



## Design, Architecture and the value to tourism

Journal:	<i>Tourism Economics</i>
Manuscript ID	TEU-18-0128.R1
Manuscript Type:	Empirical Article
Keywords:	Architecture, Benefits Transfer Model, Tourism, Value
Abstract:	<p>Architecture has been recognized for its supporting role in the enhancement of the physical assets of destinations, which play a leading role in drawing tourists who identify and associate destinations with these architectural landmarks. Whilst generating tourist expenditure is not the aim of most architects, many are increasingly aware that articulated and functional buildings become visitor attractions in their own right – an externality that requires valuing. However, the value assigned to iconic architecture is often restricted to the bricks and mortar construction, and the broader contributions a building can deliver to its stakeholders are largely ignored. This paper explores the capacity for architecture to attract tourists and effect direct tourism spend through the examination of five cases, each of which has attempted to estimate their economic value to tourism. The paper proposes a model for estimating the future value of iconic buildings, and tests it's application to the University of Technology Sydney, Gehry-designed, Dr Chau Chak Wing building. The implications of the framework and future research are discussed.</p>

SCHOLARONE™  
Manuscripts

## Design, Architecture and the value to tourism

### Abstract

Architecture has been recognized for its supporting role in the enhancement of the physical assets of destinations, which play a leading role in drawing tourists who identify and associate destinations with these architectural landmarks. Whilst generating tourist expenditure is not the aim of most architects, many are increasingly aware that articulated and functional buildings become visitor attractions in their own right – an externality that requires valuing. However, the value assigned to iconic architecture is often restricted to the bricks and mortar construction, and the broader contributions a building can deliver to its stakeholders are largely ignored. This paper explores the capacity for architecture to attract tourists and effect direct tourism spend through the examination of five cases, each of which has attempted to estimate their economic value to tourism. The paper proposes a model for estimating the future value of iconic buildings, and tests its application to the University of Technology Sydney, Gehry-designed, Dr Chau Chak Wing building. The implications of the framework and future research are discussed.

Keywords: architecture, tourism, value, benefit transfer method

### 1. INTRODUCTION

Good architecture is fundamental to economic growth and helps drive tourism and tourist spending (Guetzkow 2002). As a commodity of touristic consumption it represents objectified cultural capital (Judd 2006). According to Maitland and Newman (2008, p. 232) visitors are drawn to destinations by “qualities of place and culture – ‘architecture’, ‘people’, ‘food’, ‘culture’ and ‘diversity’”. In particular, iconic architecture (buildings, landmarks, monuments) is alluring as it typifies a place (country, city or precinct) by its “physical obtrusiveness

1  
2  
3 demonstrating unambiguously to visitors and residents that something serious is happening to a  
4  
5 city” (Ashworth 2008, p. 269).

6  
7 Iconic architecture has been used as a centralising feature to support and drive many  
8  
9 urban regeneration projects. Claims for the economic benefit of such projects vary, however,  
10  
11 with the attention paid to architecture, the subsequent tourism and its boost to industry is clear  
12  
13 (Edwards et al., 2014; Reinmuth et al., 2016; Sklair 2010). In a study of wine consumption,  
14  
15 Laflamme (1999, p. 16) argues that architecture “adds value to both the production and sale of  
16  
17 wines, as well as [providing] a destinational attraction”.

18  
19  
20 Perhaps one of the most well-known attractions of this nature is the Guggenheim  
21  
22 Museum in Bilbao Spain (Vicario & Monje 2003). It was estimated that in its first three years  
23  
24 of operation the Guggenheim Museum helped to generate approximately \$500 million in  
25  
26 economic activity and \$100 million in new taxes (Rybczynski 2002). The economic  
27  
28 contribution attributed to this iconic building has given the destination naming rights to the  
29  
30 phenomenon referred to as the “Bilbao effect” (Stevens 2017, p. 188). Such was its success that  
31  
32 destinations globally seek to have their own iconic architecture in the hope of realising similar  
33  
34 economic benefits (Edwards et al., 2008).

35  
36  
37 The Sydney Opera House is also exemplary in this regard and is estimated to contribute  
38  
39 “AU\$640 million in yearly expenditure by visitors to Sydney” (Deloitte 2013, p. 1) as it  
40  
41 attracts visitors to Sydney, who extend their stay and spend their money on a range of services,  
42  
43 and attractions. Thus, architecture aestheticises spaces with recognisable markers that facilitate  
44  
45 a particular sense of place. Iconic architecture ‘pulls’ visitors to and through precincts  
46  
47 (Edwards, Griffin & Hayllar 2008), and provides focal points for visitor attention and  
48  
49 experience (Krolikowski & Brown 2008).

50  
51  
52 Work has been undertaken to assess the value of good design in architecture,  
53  
54 particularly in the 2000’s by the Royal Institute of British Architects (RIBA) and The  
55  
56

1  
2  
3 Commission for Architecture and the Built Environment (CABE), both in the United Kingdom  
4  
5 (Edwards et al., 2014; Reinmuth et al., 2016; Sklair 2010). These studies have made important  
6  
7 leaps in valuing good design, however there has been limited progress in determining value  
8  
9 beyond the building cost. Where studies have ventured further in determining broader benefits,  
10  
11 these were measured in terms of urban impact ((CABE) 2002) , safety and crime rate reduction  
12  
13 (Katyal 2002), health impacts (Dannenberg, Frunkin & Jackson 2011), and maintenance and  
14  
15 life-cycle costs (Krstic & Marenjak 2012). In addition to the Sydney Opera House, further  
16  
17 studies were found which have attempted to value the tourism contribution of architecture.  
18  
19 However, each of the studies used a different approach to measure the contribution and all  
20  
21 were post hoc. This paper proposes a method to address the gap in the estimation of  
22  
23 architecture's contribution to tourism pre hoc so that a better understanding of the revenue  
24  
25 generating capacity of architecture can be realised. Advancing such methods will enhance  
26  
27 decision-making in relation to planning and policy.  
28  
29  
30

31 This paper is structured in seven sections. Section 2 begins with a literature review that  
32  
33 discusses the context of architecture in relation to tourism. Section 3 presents five previous  
34  
35 cases that measure and articulate the value of existing architecture to tourism are presented and  
36  
37 discussed. The case studies include: the Guggenheim Museum, (GMB) Bilbao, Spain; the Te  
38  
39 Papa Tongarewa Museum (TPM), Wellington, New Zealand; the Sydney Opera House (SOH),  
40  
41 Sydney, Australia; The Museum of Old and New Art (MONA), Hobart, Tasmania; and the  
42  
43 Bendigo Art Gallery (BAC), Bendigo, Victoria. To address the inconsistencies found in the  
44  
45 case studies an alternative method is proposed, the benefits transfer method (BTM). Section 4  
46  
47 presents the benefits transfer method (BTM) as the methodology. Section 5 is the  
48  
49 methodological application of the BTM with the worked example of the method to the prohoc  
50  
51 assessment of an emerging architectural icon, the University of Technology Sydney, Gehry-  
52  
53 designed, Dr Chau Chak Wing building, New South Wales, Australia. Section 6 presents the  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 limitations of the study. In section 7 conclusions are drawn and recommendations for future  
4  
5 research are made.  
6  
7

## 8 **2. LITERATURE REVIEW**

9

10  
11 Architecture is narrowly perceived within the architectural services profile offered by the  
12  
13 market research company IBIS World (Chia 2015) and other similar reports as part of the  
14  
15 construction industry. From this perspective, the focus is on the tangible costs involved in  
16  
17 constructing a building. Land, location, design services, building material costs and labour  
18  
19 form the basis of the value estimate. Less tangible values such as design aesthetics are not  
20  
21 included. As a result, the real value of design and aesthetics, and architecture's contribution to  
22  
23 the economy are under-reported and undervalued (Reinmuth et al., 2016), ignoring the  
24  
25 substantial economic and social contribution made by architecture through a variety of broader  
26  
27 services.  
28  
29

30  
31 Architecture is unique, sitting historically between the arts and the sciences,  
32  
33 contributing to a broad ecology of products and services, linked not only to the built  
34  
35 environment, but also a broader context of design, creativity and information. This includes  
36  
37 (inter alia) connections to information graphics, media, industrial design, manufacturing, hard  
38  
39 and soft technology development, human environmental health factors, environmental, cultural  
40  
41 and economic sustainability, information architecture, publishing and other forms of cultural  
42  
43 production, as well as contributions to the fields of planning and landscape architecture.  
44  
45 Architecture also operates within the space of cultural production and consumption. Architects  
46  
47 present ideas, drawings, new works, and exhibitions and increasingly create cultural events  
48  
49 within architectural spaces that generate economic activity, while also making a broad cultural  
50  
51 contribution. Thus, architecture must be assessed not only in terms of what is built, but how  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 these constructions are used to spur socio-cultural activity and generate economic benefit in  
4  
5 return.

6  
7 Architectural assets hold both tangible (bricks and mortar) and intangible value. The  
8  
9 intangible value of buildings exist in a variety of forms including aesthetic or image value and  
10  
11 cultural value. Aesthetic value is achieved through the mutual contributions of identity, vision  
12  
13 and reputation and in the ways groups, institutions, and cities express ideas, ambitions and  
14  
15 intentions that are captured in the distinctive designs of their buildings. Cultural value creates a  
16  
17 sense of place by connecting location, context and patterns of historical development  
18  
19 incorporating cultural symbolism and social meaning (Hayllar, Griffin & Edwards 2008). An  
20  
21 examination of the architectural literature identified the Guggenheim Museum in Bilbao, the  
22  
23 Dublin Canal Theatre, MGM Mirage in Las Vegas, Denver Art Museum, Yangi Lake  
24  
25 Kempinski Hotel in Beijing and the Lofoten Island Opera House in Norway as all having  
26  
27 aesthetic or image value (Stevens 2017). In Australia, the Sydney Opera House, Harbour  
28  
29 Bridge, and Rose Seidler House among others were identified as significant architectural works  
30  
31 because of their “iconic” value (Burke & Macdonald 2014). Elsewhere in Sydney, the Hyde  
32  
33 Park Barracks, Justice and Police Museum and Elizabeth Bay House all have “historic” value,  
34  
35 while the Australian National Maritime Museum, Museum of Contemporary Art and the  
36  
37 Powerhouse Museum all hold “cultural value”. However, these values are not mutually  
38  
39 exclusive as a building can have multiple types of values.  
40  
41  
42  
43

44 A central part of the tourism industry hinges on the built environment and the quality of  
45  
46 touristic places – from heritage buildings and precincts to iconic modern buildings. In the case  
47  
48 of Australia, this form of tourism and associated international activity, can promote a form of  
49  
50 soft power developed through esteem – raising Australia’s profile and agency abroad. As  
51  
52 Muratovski (2012, p. 198) notes:- “architecture is in a sense a promotional medium and an  
53  
54 identity definer. It is a medium that promotes social relationships and individual enterprises,  
55  
56  
57  
58  
59  
60

1  
2  
3 and can be used as a symbol of territorial identity.” The value of built-environment heritage for  
4  
5 tourism cannot, therefore, be ignored.

6  
7 Cultural events that engage with or are focused on architecture, are becoming more  
8  
9 common and attracting increasing numbers of tourists (Carey, Davidson & Sahli 2013; Deloitte  
10  
11 2013). An explosion of biennales held around the world has occurred in response to growing  
12  
13 interest in architectural tourism, and recognition of the capacity for cultural tourism to  
14  
15 transform cities. Currently 221 biennales occur around the world, which combine and celebrate  
16  
17 art, architecture and design. Of these, 24 are dedicated specifically to architecture. Every other  
18  
19 year, the Venice Architecture Biennale brings thousands of tourists to Venice to experience the  
20  
21 four-month exhibition, with more than 178,000 people visiting in 2012 (Australian Institute of  
22  
23 Architects, 2013). Additionally, Sydney Architecture Festival (Sydney, Australia), World  
24  
25 Architecture Day (celebrated globally), and Vivid (Sydney, Australia) are further examples of  
26  
27 annual events that are centred on architecture and capturing the broader public’s interest in  
28  
29 architecture as sites of experience.  
30  
31  
32

33 As highlighted above, architecture is recognised as both contributing to cultural  
34  
35 products and creating and enhancing built physical assets, which play leading roles in drawing  
36  
37 tourists to a destination (Edwards et al., 2014; Sklair 2010). Significant effort has been invested  
38  
39 into assessing the impact of tourism on national and city economies. Increasingly, the assets  
40  
41 that support tourism, from physical environments to cultural events and attractions, are under  
42  
43 closer scrutiny (Carey, Davidson & Sahli 2013; Deloitte 2013). The role of ‘star’ architects in  
44  
45 particular has received significant attention (Fuerst & McAllister 2010; Ponzini 2014). The  
46  
47 Deloitte (2013) report also identified the brand value of places and symbols. The Sydney Opera  
48  
49 House is an excellent international example of an iconic building that has made an economic  
50  
51 contribution over and above the costs of bricks and mortar. To create a more complete picture  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 of the added value of architecture, a framework that goes beyond the building value and takes a  
4  
5 holistic perspective of the contribution of architecture is required.  
6  
7

### 8 **3. PREVIOUS CASES**

9

10  
11 Architecturally designed buildings that have been studied in terms of their ability to attract  
12  
13 tourists include the Guggenheim Museum (GMB) (Plaza 2007), Te Papa Museum (TPM)  
14  
15 (Carey, Davidson & Sahli 2013), Sydney Opera House (SOH) (Deloitte 2013), Museum of  
16  
17 New and Modern Art (MONA) and Bendigo Art Gallery (BAG) (Evans, Bridson &  
18  
19 Minkiewicz 2013). Table 1 presents a summary of each of the five case studies, and the method  
20  
21 used to estimate the full value of each of the buildings. It should be noted that each of the  
22  
23 studies was conducted for existing buildings. A number of common themes were drawn from  
24  
25 the studies. Each showed value generated through the direct use of the building through  
26  
27 activities such as viewing exhibitions or attending performances. In addition, non-use values  
28  
29 such as cultural value, brand value, increased community pride and sense of belonging were  
30  
31 determined.  
32  
33

34  
35 Each of the studies examined the value of the architecture retrospectively. Investments  
36  
37 in buildings and their designs are generally based on the financial data included in the business  
38  
39 case, which are most often limited to their use value. However, each of the studies presented in  
40  
41 Table 1 identified additional value generated through the contributions of visitor expenditure  
42  
43 that flow through the economy boosting the overall level of incomes, employment and taxes  
44  
45 (Guetzkow 2002; Sterngold 2004). Visitors are often attracted to a destination by the prospect  
46  
47 of visiting multiple attractions, creating a “team production” (Alchian & Demsetz 1972, p. 779)  
48  
49 or “resource bundle” (Wernerfelt 1984, p. 175) effect. The TOM and SOH studies both  
50  
51 applied a team production factor in this regard. In such situations it is difficult to assign a value  
52  
53 to one attraction as “individual cooperating inputs do not yield identifiable separate products  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 which can be summed” (Alchian & Demsetz 1972, p. 779). Therefore, a proportion of the total  
4  
5 visitor expenditure is assigned to individual attractions (resources) within the team. In both the  
6  
7 Te Papa Museum and the Sydney Opera House a value of ten per cent was arbitrarily assigned  
8  
9 as the team production factor.  
10

11  
12  
13 Different measurement methods were used for each study. A discounted cash flow model  
14  
15 measuring the return on investment for the Guggenheim Museum. The Input – Output Analysis  
16  
17 (I-O) method measure income generated to different sectors of the New Zealand economy by  
18  
19 the Te Papa Museum for the 11 years from the time the building was built in 1998 to 2009.  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Table 1. Summary of case studies

Building name	Location	Architect	Year	Purpose	Building cost (Millions)	Measurement method	Finding	Author
Guggenheim Museum	Bilbao, Spain	Frank Gehry	1997	Museum	USD 228.3	Discounted cash flow model	Return on investment in 7 years from opening. Served as an economic reactor	Plaza (2007)
Te Papa Museum	Wellington, NZ	Ivan Mercep	1998	Museum	NZD 300	Input – Output Analysis and team production factor	Positive impact on tourism, flagship status played a significant role in attracting tourists	Carey, Davidson & Sahli (2013)
Sydney Opera House	Sydney, AU	Jorn Utzen	1973	Performing Arts	AUD 102	Estimate of tourism spending (international, domestic day and domestic overnight visitors) and team production factor	Estimated to contribute up to \$640.1mill to Sydney economy, that is, 10.55% of total Sydney holiday spend	Deloitte (2013)
Museum of Old and New Art (MONA)	Hobart, AU	Nonda Katsalidis	2011	Art Gallery	AU 75	Extrapolated from tourism visitor numbers and spend	28% of visitors to Tasmania visit MONA and 16% stated MONA was the primary reason for visiting	Data from Tourism Tasmania
Bendigo Art Gallery (redevelopment)	Bendigo, AU	Karl Fender	2014	Art Gallery	AUD 8.5	Economic impact, community value and social inclusion	Increase in tourism and community identify and community pride and economic development and growth	Evans, Bridson and Minkiewicz (2013)

For further details on each case see Appendix A

The Te Papa study also showed a positive correlation with the existence of the building and guest arrivals, overnight stays and occupancy rates across three different commercial accommodation sectors: hotels, motels and backpackers (Carey et. al 2012).

Whilst a well-designed building does not guarantee financial success (Droege 1999), the post hoc assessments of the GMB and TPM both showed positive returns on investment within 7 years and 5 years respectively, from their launch. These studies were conducted ten years and fifteen years respectively after launch. The return on investment period for the GMB was 7 years, and for the TPM it was only five years. Tourism spending, shown in Figure 1, was a measure used by Deloitte (2013) as part of a comprehensive study into the value of the SOH. Tourism Tasmania visitor reports were used to extrapolate tourism spend data generated by the MONA gallery. Economic impact, community impact, and social inclusion measures were conducted to coincide with the launch of the Bendigo Art Gallery renovation.

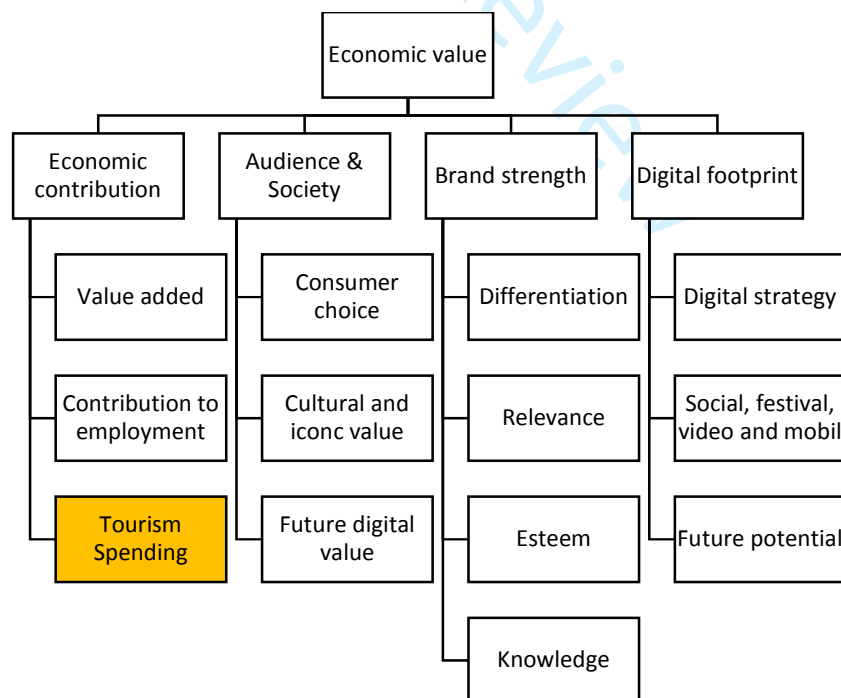


Figure 1. Scope of the Report (Deloitte, 2013, p. 3)

Two things all of the studies do have in common is (1) they were all conducted post hoc, that is after the buildings were completed and operational and (2) the measures fail to fully acknowledge the importance of such buildings to the appeal of a destination.

In this study we apply the Benefits Transfer Method (BTM), often used to estimate the value of environmental resources, allows for the estimation of value contribution, without the need to collect. The BTM in this study is used to estimate the value of the CCW building prehoc. The BTM is defined by Smith et al., (2002 ) as the "...practice of adapting value estimates from past research to assess the value of a similar, but separate, change in a different resource" (cited in Boutwell & Westra, 2013, p.518). Johnston et al., (2015, p.19) extend the application to include "policy contexts" and Boutwell & Westra, (2013, p.518) incorporate this extension into a refined definition where BTM "uses previously established values that were estimated for sites with similar characteristics and in similar contexts for application into existing policy decisions". Most studies using the BTM seek to estimate the value of environmental sites or sites at which visitors engage in outdoor recreation (Johnston et al., 2015; Rosenberger & Loomis 2001) to local economies. While primary research is preferred the suitability of BTM is its practical application in the face of budgetary constraints, time limitations, and/or, where there is a paucity of available data as is often the case with new architecturally significant buildings, such as the University of Technology Sydney's Gehry-designed, Dr Chau Chak Wing building.

#### 4. METHODOLOGY

BTM enables the transfer of available information from one study to another by adapting an estimate of the benefits. According to King & Mazzotta (2000) and Lloyd-Smith (2014) there

are 4 steps to conducting the benefits transfer method, which are shown in Figure 2. These four steps are discussed by applying the method to an exemplar case.

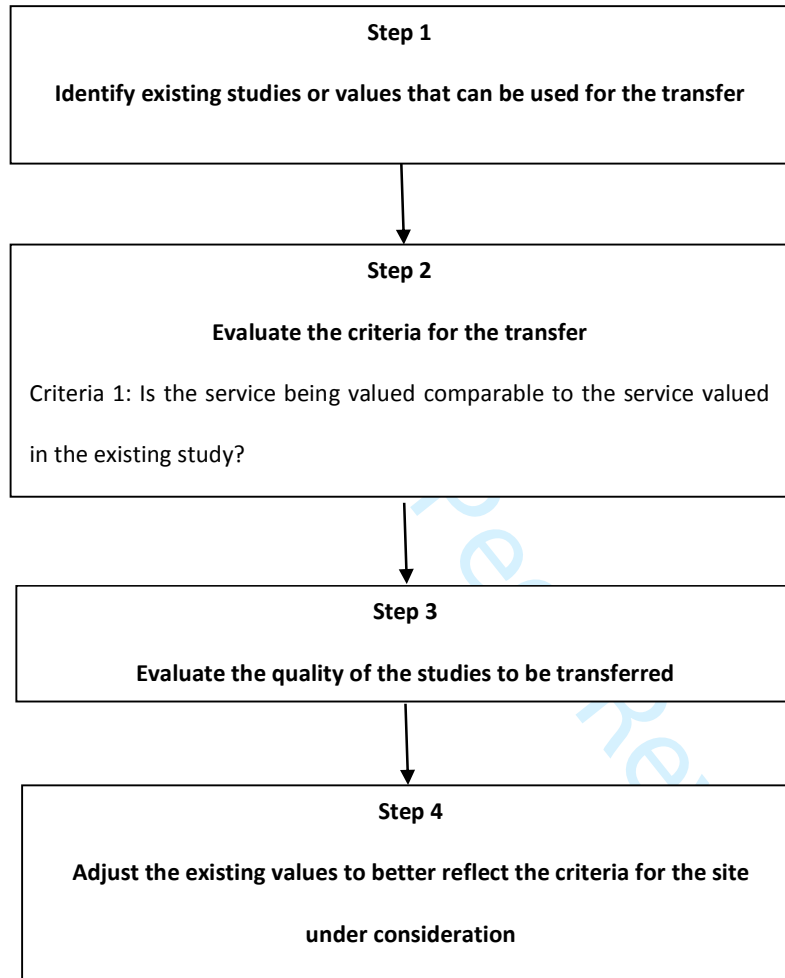


Figure 2. Four steps to conducting the benefits transfer method (King & Mazzotta 2000; Lloyd-Smith 2014)

*Step 1 – Identify existing studies and values that can be used for the transfer*

After reviewing each of the five cases, the SOH study was selected to be the exemplar case to be used to transfer the benefits. The SOH was selected because of the distinctiveness of its design (holding iconic value) and the environmental (economic, social and political)

1  
2  
3 conditions in which it operates which are roughly equivalent to the University of  
4 Technology's Dr Chau Chak Wing building. The tourist spend in the SOH study is based  
5 upon average spend estimates for international, domestic and domestic day visitors (Deloitte  
6 2013).

7  
8  
9  
10  
11 *Step 2 – Evaluate the criteria for the transfer*

12  
13  
14 There are two criteria to be evaluated for the validity of the Benefit Transfer Method to be  
15 verified. The first examines whether the service being valued is comparable to the service  
16 valued in the case study. The second establishes whether the characteristics of the relevant  
17 populations are comparable.

18  
19  
20  
21  
22  
23 The service offered by the SOH is a performance space which provides people  
24 (audiences) with creative performances, which have a start time and an end time (2 to 3.5  
25 hours in duration) and may free of charge or accessed for a fee. In addition to the  
26 performance spaces, the SOH has a forecourt area where visitors may observe and gain non-  
27 use value without necessarily entering the building. The Dr Chau Chak Wing building is  
28 comparable because it provides spaces where academics and students “perform”, lectures or  
29 classes as performance have a start time and an end time of similar duration and may be  
30 accessed for a fee or free of charge. The Goods Line provides users and non-users with a  
31 space to observe and gain non-use value without entering the building, hence acting as a  
32 forecourt.

33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44 In addition to visitors who attend performances, both the SOH and the Dr Chau Chak  
45 Wing building attract visitors who wish to explore the external and internal design of the  
46 buildings, as such these visitors have comparable characteristics. Therefore, the benefits of  
47 the population in the SOH case can be transferred to the Dr Chau Chak Wing building despite  
48 it being a newly opened building with no available data to use. Hence, the criteria for the  
49 population will be visitors whose primary purpose of travel is for leisure and who have a  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 specific interest in arts, heritage or festival activities specifically and those that reported an  
4 interest in visiting history / heritage buildings, sites or monuments. This population can be  
5 further segmented into the number of international visitors, domestic overnight visitors and  
6 domestic day visitors, as it was in the SOH case.  
7  
8  
9  
10

11  
12  
13 *Step 3 – Evaluate the quality of the study to be transferred*  
14

15  
16 A report by Deloitte (2013) entitled “How do you value an icon?” The Sydney Opera House:  
17 economic, cultural and digital value” (hereafter referred to as the ‘Valuing the Icons’ report)  
18 was designed to update previous economic contribution reports to mark the SOH’s 40th year  
19 in operation and to determine the value generated from a series of building maintenance,  
20 renovation and improvement projects. The report did not evaluate any particular service or  
21 function and was not designed as a funding needs assessment or a business case for any  
22 project. Therefore, we argue, the study provides a systematic, objective and technically  
23 efficient analysis. The report provides a sound basis for applying the Transfer Benefit Method  
24 to the Dr Chau Chak Wing building.  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36

37 *Step 4 – Adjust the existing values to better reflect the values of the site under*  
38 *consideration*  
39  
40

41  
42 Step 4 is generally applied by policy makers or where studies have policy or budgetary  
43 implications. However, Ready and Navrud (2005, p.196) suggest that “in some situations it  
44 may not be desirable to adjust values to individual contexts”. The question of whether to  
45 adjust existing values is addressed by Berland, Magnussen & Navrud (2003) who identified  
46 the BTM is most often applied using an unadjusted unit approach, and that is, where the  
47 assumption is that if the sites are within a given cultural and socio-economic context the  
48 transfer of the entire value function is recommended. However, other scholars such as  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 Downer and Ozuma (1996) claim the BTM is a poor predictor in some cases and Piper &  
4  
5 Martin acknowledge that despite improvements in the application of the BTM, the accuracy  
6  
7 of the method remains in doubt. However, we accept Engels (2002, p. 133) underlying  
8  
9 assumption that imperfect estimations are better than no estimations and therefore, also apply  
10  
11 an adjusted unit value based on studies by (Bergland, Magnussen & Navrud 2003), where the  
12  
13 demand function was shown to be transferable and the benefit function not.  
14  
15

## 16 17 **5. Methodology Application**

18  
19  
20 A visitor attraction can be defined as a ‘named site with a specific human or natural feature  
21  
22 which is the focus of visitor and management attention’ (Pearce 1991, p. 46). The University  
23  
24 of Technology Sydney Gehry-designed Dr Chau Chak Wing building (Figure 1) is a recent  
25  
26 example of a building that can be defined in terms of its architectural distinctiveness,  
27  
28 aesthetic appeal and attractiveness to visitors. Opened in December 2014 the Dr Chau Chak  
29  
30 Wing building has attracted multitudes of visitors who wander to, around, and inside the  
31  
32 building, appreciating its unique architectural form and presence. The exterior and interior of  
33  
34 the Gehry-designed building is creative, innovative, provocative and “a space where  
35  
36 creativity is encouraged and all ideas are welcome” (Lancione & Clegg 2014, p. 288).  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60





Image 1. Dr Chau Chak Wing Building, Sydney, Australia

The Dr Chau Chak Wing building has effectively changed the landscape, scale, tempo, and ‘feel’ of the city experience in the Haymarket precinct in which it is situated, as well as changing the type of visitor activity within it. The Dr Chau Chak Wing building has emerged as an anchor attraction, pulling visitors from the Circular Quay in the north to the Haymarket in the south. As such, the Sydney Opera House and the Dr Chau Chak Wing building demonstrate how space, people, activity and architecture interact dialectically to shape the visitor experience. It can be argued that conferences, public workshops, seminars and other presentations conducted by academics and attended by audiences at the Dr Chau Chak Wing building are similar to services offered by the SOH.

Some have claimed that “*Frank Gehry’s UTS building is no Opera House*”, stating that it is nothing more than “*a karate-chopped paper bag of undulating brickwork*” (Farrelly, 2014 p.1). Despite whether the building appeals to one’s sense of aesthetics or not, we do

1  
2  
3 acknowledge that the SOH is not only an iconic building and a major Sydney tourist  
4 attraction, it is also recognised as a Heritage site by UNESCO and is listed on the National  
5 Trust Register (1983), the City of Sydney Heritage Inventory (2000), NSW State Heritage  
6 Register (2003), Australian National Heritage List (2005) and regarded around the world as  
7 an Australian icon. Consequently, in this study two applications of the BTM are made. The  
8 first application is an optimistic assessment where we use an unadjusted unit approach,  
9 applying the same demand (tourist visitor numbers) and benefit function (10% team  
10 production factor) and the second application is a more pessimistic approach where we apply  
11 the same demand function (tourist visit numbers) and an adjusted benefit function (team  
12 production factor) of five percent.  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23

24 As discussed previously the approach to assigning value in team production makes it  
25 difficult to attribute a value to any one tourist attraction. However, as tourism activities are an  
26 input provided in the delivery of the attraction the amount paid by visitors to participate in  
27 those activities can be used as a proxy for output. According to the Deloitte Valuing Icons  
28 report (2013), tourism activities related to the SOH can be defined as:  
29  
30  
31  
32  
33

- 34 • Attending the theatre and other performances
- 35
- 36 • Visiting heritage buildings, sites, monuments or building of significance
- 37
- 38 • Sightseeing
- 39
- 40 • All other activities
- 41
- 42
- 43
- 44
- 45

46 The Deloitte (2013) 'Valuing Icons' report used visitor estimations derived from an  
47 International Visitor Survey (IVS) and National Visitor Survey (NVS). Thus the same  
48 approach is adopted in this research, whereby the transfer of existing values for a unit are  
49 used to value the contributions of the Dr Chau Chak Wing building. The estimate is based on  
50 two assumptions.  
51  
52  
53  
54  
55

1  
2  
3 The first assumption is the “return on investment” time period required for the  
4 Guggenheim (seven years) and TPM (five years) is the time taken for a building to gain a  
5 level of maturity and exposure in the market. The second assumption is that tourism visitors  
6 to the Dr Chau Chak Wing building are also categorised as those seeking to visit heritage  
7 buildings, sites, monuments or buildings of significance. The final assumption is that the  
8 team production factors for the SOH and the Dr Chau Chak Wing building will be  
9 comparable at approximately ten per cent. We are optimistic and accept that these  
10 assumptions hold true and for comparison take a more conservative or pessimistic approach  
11 and estimate the team production factor (benefit function) to be five percent.  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22

#### 23 *Data sources*

24  
25  
26 Data from Tourism Research Australia (TRA) is taken from the International Visitor Survey  
27 (IVS) and the National Visitor Survey (NVS) reported by Destination NSW in their  
28 estimation of the visitor numbers and visitor spend to destinations in Sydney and New South  
29 Wales (NSW). The segmentation of visitors are based on their main place of residence and  
30 are counted as either international, domestic overnight or domestic day visitors (see  
31 Appendix B for definitions). The IVR and NVS include questions regarding the activities  
32 undertaken during their stay (see Appendix C for Day Trip Leisure Grid) and the nature of  
33 the expenditure (see Appendix D Day Trip Expenditure Grid). Table 2 shows data extracted  
34 from the Data based on the Destination NSW Travel to Sydney Region Year ended 2017  
35 (longitudinal data - YE Dec 2013) and the 2013 Cultural and Heritage Tourism to NSW  
36 report (Destination NSW, 2013). The number of international visitors was 2,817,700 of  
37 which 61.9% visited cultural and heritage buildings, sites and monuments and spent AU92  
38 dollars per day. Of the 8,337,000 domestic visitors 33.3% visited history / heritage buildings,  
39 sites or monuments in Sydney and spent AU252 dollars per day. Of the 4,100,000 day  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 trippers, 25.5% visited Sydney historic/ heritage buildings, sites or monuments and spent on  
4  
5 average AU111 dollars per day. The total spend AU976,120,575 dollars. An optimistic  
6  
7 assessment of the value of the UTS Business School Dr Chau Chak Wing building, where the  
8  
9 team production factor of 10% is applied, shows the building has the potential to contribute in  
10  
11 the vicinity of AUD97.6 million to tourism within 5 – 10 years. However, we acknowledge  
12  
13 that the UTS Business School Dr Chau Chak Wing has not established the same level of  
14  
15 historic, iconic and cultural value as the SOH and arbitrarily apply a ‘pessimistic’ team  
16  
17 production factor of 5%. This effectively halves the predicted annual contribution to  
18  
19 AUD48.8 million, this is seemingly more than if the building did not have iconic  
20  
21 characteristics.  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Table 2 – Optimistic and pessimistic application of the BTM to the CCW building

Benefit transfer method applies to UTS CCW Building (2013)					
Visitor segments	Visitors to Sydney	Percentage visiting cultural and Heritage buildings	Net number of visitors	AUD spend per visitor per day	Total AUD spend
International visitors	+2,817,700	0.619	1,744,156	92	160,462,379
Overnight domestic visitors	+8,337,000	0.333	2,776,221	252	699,607,692
Day trippers	4,100,000	0.255	1,045,500	+111	116,050,500
					976,120,571
<b>Optimistic</b>			<b>Team production factor</b>	<b>10%</b>	<b>97,612,057</b>
<b>Pessimistic</b>			<b>Team production factor</b>	<b>5%</b>	<b>48,806,029</b>

<sup>+</sup> Data based on the Travel to Sydney Region Year ended 2017 (longitudinal data - YE Dec 2013)

Data based on DNSW Cultural and Heritage Tourism to NSW Year ended December 2013

Where there was a discrepancy in amounts, the lessor amount was used.

The percentage shown related to the percentage of visitors Visited history / heritage buildings, sites or monuments

## 6. LIMITATIONS OF THE STUDY

There are four key limitations of this estimation. In cases examined in this study were all conducted post hoc. Specifically the 2013 Deloitte study of the SOH was done to coincide with celebrated 40 years of operation. The Dr Chau Chak Wing building on the other hand is done prehoc, as the CCW has only been operational for a fraction of that time. Thus, the transferred estimates made in this study are not directly comparable on a time scale, rather they serve as estimations of the potential future contribution to tourism. The question then becomes: over what time frame are these figures likely to accrue? As previously shown, other studies estimate that the likely time period for significant buildings to achieve a positive return on investment is between five and seven years. Therefore, the estimates made here must be considered as valuations of future potential limited to 2013 market conditions and data. Expected tourism growth figures are not included in the study despite the estimations representing a projected value.

Two team production factors were applied in this study. The first was an optimistic approach where a direct unit value transfer of 10% team production factor (as was used in the Deloitte (2013) study of the SOH) A pessimistic approach applying a team production factor of 5% was also applied. This recognised the historic, cultural and iconic value of the SOH. However, other factors may affect the team production factor have not been studied and remain an area of future research. Factors such as location and the primary purpose of the building are two key variances which are likely to have a positive or negative effect on the ability of the building to contribute to the team. For example, the SOH is located in an idyllic location on Sydney Harbour, surrounded by open space, and with views of the Sydney Harbour Bridge. It is also one of the gateways into the Sydney Botanical Gardens and is within easy walking distance to the Art Gallery of New South Wales, the Museum of

1  
2  
3 Contemporary Art and The Rocks historic precinct. The SOH also holds one-off events that  
4 attract crowds, rather than audiences (for example, the Sydney New Year's Eve celebrations).  
5  
6

7 The Dr Chau Chak Wing building, on the other hand, is located in a creative  
8 education precinct and surrounded by narrow streets on three sides and by the newly opened  
9 Goods Line on the fourth. The Goods Line is open public space and serves as a forecourt to  
10 the Dr Chau Chak Wing building connecting people to other attractions such as the  
11 Powerhouse Museum, International Convention Centre Sydney (conference and  
12 entertainment centre facilities) and the tourist precinct of Darling Harbour. The area is still  
13 undergoing significant change and the effects these changes may have on the Dr Chau Chak  
14 Wing building's contribution to team production are difficult to estimate.  
15  
16  
17  
18  
19  
20  
21  
22  
23

24 The functional attributes of the building were not taken into consideration in this  
25 study, other than to draw upon similarities between the activities associated with the Dr Chau  
26 Chak Wing building and those of the SOH. As previously mentioned, performances held in  
27 the SOH were likened to the academic performances held in the UTS-BS building, the  
28 similarity between the two are based on the fact that both styles of performances engage the  
29 minds of their respective audiences. Both higher education and the higher arts play a role in  
30 the community as merit goods – on the grounds that they generate an enlightened and  
31 educated citizenry (Bakhshi, Cunningham & Mateos-Garcia 2015). This assumption needs to  
32 be tested because other functional aspects such as performance capacity, seating capacity,  
33 timing and scheduling of performances, and variances in audience demographics have not  
34 been addressed. It is not clear what impact these functional and operational aspects of the  
35 building will contribute to the future capacity and development of the Dr Chau Chak Wing  
36 building and its potential to attract and service audiences.  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51

## 52 53 **7. CONCLUSIONS** 54 55 56 57 58 59 60

1  
2  
3 Architecture captures and enhances the special local characteristics of place through unique  
4 design qualities that tourists are attracted to consume. While generating tourist expenditure is  
5 not always their explicit objective, architects, city officials and cultural organisations are  
6 increasingly aware that architecture is a visitor attraction in its own right – an externality that  
7 requires valuing. A contribution of this research to the literature is the application of the  
8 benefits transfer model to estimate the potential value of a uniquely designed building. Other  
9 estimates have calculated the benefits of iconic and significant buildings, years after they  
10 have been established. Estimating the value prior to, or in the early stages of the operation of  
11 the building enables stakeholders to better understand the economic potential of design driven  
12 development, and may facilitate conversations, cross-industry collaboration and further  
13 investment in neighbouring precincts in order to better realise direct and indirect benefits.

14  
15 Attempts to estimate the contribution to tourism of significant buildings is an  
16 expensive and time-consuming process, yet the information can inform budgets, determine  
17 return on investment, establish time frames and the contributions governments at all levels  
18 are willing to make in the design component of buildings that have the potential to “pull”  
19 visitors to an area. The use of the BTM is one way to make estimates that draw on existing  
20 cases and data. The Gehry-designed Dr Chau Chak Wing building was used to demonstrate  
21 the use of a new method of valuing iconic architecture within tourism. The study applied both  
22 an optimistic and pessimistic assessment of the future value of the CCW building to tourism,  
23 with potential annual contributions being within the vicinity of AUD97.6million and  
24 AUD48.8 million respectively.

25  
26 If the Dr Chau Chak Wing building is worth somewhere between AUD48.8 to  
27 AUD97.6 million to the economy annually as a base line, it is also possible to assume that  
28 other significant buildings in the same or other cities create a “bundle” effect. The Museum  
29 of Old and New Art (MONA) has been described as the most important cultural facility in  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 Australian since the opening of the Sydney Opera House. It has achieved international  
4 recognition for its architectural presence, for innovating how art is experienced, and for  
5 generating economic benefits that can create a platform for significant and sustainable urban  
6 regeneration and tourism. In addition to MONA and the SOH, Australia is home to other  
7 modern iconic buildings, including One Central Park (Sydney, Australia) and Federation  
8 Square (Melbourne, Australia) which signal the presence of a strong multiplier effect in this  
9 area of economic contribution.  
10  
11  
12  
13  
14  
15  
16  
17

18 Government and institutions can maximise the economic benefits of the built  
19 environment vis-a-vis tourism by making available more architectural assets available to the  
20 public and strategising around bundles of mutually supporting attractors. The implications for  
21 city attractions policies, incentives for design driven development and clear branding and  
22 messaging for the tourism industry are clear.  
23  
24  
25  
26  
27  
28

29 Three areas have been identified for further study. Firstly, a full study on buildings of  
30 significant architecture needs to be conducted. In this study the visitor expenditure for the Dr  
31 Chau Chak Wing building was estimated based on visitors' primary purpose of travel being  
32 cultural and heritage tourism. An optimistic and pessimistic approach to estimating the value  
33 was used. It would be wise for future studies to be conducted to validate the estimates,  
34 estimate and identify potential causes for variance, shedding insights into the usefulness of  
35 the BTM to be used in prehoc estimation studies.  
36  
37  
38  
39  
40  
41  
42  
43

44 Secondly, the Dr Chau Chak Wing building's ability to attract conferences, business  
45 events and multi-day workshops suggests that a different set of variables may be required to  
46 more accurately estimate the true value of the Dr Chau Chak Wing building to tourism and  
47 tourism expenditure. Therefore, it is recommended that the tourism expenditure component  
48 be extended to include the direct expenditure method for business events proposed by  
49 Edwards, Foley, Schlenker & Hergesell (2014). Extending the study using this method will  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 provide new insights into the different kinds of activities that occur within buildings of  
4 significant architecture, and the likely impact these various activities have on tourism and  
5 tourist expenditure.  
6  
7

8  
9 A third study could conduct research specifically into the “team contributions” of  
10 various significant architecture types and tourist attractions. A study of this nature would  
11 provide a better understanding of the characteristics of different architectural types (such as  
12 iconic architecture, landmarks, monuments, historic houses, zoos, and other categories of  
13 tourist attraction). For example, most studies conducted and cases examined include  
14 buildings where the primary purpose is arts and culture (museums). There is an absence of  
15 studies into the variances in contributions of different types of architecture or tourist  
16 attractions. It is expected that a study of this nature will classify architecture and other tourist  
17 attractions into a tiered structure according to their characteristics and their contribution to  
18 tourism in general and tourism expenditure specifically.  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

## 8. APPENDICES

### *APPENDIX A – SUMMARY OF CASE STUDIES*

#### *CASE STUDY - Guggenheim Museum Bilbao (GMB)*

##### ***Background***

Designed by Frank Gehry the GMB was built in the 1990's as a means to address a number of economic and social problems in the city of Bilbao, including high unemployment rates, obsolete industries, severe traffic congestion, violence of, urban deterioration, pollution and a poor public transport system.

##### ***Method of measurement***

A discounted cash flow measure was used to estimate the investment recovery period. Consequently, all economic activity generated by the museum was tracked and an assessment made on whether the income generated was greater than the initial and continuing public investment. The discounted cash flow method is limited as it measures the yield of net cash flow only and fails to capture intangible values such as aesthetic or cultural values. The return on investment for the building (excluding the initial purchase of permanent art collection) was recovered seven years after the opening. The tourism value was described simply as the annual number of new overnight stays (777,028) and new full time jobs (907).

##### ***Outcome***

The construction of the GMB was part of a holistic plan to rejuvenate the city. The benefits to the city delivered unexpected results, as Plaza (2007, p.2) “the museum has brought hope to

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

citizens and city officials and has united political parties, trade unions and civic associations...”. Thus, the GMB is viewed as an economic reactivator, creating the phenomenon now termed the Bilbao effect.

For Peer Review

## *CASE STUDY - Te Papa Tongarewa Museum (TPM)*

### ***Background***

Built in the late 1990's the TPM is an iconic waterfront building in Wellington. According to Market Economics (2012), in an economic impact assessment of TPM to Wellington city, the museum makes a significant contribution to both Wellington's and national economies through tourism employment and direct and indirect expenditure.

### ***Method of Measurement***

Input-output (I-O) analysis was used as the analytical framework with estimations conducted at the local, regional and national levels. The direct tourism spend of visitors to Wellington was used as the basis for estimating the economic impact.

The economic impact assessment indicates the significance of the TPM at three levels of the New Zealand economy. However, what has not been not measured are the intangible benefits that New Zealanders gain from the museum being "a forum where all New Zealanders can engage with their history, national pride and identity" (Carey, Davidson & Sahli 2013 p.3)

### ***Outcome***

In cases where visitors stated that the main purpose of their visit to Wellington was to visit the TPM, 100% of the expenditure was attributed to TPM; where TPM was only one of a number of reasons for visitation, 10% of the spend was attributed at most. A challenge with examining the economic contribution of one tourist attraction is that visitors are often attracted to a destination by multiple attractions, creating a "team production" or "resource bundle" situation. As such, it is difficult to assign value to one attraction because "individual

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

cooperating inputs do not yield identifiable separate products which can be summed”  
(Alchian and Demsetz, 1972 p.779).

For Peer Review

## *CASE STUDY - Sydney Opera House (SOH)*

### ***Background***

The SOH is a key feature of the Sydney landscape, which according to Deloitte (2013), attracted nearly 1.4 million people to more than 1,800 performances.

### ***Method of measurement***

Total economic value was assessed in four key areas (1) economic factors including value added, contribution to employment, and contribution of tourist spend; (2) audience and culture, including consumer choice, cultural and iconic contributions, and future digital value; (3) brand strength attributed through intangibles such as differentiation, relevance, esteem and knowledge, and (4) digital footprint including the SOH digital strategy, across various platforms, including social media, video and mobile, and the future potential of streaming live performances to a world-wide audience.

The input-output approach was used to measure the economic impact attributable to tourism. Detailed calculations were provided which showed general expenditure categories to include performing arts companies, ticketing revenue, government grants, sponsorships and donations. Categories associated with direct and indirect tourism expenditure categories included a proportion of ticket sales, and expenditure on travel, food, beverages and accommodation incurred as a result of attending a performance. In addition non-use values were captured for those who visited the SOH precinct but did not attend a performance.

### ***Outcome***

The estimated tourism expenditure attributable to the SOH was based on visitors whose main reason for travelling to Sydney was for holiday (holiday makers), who could be separated

1  
2  
3 into the categories of international overnight visitors, domestic overnight visitors and  
4  
5 domestic day visitors. Based on this, the estimated contribution of the SOH to tourism  
6  
7 expenditure in Sydney for 2012-2013 was estimated to be AUD \$640.1 million, this being  
8  
9 approximately 10% of the total Sydney holiday expenditure.  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

For Peer Review



1  
2  
3 *CASE STUDY - Museum of Old and New Art (MONA)*  
4  
5

6 ***Background***  
7

8  
9 Award winning MONA has been described as the most important cultural facility in recent  
10 Australian history since the opening of the SOH. It has achieved international recognition for  
11 its architectural presence, for innovation in terms of how art is experienced and for generating  
12 economic benefits that can create a platform for significant and sustainable urban  
13 regeneration and tourism. The MONA has been headlined as “world class, helping MONA to  
14 smash Tassie’s Tourism Record” (Martin 2014 p.1).  
15  
16  
17  
18  
19  
20  
21  
22  
23

24 ***Method of measurement***  
25

26  
27 Changes in visitation patterns were used to determine MONA’s contribution to the  
28 Tasmanian economy by comparing visitation data before and after the opening.  
29  
30  
31

32 ***Outcome***  
33

34  
35 Data from the 2014 Tasmanian Tourism Survey show that 28% of tourists to Tasmania in  
36 2014 visited MONA, an increase of 3% on the previous year. Of these visitors 66% were  
37 holiday makers, 20% were visiting friends and relatives and 14% were business travellers.  
38  
39 Importantly, 16% of visitors to MONA stated that visiting MONA as their primary reason for  
40 travelling to Tasmania.  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5 *CASE STUDY - Bendigo Art Centre (BAC)*  
6  
7

8 ***Background***  
9

10  
11 The importance of the BAG to Bendigo is captured in the statement “I think if you don’t have  
12 an art gallery you might not have a city” (Evans, Bridson & Minkiewicz 2013 p.4).  
13  
14  
15

16  
17 ***Method of measurement***  
18

19  
20 The Asia Pacific Social Impact Leadership Centre (2013) examined the economic and social  
21 impact of regional art galleries in regional Victoria, the BAC being one. While the  
22 architectural elements were not mentioned specifically, or the benefits quantitatively  
23 presented, the functional purpose of the buildings was expressed in terms of the significance  
24 of the benefits and outcomes.  
25  
26  
27  
28  
29  
30

31  
32 ***Outcome***  
33

34  
35 Benefits attributed to the existence of the facilities include community identity and civic  
36 pride, regional development, economic growth and intrinsic impact. The triadic connection  
37 between the gallery, tourism and economic development was made clear: “the increase in  
38 tourism (as a result of the gallery) has been a major source of economic growth” (Evans,  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
Bridson & Minkiewicz 2013 p.4).

*APPENDIX B – VISITOR DEFINITION (TRA 2014)*

<b>International visitors</b>	<b>Domestic overnight visitors</b>	<b>Domestic day visitors</b>
Short term overseas visitors to Australia for a period of less than 12 months, aged 15 years of above	Domestic visitors aged 15 years or more who undertake trips that involve a stay away from home of at least one night, but less than one year, at a place at least 40 kilometres from home	Visitors are aged 15 years or more who travel round trip distance of at least 50kms away and area away from their home for at least four hours and do not spend a night away from their home as part of the same trip. Same day travel as part of overnight and international travel is excluded, as is routine travel such as commuting.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47

**APPENDIX C – DAY TRIP LEISURE GRID (NATIONAL VISITOR SURVEY 2014)**

Outdoor or nature activities	Sports or active outdoor activities	Arts, heritage or festival activities	Local attractions or tourist activities	Anything else, such as social activities
<ul style="list-style-type: none"> <li>- Go to the beach</li> <li>- Visit national parks and state parks</li> <li>- Go bush walking, or on rainforest walks</li> <li>- Visit botanical or other gardens</li> <li>- Go whale / dolphin watching (in the ocean)</li> <li>- Visit farms</li> <li>- Visit the reef</li> </ul>	<ul style="list-style-type: none"> <li>- Go scuba diving</li> <li>- Go snorkeling</li> <li>- Go surfing</li> <li>- Do any water activities / sports (eg sailing, windsurfing, kayaking, water skiing, white water rafting)</li> <li>- Go fishing</li> <li>- Play golf</li> <li>- Play other sports</li> <li>- Do any other outdoor activities (e.g. horse riding, rock climbing, bungee jumping, four wheel driving, reef walking etc)</li> <li>- Exercise, gym, swimming at a local pool, river or creek</li> <li>- Go cycling</li> <li>- Go snow skiing</li> </ul>	<ul style="list-style-type: none"> <li>- Attend theatre, concerts or other performing arts</li> <li>- Visit museums or art galleries</li> <li>- Visit art / craft / workshops / studios</li> <li>- Attend festivals / fairs or cultural events</li> <li>- Experience aboriginal art / craft and cultural displays</li> <li>- Visit an aboriginal site / community</li> <li>- <i>Visit history / heritage buildings, sites or monuments</i></li> </ul>	<ul style="list-style-type: none"> <li>- Visit amusement parks / theme parks</li> <li>- Visit wild life parks / zoos / aquariums</li> <li>- Go on guided tours or excursions</li> <li>- Go to markets (street / weekend / art / craft markets)</li> <li>- Go on tourist trains</li> <li>- Visit industrial tourism attractions (eg breweries, mines)</li> <li>- Visit wineries</li> <li>- Visit a health spa or sanctuary / wellbeing centre</li> <li>- Visit or stay on an island</li> <li>- Go on a charter boat / cruise or ferry ride</li> </ul>	<ul style="list-style-type: none"> <li>- Visit friends and relatives</li> <li>- Eat out at restaurants</li> <li>- Movies / videos (not at a cinema)</li> <li>- Go to pubs, clubs, night clubs</li> <li>- Visit casinos</li> <li>- Attend an organized event</li> <li>- Go shopping (for pleasure)</li> <li>- Walk or drive around taking in the sights / general sightseeing</li> <li>- Go on a day trip to another place (for overnight visitors only)</li> <li>- Go on picnics / BBQ's</li> <li>- Attend movies / cinema</li> </ul>

**APPENDIX D – DAYTRIP EXPENDITURE GRID (NATIONAL VISITOR  
SURVEY 2014)**

Expenditure	Paid by (during trip)	Paid by (before trip)	Paid by (after trip)	Paid by others not travelling with respondent
Package (e.g. transport + show)				
Taxis (including to / from airport)				
Airline fares				
Organized tours / side trips				
Car hire costs (rental, leasing)				
Fuel (petrol, diesel)				
Vehicle maintenance costs				
Other long distance transport costs (train, coach, ship etc)				
Other local transport costs (bus, train, tram, ferry etc)				
<b>Takeaways and restaurant meals</b>				
<b>Groceries etc for self-catering</b>				
<b>Drinks alcohol (not already reported with food above)</b>				
Shopping, gifts, souvenirs				
Entertainment, museums, movies, zoos etc				
Horse racing, gambling, casinos				
Convention / Conferences / Seminar / Trade Fair / Exhibition registration fees				
Education, course fees				
Purchase of motor vehicles or other major equipment				
Other (phone, postage, medical expenses, repairs, dry cleaning etc)				

## 9. REFERENCES

- (CABE), C.f.A.t.B.E. 2002, *The Value of Good Design: How Buildings and Spaces Create Economic and Social Value*.
- Alchian, A. & Demsetz, H. 1972, 'Production, information costs and economic organisation', *The American Economic Review*, vol. 62, no. 5, pp. 777-95.
- Ashworth, G. (ed.) 2008, *Grote Market Groningen: The re-heritization of the public realm*, Elsevier Limited, Oxford, UK.
- Bakhshi, H., Cunningham, S. & Mateos-Garcia, J. 2015, 'Public policy for the creative industries', in C. Jones, M. Lorenzen & J. Sapsed (eds), *The Oxford Handbook of Creative Industries*, Oxford University Press, Oxford, pp. 465-79.
- Bergland, O., Magnussen, K. & Navrud, S. 2003, 'Benefit transfer: Testing for accuracy and reliability', in R. Florax, P. Nijkamp & K. Willis (eds), *Comparative Environmental Economic Assessment*, Edward Elgar, Cheltenham.
- Burke, S. & Macdonald, S. 2014, 'Creativity and Conservation: Managing Significance at the Sydney Opera House', *Journal of Preservation Technology*, vol. 45, pp. 2-3.
- Carey, S., Davidson, L. & Sahli, M. 2013, 'Capital City Museums and Tourism Flows: an Empirical Study of the Museum of New Zealand Te Papa Tongarewa: Capital City Museums and Tourism Flows', *International Journal of Tourism Research*, vol. 15, no. 6, pp. 554-69.
- Chia, S. 2015, *M6921 Architectural Services in Australia*.
- Dannenberg, A., Frunkin, H. & Jackson, R. 2011, *Making Healthy Places: Designing and Building for Health, Well-being and Sustainability*, vol. 1 - 417, Island Press, Washington DC, USA.
- Deloitte 2013, *How do you value an icon? The Sydney Opera House: economic, cultural and digital value*, Sydney, Australia.
- Droege, P. 1999, 'The design dividend', *Property Council of Australia, Sydney*.
- Edwards, D., Foley, C., Dwyer, L., Schlenker, K. & Hergesell, A. 2014, 'Evaluating the Economic Contribution of a Large Indoor Entertainment Venue: An Inscope Expenditure Study', *Event Management*, vol. 18, no. 4, pp. 407-20.
- Edwards, D., Griffin, T. & Hayllar, B. 2008, 'Urban Tourism Precincts: An overview of key themes and issues', in B. Hayllar, T. Griffin & D. Edwards (eds), *City Spaces - Tourism Places: Urban Tourism Precincts*, Elsevier, Oxford, UK, pp. 1-381.
- Engel, S. 2002, 'Benefit function transfer versus meta-analysis as policy-making tools: a comparison', in R. Florax, P. Nijkamp & K. Willis (eds), *Comparative Environmental Economic Assessment*, Edward Elgar Publishing Cheltenham.
- Evans, J., Bridson, K. & Minkiewicz, J. 2013, *Branding the Arts: Demonstrating Impact - Four Case Studies of Public Art Museums*, Melbourne Business School.
- Fuerst, F. & McAllister, P. 2010, 'Green noise or green value? Measuring the effects of environmental certification on office values', *Real Estate Economics*, vol. 39, no. 1, pp. 45-69.
- Guetzkow, J. 2002, *How the arts impact communities: An introduction to the literature on arts impact studies*, Centre for Arts and Cultural Policy Studies, Princetown, USA.
- Hayllar, B., Griffin, T. & Edwards, D. 2008, 'Urban Tourism Precincts: Engaging with the Field', in B. Hayllar, T. Griffin & D. Edwards (eds), *City Spaces - Tourism Places: Urban Tourism Precincts*, Elsevier, Oxford, UK, pp. 1-381.
- Johnston, R., Rolfe, J., Rosenberger, R. & Brouwer, R. 2015, 'Introduction to Benefit Transfer Methods', in R. Johnston, J. Rolfe, R. Rosenberger & R. Brouwer (eds),

- 1  
2  
3 *Benefit Transfer of Environmental and Resource Values. A guide for researchers and*  
4 *practicioners*, Springer, Dordrecht. Netherlands, pp. 1-540.
- 5 Judd, D. 2006, 'Tracing the commodity chain of global toruism', *Tourism Geographies*, vol.  
6 8, no. 4, pp. 323-36.
- 7 Katyal, N. 2002, 'Architecture as crime control', *The Yale Law Journal*, vol. 111, no. 5, pp.  
8 1039 - 139.
- 9 King, D. & Mazzotta, M. 2000, *Benefits Transfer Method*, University of Maryland,  
10 Maryland, DC USA, viewed 12 January 2018 2018,  
11 <[http://www.ecosystemvaluation.org/benefit\\_transfer.htm](http://www.ecosystemvaluation.org/benefit_transfer.htm)>.
- 12 Krolkowski, C. & Brown, G. 2008, 'The structure and form of urban tourism precincts:  
13 Setting the stage for tourist performances', in B. Hayllar, T. Griffin & D. Edwards  
14 (eds), *City Spaces and Tourist Places - Urban Tourism Precincts*, Elsevier Limited,  
15 Oxford, UK, pp. 1-381.
- 16 Krstic, H. & Marenjak, S. 2012, 'Impications of design deficiency on buiding ', *Gradevinar*,  
17 vol. 4, pp. 1-11.
- 18 Laflamme, E. 1999, 'Architecture as tourist attraction - Broadening the concept of 'Terrior' as  
19 a design methodology', Master thesis, The University of Calgary, Calgary, CA.
- 20 Lancione, M. & Clegg, S. 2014, 'The lightness of management learning', *Management*  
21 *Learning*, pp. 1-19.
- 22 Lloyd-Smith, P. 2014, *Benefit Transfer: methods and best practices*, University of Alberta,  
23 Edmonton, Canada.
- 24 Maitland, R. & Newman, P. 2008, 'Visitor–Host Relationships: Conviviality Between  
25 Visitors and Host Communities', in B. Hayllar, T. Griffin & D. Edwards (eds), *City*  
26 *Spaces - Tourist Places: Urban Tourism Precincts*, Elsevier Limited, Oxford, UK, pp.  
27 1-381.
- 28 Muratovski, G. 2012, 'The role of architecture and integrated design in city branding', *Place*  
29 *Branding and Public Diplomacy*, vol. 8, pp. 195-207.
- 30 Pearce, P. 1991, 'Analysing tourist attractions', *Journal of Tourism Studies*, vol. 2, no. 1, pp.  
31 46-55.
- 32 Plaza, B. 2007, 'The Bilbao effect (Guggenheim Museum Bilbao)', *MUSEUM News*, vol. 86,  
33 no. 5, pp. 1-7.
- 34 Ponzini, D. 2014, 'The values of starchitecture: Commodification of architectural design in  
35 contemporary cities', *Organizational Aesthetics*, vol. 3, no. 1, pp. 10-8.
- 36 Reinmuth, G., Horton, T., Burke, A., Edwards, D., Foley, C., Scerri, M. & Horn, Z. 2016,  
37 *Measuring Up: Innovation and the value add of architecture*, NSW Architects  
38 Registration Board Sydney, Australia.
- 39 Rosenberger, R. & Loomis, J. 2001, *Benefit transfer of outdoor recreation use values: A*  
40 *technical document supporting the Forest Service Strategic Plan (2000 revision)*,  
41 Rocky Mountain Research Station, Fort Collins, CO, USA, Gen. Tech. Rep. RMRS-  
42 GTR-72.
- 43 Rybczynski, W. 2002, 'The Bilbao Effeect', *The Atlantic*, vol. September issue.
- 44 Sklair, L. 2010, 'Iconic architecture and the culture-ideology of consumerism', *Theory,*  
45 *Culture and Society*, vol. 27, no. 5, pp. 135-59.
- 46 Sterngold, A. 2004, 'Do economic impact studies misrepresent the benefits of arts and  
47 cultural institutions?', *The Journal of Arts Management*, vol. 11, no. 2, pp. 56-70.
- 48 Stevens, T. 2017, 'Build and they will come', *Placemaking: Attractions and tourism are*  
49 *inextricably linked, and architects play a vital role*, vol. 1, CLADBook, London, UK,  
50 pp. 187-99.
- 51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 Vicario, L. & Monje, M. 2003, 'Another 'Guggenheim Effect'? The generation of a potentially  
4 gentrifiable neighbourhood in Bilbao', *Urban Studies*, vol. 40, no. 12, pp. 2383-400.  
5 Wernerfelt, B. 1984, 'A resource-based view of the firm', *Strategic Management Journal* vol.  
6 5, no. 2, pp. 171-80.

7 Smith, V.K.; van Houtven, G.; Pattanayak, S.K. Benefit transfer via preference calibration:

8  
9 'Prudential algebra' for policy. *Land Econ.* 2002, 78, 132–152  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



## Design, Architecture and the value to tourism

### Abstract

Architecture has been recognized for its supporting role in the enhancement of the physical assets of destinations, which play a leading role in drawing tourists who identify and associate destinations with these architectural landmarks. Whilst generating tourist expenditure is not the aim of most architects, many are increasingly aware that articulated and functional buildings become visitor attractions in their own right – an externality that requires valuing. However, the value assigned to iconic architecture is often restricted to the bricks and mortar construction, and the broader contributions a building can deliver to its stakeholders are largely ignored. This paper explores the capacity for architecture to attract tourists and effect direct tourism spend through the examination of five cases, each of which has attempted to estimate their economic value to tourism. The paper proposes a model for estimating the future value of iconic buildings, and tests it's application to the University of Technology Sydney, Gehry-designed, Dr Chau Chak Wing building. The implications of the framework and future research are discussed.

Keywords: architecture, tourism, value, benefit transfer method