operate within

**Conventional suburban**

Call themselves a 'homebody', but don't necessarily engage in the more energetic home activities such as gardening or making and fixing things. But they are achievement oriented, possibly on a more material level. They want to get ahead with their job, their income and their lifestyle. They may aspire to a *McMansion* and a six-cylinder car with a speedboat attached.
They will take an interest in the family and enjoy a BBQ with friends, but also like to get out on a Saturday night.

*They are not very interested in abstract ideas and prefer to deal with things that they can see and touch. Given the choice, WRM would probably be more appealing to them than an exhibition on biodiversity (unless it improved their fishing).*

**Self-contained, go with the flow**

While they do enjoy the company of family and friends, this segment doesn’t necessarily need company to have a good time. They consider themselves ‘homebodies’ and enjoy pottering around the house and gardening. They have time on their hands and enjoy some of the simple pleasures of life (reading, walking, cooking). They are ‘wanderers’ who appreciate and absorb the world gradually. Their hobbies can include painting and music.

They do say they ‘want to achieve a lot’ and they will try something new, but usually because someone else has recommended it. They enjoy participating in one or two activities that deeply interest them and will persist with an interest over time. *This is why they are often found as volunteer guides in galleries, museums and botanic gardens.*

**Social pleasure seekers**

The group most interested in ‘fashion’. Enjoy indulging themselves and like to have other people around (and preferably, like to make their presence felt when in a crowd). Like to potter, but want to get dressed up and either go out with friends or entertain at home. Enjoy going to places to be seen.

They are quite aspirational in their outlook to life - they may be happy with what they have, but are still trying to better themselves and their surroundings. Material acquisitions are often seen as the best way to do this.

*They tend also to be “acquisitional tourists” and will travel to see a blockbuster to be able to say they were there. The object they buy in the museum shop will be more important to them than those on display.*

(Environmetrics & Ingenuity, 2009, pp. 36-39)

APPENDIX 2 – PROBIT REGRESSION

For both probit regressions, the model is

\[ P(\text{Voting yes}) = \Phi(X\beta + \epsilon) \]

where \( X \) contains the dollar amounts of the proposed funding increase and a vector of ones, \( \epsilon \) is normally distributed with an unknown variance, and \( \Phi \) is the cdf of the normal distribution. This model can be fitted using numerical likelihood maximisation.

For the first model, the dependent variable is the probability of supporting a funding increase or decrease; the results are as follows:

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficient</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollar amount of funding change</td>
<td>−1.4</td>
<td>0.03</td>
</tr>
<tr>
<td>Constant</td>
<td>1.8</td>
<td>0.11</td>
</tr>
</tbody>
</table>

The coefficient on the dollar amount is significant, and has the correct sign. The \( \chi^2 \) statistic for the model is 31.2, which is well above the critical value.

For the second model, the dependent variable is the probability of supporting a tax increase to fund new development; the results are as follows:

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficient</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dollar amount of tax change</td>
<td>−0.10</td>
<td>0.01</td>
</tr>
<tr>
<td>Constant</td>
<td>1.6</td>
<td>0.11</td>
</tr>
</tbody>
</table>

The coefficient on the dollar amount is significant, and has the correct sign. The \( \chi^2 \) statistic for the model is 61.5.

The mean WTP estimates were obtained by numerically estimating the following integral:

\[ E(\text{WTP}) = \int_{-\infty}^{\infty} x \cdot P(x) \, dx \]

where \( x \) is a dollar amount, and \( P(x) \) is the probability that the average person’s WTP is less than or equal to \( x \). The value of \( P(x) \) for each dollar amount is given by the estimated probit model. For the estimates of the conservative lower bound WTP, we used coefficients that were two standard deviations away from the best estimates, in whatever direction favoured a lower amount.

In estimating the WTP for new developments, we used an unconstrained probit regression for the sake of simplicity. The estimated distribution has about 5% of its mass on WTP values less than zero. Strictly speaking, this effect contradicts our assumption about the minimum WTP, but is small enough not to matter. In
particular, given the estimated slope, it does not affect the estimate of the mean WTP.

The scaled-up estimates for the Queensland population used an estimate of the number of adults in Queensland at June 2008 (3,176,068) from ABS cat. 3201.0, and an estimate of the number of households in Queensland (1,627,600) from ABS cat. 3236.0, table 6.19.

(Environmetrics & Ingenuity, 2009, pp. 34-35)

APPENDIX 3 – OPTION B QUESTIONNAIRE