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Heritage and the value of place - Executive Summary

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1. Executive Summary

- This study develops a set of monetary values for the 'everyday heritage' sites that people use and experience in their local area, such as libraries and high streets. It does so using metrics and methods consistent with UK Government Treasury Green Book evaluation guidance (2018).
- Passers-by can get enjoyment from the aesthetic and historic qualities of historic buildings. This is an important element of the value of heritage to local place-making. This positive benefit from heritage has not been valued previously in England and is evidenced for the first time here.
- Surveys were designed to reveal local heritage values for historic high streets and historic civic buildings from local residents in eight English cities: Bolton, Huddersfield, Hull, Bristol, Exeter, Lincoln, Norwich, and York.
- Valuations represent the local residents' Willingness To Pay (WTP) to keep the heritage site in its current good condition. Four different places across England were surveyed in each category of:
    - Pre-industrial historic high street
    - Industrial-era historic high street
    - Historic library
    - Historic town hall
- WTP values from each of the four places in each heritage category are 'pooled' into a combined sample. This pooled sample can then be transferred to another site via Benefit Transfer.
- Benefit transfer is the process of taking average WTP values for a category of local heritage from one research study and transferring it to another high street or civic building to evidence the value of that place in an economic business case within acceptable degrees of confidence that this estimate is representative of the historic place being valued.
- Surveying multiple sites reflects a more robust average value of the historic place and enables the values to be 'transfer tested' to estimate the amount of 'error' that is introduced when transferring to another historic high street or civic building in a different place.
- Benefit transfer testing of the heritage places surveyed in this study finds that the Pre-industrial high streets and historic libraries WTP values can be transferred to historic sites with similar characteristics across the country with confidence (i.e. acceptably low risk of introducing transfer error). Town hall WTP values should be adjusted to demographic (socioeconomic) characteristics of the local population. WTP values for Industrial-era high streets are not robust for benefit transfer as transfer testing showed that transfer errors are in excess of recommended levels.

- The values contribute to a Local Heritage Bank of Values that can be used by a range of stakeholders to contribute to the business case in support of England's local heritage. Smaller projects can also use the Local Heritage Bank of Values to understand the value of their historic place without the need of funding a dedicated data collection and research.

Background

Protecting and preserving heritage is a concern for the public across England and the UK. Recent research has found that ninety-five percent of adults in England think it is important to look after historic buildings, seventy-three percent had visited a heritage site over twelve months, over 315,000 people were heritage volunteers, and eighty percent of people thought that local heritage makes their area a better place to live. [1] Previous research by Historic England has also demonstrated that people who state they live in historic areas have a stronger sense of place to their local area than those who do not, corroborating Historic England's wider place-making strategy.[2] Place-making is a process that shapes our public spaces and buildings, bringing together communities to improve a place's cultural, economic, social and environmental situation. This is assisted through a clear understanding of the historic significance of local areas.

At the same time, a large amount of research in the field of public health and inequalities has been conducted on how urban environments affect various aspects of wellbeing. This includes, for example, evidence on the links between greenspace and health,[3] and the role of built environment interventions in addressing fear of crime and mental wellbeing.[4]

Despite the prominence of heritage in the physical, social, economic and cultural landscapes of the UK, there remain gaps and limitations in our understanding of how historic places benefit those who live around them, and what these benefits mean in monetary terms. On a practical level, there is a need for the value that local heritage sites provide to the public to be quantified in economic terms in a way that is consistent with HM Treasury Green Book 2018 best practice guidelines[5] to avoid sub-optimal decisions around investments and preservation.

1 Pennington et al. 2019

2 Place-making relates to built heritage and its role in the wider the built environment, with strong linkages to planning and extensions into 'place-branding', whereby local communities use heritage assets to promote a place.

3 Astell-Burt et al. 2014; van den Berg et al. 2015; Nieuwenhuijsen and Khreis 2017

4 Lorenc et al. 2013; Foster et al. 2013; Mappiness research: MacKerron and Mourato 2013

5 H. M. Treasury 2018

Historic England is moving away from a purely assets-based approach towards a **mixed asset- and area-based approach, where the latter focuses on the role of heritage assets in creating place**. Evidence on the value of heritage in local place-making, place-branding, and the attractiveness of a place to businesses and citizens[6] can contribute to the development of Local Economic Partnerships (LEP) and Local Industrial Strategies. The importance of place and of the heritage sites within it are part of the competitive advantage of local areas. Evidence on the value of historic places can be the differentiator for LEPs, and a unique selling point for local people when describing what is special about their local place. Underlying this argument is the acknowledgement that monetary values are a very important – although not the only – consideration in the business case evaluations of government, planning departments, and funders. By better understanding the value that local people place in different types of heritage building in their area, it is possible to map heritage's contribution to place-making, to prioritise investment in maintenance of those key heritage sites that provide greatest value, and to better communicate to stakeholders, decision-makers and business case the value of heritage in the place-making process. In this study the term 'value' will refer to local residents' willingness to pay (WTP) values.

This research fits into the Department for Digital, Culture, Media and Sport (DCMS) Culture and Heritage Capital Programme (CHC). Culture and heritage capital sits alongside other forms of capital, as financial, human, social and natural capital to "recognize the distinctive features of artworks and other cultural goods as capital assets, and to capture the ways in which such assets contribute, in combination with other inputs, to the production of further cultural goods and services".[7] Historic places provide both a stock of heritage assets which can be preserved for future generations, and a flow of benefits to the people and places around them. We explore these different elements of value further below.

Our approach

This study develops a set of monetary values for the 'everyday heritage' sites that people use and experience around them in their local area using metrics and methods which are consistent with HM Treasury Green Book evaluation guidance, as required by central/local Government. This is in line with future Historic England strategies for prioritising HM Treasury Green Book compliant social and economic research and Historic England's move to a more area -based approach treatment of historic places.

A survey of residents (defined as current residents or those who have been resident in the past 3 years) in eight selected cities was designed to collect Willingness to Pay (WTP) for their local heritage places. The data for this study was collected using a combination of online questionnaires

6 E.g. 'Heritage Counts 2018 – Heritage in Commercial Use' 2018

7 Throsby 1999

and face to face (F2F) interviews. The aim of the survey is to produce a set of estimates of WTP values for different categories of heritage. This will provide an evidence base in the form of a Value Bank which can be applied to other historic places to understand their economic value, without the need of funding a dedicated data collection and research.

Throsby[8] outlines how the economic value of heritage can be divided into three identifiable ways in which individuals experience heritage - use, non-use, or as a beneficial externality. The Total Economic Value of a heritage site is made up of all three: a combination of use value (benefits derived from either direct or indirect use of the good being valued, usually including option value associated with the possibility of using the good in future) and non-use value (existence or bequest value associated with knowing that others may benefit from the good). The third type of value that people can experience from heritage derives from the fact that heritage may generate positive spillovers, or externalities. Heritage buildings generate a beneficial externality if passers-by enjoy their aesthetic or historic qualities. This beneficial externality is an important element of the value of heritage to local place-making. The positive spillovers from heritage are an identifiable and potentially significant value of heritage that accrues to individuals. Although in principle the economic value of such a benefit could be estimated, in practice it seldom is. This is an important new contribution of this report, and one that can arguably only be captured through asking residents to state their preferred WTP value (i.e. Stated Preference (SP) methods).

This study elicited local heritage values for eight English cities: Bolton, Huddersfield, Hull, Bristol, Exeter, Lincoln, Norwich, and York. The study provides estimated values for the following types of heritage places within these cities:

High streets

Not all historic high streets are the same. To capture the difference between the heritage value of high streets of different historical character, we elicit separate values for high streets in cities that are broadly classified as Pre-industrial (towns/cities which contain some architecture dated before the nineteenth century) or Industrial-era (those containing no or few buildings aged before 1800, and predominantly constructed in the industrial era of the nineteenth century).

8 Throsby 2019

- **Historic high streets in Industrial-era cities,** based on four survey sites: Bolton Churchgate / Deansgate; Huddersfield King Street; Hull Whitefriargate; Bristol Corn Street/ Clare Street
- **Historic high streets in Pre-industrial cities,** based on four survey sites: Exeter High Street; Lincoln High Street; Norwich Pottergate / Bedford Street; York Stonegate

Civic buildings

- **Town halls,** based on four survey sites: Bolton Town Hall; Exeter City Council (Guildhall); Huddersfield Town Hall; Norwich City Hall
- **Central libraries,** based on four survey sites: Bristol Central Library; Hull Central Library; Lincoln Central Library; York Central Library.

Stated preference studies take a 'public good' that is currently experienced for free and ask survey respondents how much they would be willing to pay to continue to enjoy it. The technique was originally developed by environmental economists, but in the field of cultural value, it is increasingly common for economists to ask people how much they would be willing to pay to access or preserve a site of cultural heritage. Examples include eliciting the public's willingness to pay for Grainger Town area of Newcastle upon Tyne,[9] or of a conservation and improvement program in the historic core of the city of Split in Croatia[10]. The challenge is that these WTP values apply only to the specific site on which the WTP survey is taken. They do not necessarily fit every historic town core, because each heritage site is different, and every group sampled may have a different value for their local heritage.

In the policy world, it is often necessary to make the business case for a heritage place – which can be defined as either an individual building like a historic town hall or a heritage place like a historic city core - without the time or resources to perform a bespoke willingness to pay survey. Guidance from the literature states clearly that it is not acceptable to take the WTP value estimated for a single one historic site– like Grainger Town or Split - and apply it to the historic site in our own business case, because the sites may differ in so many ways that WTP for one site is not applicable to another.[11] That is why it is necessary to survey multiple historic places and elicit WTP values for

9 Garrod et al. 1996

10 Pagiola 2001

11 Johnston et al. 2015

each of them. This approach has been previously adopted by the European Union[12], and the DCMS[13], as it provides WTP values which can be transferred in a more statistically robust way, since valuing multiple sites will reduce the likelihood of one site drastically influencing the averaged value of all the sites. That is, no single site can bias the results by being substantially different to the historic place to be valued in the business case.

When multiple sites have been surveyed, the average WTP values for each site can be 'pooled' into a combined sample. This 'pooled WTP' for a particular type of heritage site or place can then be transferred to another site or place with greater confidence that it is representative of the type of historic site or place being valued in the business case.

The objective of this study is to survey four heritage sites within each category of high street and civic building, in order to combine the average WTP values for each site into a 'pooled WTP' value, which can then be reliably transferred to comparable high streets or civic buildings in England. This has applications for developing business cases for government and local councils, constructing funding calls, and responding to planning consultations.

Valuations for the local heritage sites obtained in the survey represent the local residents' willingness to pay to keep the heritage site in its current good condition.[14] The survey presents respondents with a hypothetical scenario where a local trust would be set up to maintain the historic sites, due to a shortfall in public funding. The survey collects two kinds of WTP values for each city: one on the value of the historic high street and another for specific historic civic buildings within the city.

A number of statistical tests must be run on the WTP values to ensure that the WTP values can be robustly 'transferred' to other sites. This process is called 'benefit transfer' and the statistical analysis tests for 'transfer error'. This process is explained in more detail below.

Willingness to pay results

This study produces WTP values for two types of high streets: Those originating from the Pre-industrial revolution era (pre 1800) cities (Pre-industrial), and those from post 1800 (Industrial-era) cities. Note that in all cases we take a more conservative estimate of WTP based on the lower bound 95% confidence interval. This lower bound provides a representation of the lowest value that average WTP could reasonably have based on distribution of values within the sample. For the purposes of realism when transferring to external business cases, it is recommended to take

12 Mourato et al. 2014

13 Lawton et al. 2018

14 This is on the basis of evidence from the survey that a high proportion of residents considered the sites to be in this state.

this lower bound to correct for the features of the hypothetical survey (explained in more detail in Methodological Considerations below):

- **The WTP estimate is £7.80 to maintain the historic character of Pre-industrial high streets in good condition per household per year.** This is based on a pooled dataset of WTP values for four Pre-industrial high streets. The average WTP value for the four pooled Pre-industrial high streets is £9.28, with a range of average WTP values from £8.61 to £13.07 for each high street.[15]
- **The WTP estimate is £6.31 to maintain the historic character of Industrial-era high streets in good condition per household per year**. This is based on a pooled dataset of WTP values for four Industrial-era high streets. The average WTP value for Industrial-era high streets is £8.51, with a range of average WTP values from £3.34 to £11.63 for each high street. The wider range for Industrial-era compared to Pre-industrial high streets indicates that there is more variation between Industrial-era high streets in our sample than Pre-industrial high streets. We explore the effect this has on transferability of the values to other high streets later in this report.

This study also produces WTP values for two types of historic civic buildings: town halls and public libraries. Historic civic building WTP values combine users and non-users in the sample, with controls for any difference in the values obtained, but exclude those who have never heard of the building. We must also account for the fact that some respondents may have direct use benefits if they have previously accessed the building and made use of its services. We designed the survey instrument to ask respondents to think only of the heritage value of the building itself. The estimated WTP values were:

- **The WTP estimate is £5.73 to maintain the historic character of town halls in good condition per household per year**. This is based on a pooled dataset of WTP values for four historic town halls. The average WTP value for four pooled town halls is £7.29, with a range of average WTP values from £4.47 to £9.04 for each town hall.
- **The WTP estimate is £7.67 to maintain the historic character of libraries in good condition per household per year**. This is based on a pooled dataset of WTP values for four historic libraries. The average WTP value for the four

15 In all cases the possible WTP responses include both positive values and non-positive (zero) values, in line with best practice, ensuring that those who have no actual value for the site are also represented in the study.

pooled libraries is £9.79, with a range of average WTP values from £7.76 to £13.49 for each library.

This higher WTP for libraries in comparison to town halls may be related to peoples' being more likely to visit libraries (21% do so more than once a month) compared to town halls (12% visit more than once a month). Additional analysis in this report shows that WTP for historic libraries is positively associated with regular library usage. These results indicate that more regular users hold higher values for the historic library, which aligns with theoretical expectations.

Benefit transfer: A bank of values for local heritage

Benefit transfer is the process of taking average WTP values for a category of local heritage (for instance, high streets or civic buildings) from one research study (such as this report) and transferring it to another high street or civic building. A set of tests are conducted to help ensure that this transfer will provide robust values when applied to a new site enabling the values to be used in business cases.

In statistics as a sample size grows, the average gets closer to the 'true' average of the whole population. Surveying multiple similar heritage sites in each category of high street and civic building, rather than one, gives greater confidence that the WTP values are representative of 'an average historic site of that type'.

Some error will always be introduced through benefit transfer because no two heritage sites are the same in characteristics. It is recommended to statistically test how much error is created when transferring from the 'study sites' (the historic high streets and civic buildings surveyed as part of this study) to a hypothetical 'policy site', which would be the historic high street or civic building that needs to be valued for a business case (or other purpose) but for which WTP values have not previously been estimated. To do this - and following best practice in European Union and UK Government studies[16] - a set of transfer tests are run that sequentially places one of the study sites in the role of an unknown 'policy' site and predicts the WTP for this site, based on the pooled WTP values from the other remaining 'study sites'. Transfer tests tell us the amount of 'error' that is introduced via the transfer. A certain amount of error is expected, but WTP values should only be transferred to other sites if they are within acceptable levels of error, which is recommended at 40% in the literature.[17]

The procedure as described above is known as 'simple' unit transfer. In addition to 'simple' benefit transfer, which takes an average WTP from the average WTP of all of the four sites surveyed, there

16 Lawton et al. 2018; D. Fujiwara et al. 2018; S. Mourato et al. 2014

17 Ready and Navrud 2006

are also more sophisticated transfers which allow the analyst – the person calculating the business case for the heritage site – to adjust the WTP values to the characteristics of that site, such as income or other demographic or geographic data. This has the potential to adjust the WTP value to make it more tailored to the specific characteristics and local population of the historic place. However, adjusted or function transfers also introduce more statistical complexity, and this can increase the risk of transfer errors. It is therefore necessary to test for the amount of error introduced using each of the three types of benefit transfer: simple, adjusted, and function transfer.

1. ***Simple unit value transfer***, where average WTP is taken from this study and applied directly to a business case for another historic place without any adjustments for the specific context of that historic place.

2. ***Adjusted unit value transfer***, where the transfer accounts for differences in characteristics between the heritage sites used in the Local Heritage Value Bank and another historic place.

3. ***Benefit function***, where WTP from the Local Heritage Value Bank is adapted to fit multiple characteristics of the historic place in a business case, such as sociodemographic characteristics of visitors and the surrounding population and other measurable characteristics.

Transfer testing in this report enables evidence-based conclusions about the most appropriate transfer method for each category of local heritage in the Local Heritage Value Bank. The Local Heritage Value Bank table summarises the key findings of this study and provides guidance for people who want to use the values in their business case assessments.

Benefit transfer testing of the heritage sites surveyed in this study finds that the Pre-industrial high streets and historic libraries WTP values can be transferred to comparable historic sites across the country with acceptably low risk of introducing transfer error. Historic town hall WTP values can be transferred only with adjustment to population demographics (socioeconomic) of the local population in business cases. As is always the case with benefit transfer methods, it is necessary to acknowledge that some error will be introduced when transferring values. This is labelled clearly in the reporting: The overall findings were:

- For **Pre-industrial high streets** transfer errors (TE) are safely below the acceptable level of transfer error using any of the three transfer methods. **Conclusion:** WTP values for Pre-industrial cities can be transferred to comparable sites with relatively low risk of transfer error.
- **Historic libraries:** Transfer errors are at or below the acceptable levels of transfer error for simple and adjusted transfer methods. **Conclusion:** WTP

values for historic libraries can be transferred to comparable sites with acceptable risk of transfer error using these two methods, but not recommended for function transfer method.

- In some cases, such as **town halls**, acceptable levels of transfer error are achieved only with adjustment to the income differentials between towns (adjusted transfer method). **Conclusion:** Caution should be applied when transferring these values, and only with consideration of the income differences between the study town halls and the business case site.
- Even more caution should be applied to **Industrial-era high streets**, where transfer errors were outside of the acceptable level with all transfer methods. Industrial-era high street WTP should not be transferred to other sites, because the WTP values varied too much between the four sites surveyed to provide a robust average WTP value that can be considered representative of other Industrial-era high streets in the country. **Conclusion:** WTP values be seen only as indicative of the values that people hold for these four particular Industrial-era high streets, and not for Industrial-era high streets as a whole. Detailed reporting of transfer errors can be found in Section 5.3 of the report.

Methodological considerations and application to business cases

The final Local Heritage Bank of Values table presents pooled WTP values for local heritage sites – Pre-industrial and Industrial-era high streets, historic libraries and historic town halls. The summary table below shows which WTP values for local heritage values are robust for benefit transfer and under which methods. The table includes the key findings from transfer testing to enable practitioners to apply the heritage values more widely in their value for money and business case calculations.

The Local Heritage Value Bank can be used by a range of stakeholders and contribute to business cases in support of England's local heritage:

- **Local residents:** WTP value estimates for local heritage sites that can be used in public consultations and planning decisions, to demonstrate the value of local heritage in monetary terms to be included in business case benefit cost analysis.
- **Local and National Government:** The values produced can be applied to Government business cases to quantify the benefits associated with the preservation and maintenance of historic places at the local level. WTP values can be aggregated to the national level to provide estimates of the overall social welfare generated by local heritage. This evidence can be used when presenting evidence in the planning process for large national infrastructure projects impacting on heritage sites. This research will be of relevance to

audiences in central government; as well as Local Authorities and Local Economic Partnerships.

- **Historic England:** The Local Heritage Value Bank provides an evidence base demonstrate the benefits of local heritage places and their role in place making and community and social values. This will provide an off-the-shelf set of values for application in future heritage case studies as well as future cultural heritage capital accounts. By better understanding the value that local people place in different types of heritage building in their area, it is possible to map their contribution to place-making, to prioritise investment in maintenance of those key heritage sites that provide greatest value, and to better communicate to stakeholders, decision-makers and business case the value of heritage in the place-making process.

The final section of the report provides a worked example of how to apply values from the Local Heritage Value Bank to your own business case for the value of historic places to local populations. We outline the considerations that should be taken when applying these values into business cases for local heritage.

- It is important that business cases be evidenced in a realistic way, to prevent over-attribution of value to the historic place in your business case.
- Business cases should base their calculations on a realistic catchment of the local population. An unrealistically large catchment area will lead to over-estimation of value, which will reduce the robustness of the results. WTP values should be aggregated to the number of households in the local area. The appropriate local catchment area is to some extent subjective. In the survey, it is defined as the geographical area within which residents are likely to have heard of or walked past the heritage site. We therefore urge business cases to err on the side of caution and limit the local area catchment area to households within the direct Local Authority district.

As outlined above, some transfer error will always be introduced when taking WTP values from study sites (the Local Heritage Value Bank) to a business case site. This can partly be addressed by selecting only those transfer methods which have been tested and produce acceptable levels of error. Other considerations relate to the statistical robustness of the WTP results, which we summarise below.

- It is standard practice to test the 'internal validity' of WTP data by testing that WTP is driven by theoretically consistent factors such as income and indicators of engagement with heritage. In the pooled high street and civic building samples (where sites within each of the four categories are combined) there is a statistically significant association between WTP and these factors, giving

good confidence in the robustness of the pooled WTP values for benefit transfer.

- There is also some evidence of respondents interpreting the valuation scenario in a different way to intended in these surveys. These kind of information effects and biases are common in stated preference (SP) surveys and the survey attempted to minimise their effects through careful survey design. Despite these design considerations, statistical tests show that those who regularly visit libraries and use their services report a higher WTP to maintain the historic library building in good condition. This aligns with theoretical expectations, that greater familiarity with a heritage place would lead to greater values for its maintenance. However, it is not possible to discount the possibility that people's stated value is at least partially influenced by the use of those services, which, if true, would lead to an inflation of WTP values (since the services themselves provide direct benefits to those users). The same is true of town halls, although a smaller proportion of the sample group had used their services. While the design of the survey instructed respondents to ignore the services provided when stating their maximum WTP, it is impossible to test that some conflation has not occurred. This is always a challenge when valuing 'quasi-market' goods that have both direct user services and indirect spillover benefits to the local place.
- Finally, an important factor that can affect the robustness of CV surveys occurs if respondents are insensitive to the scope of the good being valued. In other words, if someone is presented with a scenario for preserving a single heritage site or one for preserving 100 heritage sites, the amount they are willing to pay would be reasonably expected to differ in magnitude in each case. This would be detected if respondents state a similar WTP in both situations, suggesting that their responses are insensitive to the number of sites being valued. In this study there is some evidence of possible insensitivity to scope, due to the fact that WTP values for the historic character of a high street (which contains many historic buildings) is not significantly higher than WTP values for individual civic buildings. However, it is not 100% clear that this is an insensitivity to scope issue, as it could be that people consider their civic buildings more valuable in isolation – perhaps due to their iconic role within the place-making of the city – than many of the historic buildings in a high street. Follow-up questions may provide supporting evidence, albeit with the familiar lack of certainty about a respondents' complex motivations for being willing to pay. A third of respondents stated that their WTP value is an expression of their pro-heritage beliefs and their broader interest in preserving all heritage in the city, which could lead to some inflation of the WTP estimates. In extreme cases, such respondents could be excluded from

the sample. However, given that follow-up questions do not fully explain the motivations behind WTP, it is not advisable to reduce the sample in this way, as it reduces the predictive power of the benefit transfer tests.

- **For the purpose of benefit transfer, it is recommended that business cases use the more conservative lower bound WTP values. Lower bound WTP is estimated as the lower limit 95% confidence interval around the mean WTP. This is to account for the fact that mean WTP is likely to be inflated by the inclusion of direct use values for those who use the sites for services and possible insensitivity to scope. This means that average WTP may not be the most accurate estimate for external use, so we recommend taking the lower bound WTP for benefit transfer.**

The use of geographical data like the Historic England PointX Asset Register and Ordnance Survey Open Map enables the researcher to incorporate external data on the characteristics of each of the sites surveyed that could potentially explain variation in WTP and therefore affect transfer testing. This analysis provides a major contribution to the benefit transfer literature and with its use of the ever-growing body of geographical open data, will provide much greater transferability of values using function transfer. Table 1-1 summarises the main advantages and disadvantages of the three benefit transfer methods below, outlining our recommendation as to the contexts in which these benefit transfer methods work best.

Table 1-1 Benefit transfer summary and recommendation

		Simple unit transfer	Adjusted unit transfer	Function transfer
Data availability / requirements		No additional data required	Only aggregate data on the adjusted characteristic at policy and study sites required	Transfer function needs to be estimated at study sites; Corresponding data for policy site required to make prediction
	Low	✓	×	×
	Medium		✓	×
	High			✓
Similarity between policy and study sites		High degree of similarity required	Difference in a single characteristic (usually income levels) may be adjusted	Differences in multiple characteristics may be adjusted to produce more context-sensitive benefit transfers
	High	✓	×	×
	Medium		✓	×
	Low			✓
Homogeneity of the **good valued** across study sites		High degree of similarity required	High degree of similarity required;	Differences can be controlled (and their impact measured, provided that site-specific data

	Simple unit transfer	Adjusted unit transfer	Function transfer
		Adjustment usually based on population not site characteristics (i.e. population income)	exists and that there is sufficient heterogeneity between study sites) through transfer function
High	✓	✓	
Low	×	×	✓
Homogeneity of the **population characteristics** across study sites	High degree of similarity required	Assumes that heterogeneity between sites is a function of socioeconomic differences in populations. Income differences can be adjusted ex-post	Differences can be controlled (and their impact measured, provided there is sufficient heterogeneity between study sites) through transfer function. High homogeneity will lead to higher transfer errors in function transfer.
High	✓		×
Medium		✓	
Low			✓
Assumptions required to perform the transfer (as tested by t-tests in benefit transfer testing)	Per person (or household) WTP at the study site is equal to that at the policy site	Per person (or household) WTP scaled by the adjustment variable at the study site is equal to that at the policy site	Transfer function is identical in the study and policy sites
Recommendations			
Policy site is similar to the study site in terms of services offered, size and reach, and characteristics of users/non-users	✓	×	×
Policy site different from study sites in terms of a small number of characteristics (particularly income)	×	✓	×
Policy site different from study sites in terms of multiple characteristics (whose impact on WTP has been measured)	×	×	✓
Transfer functions have low explanatory power	NA	NA	×