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# **Measuring the Economic Value of Cinema Venues**

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# About

## About the BFI

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- To offer the widest range of UK and international moving image culture through its programmes and festivals – delivered online and in venue.
- To use its knowledge to educate and deepen public appreciation and understanding.
- To work with Government and industry to ensure the continued growth of the UK's screen industries.

Founded in 1933, the BFI is a registered charity governed by Royal Charter.

The BFI Board of Governors is chaired by Tim Richards.

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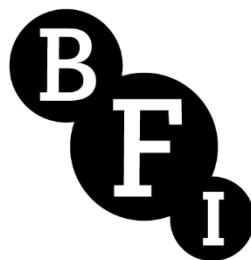
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## Creative Industries Policy and Evidence Centre

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# Forewords

## BFI

It has long been understood that cinemas, of which there are over 800 in the UK, are amongst the most widely accessed and enjoyed venues for the public to experience culture and entertainment. This remains true even taking into account the growth and development of at home digital streaming, with BFI research showing that the public retain a strong recognition that cinemas are the best way to experience films, and with surveys indicating that six out of ten UK adults visited the cinema in 2022.

What exactly is it that makes cinemas popular, and valuable as part of our social infrastructure? We at the BFI have always implicitly understood and championed the myriad ways in which cinemas deliver valuable and enriching experiences. They are social spaces, and through programming can offer opportunities for community cohesion and individual exploration and learning. They often drive commercial activity that supports surrounding businesses, and are an important source of pride-in-place. But until now there has been no robust analysis to evaluate the wider range of valuable and enriching experiences that cinemas provide.

Against this background, this report was commissioned by the BFI and the Creative PEC in order to deliver unique and new insights into the extent that cinemas provide value to the country and to their local communities. Using valuation techniques derived from the DCMS' Culture and Heritage Capital framework, the report allows us to understand at a much more granular level the wider societal value that cinemas create to increase people's wellbeing and enjoyment.

While no single report can fully capture the complex and rich value that cinemas hold, the results from this Study represent an important step forward in our understanding. The report finds that the cinemas within the Study delivered significant and positive wider societal value equivalent to £600k per cinema every year. Previously, it had been estimated that the average cinema in the UK creates on average £1.18 million a year of added value to the economy through ticket, other sales and memberships, so it is clear that additional societal benefits captured in this report represent significant incremental value. Beyond this, the report establishes that cinema usage is likely to drive footfall and spending in other venues, indicating that cinemas can make an important contribution to revitalising high-streets, and provides supporting data for the view that cinemas drive pride-in-place for local communities.

In 2020, as cinemas faced uncertain times, *Sight and Sound* magazine celebrated them as *Dream Palaces* reflecting the cultural power they hold to inspire and immerse, and the BFI administered the DCMS Culture Recovery Fund for Independent Cinemas, reflecting our belief in their continued importance and relevance for the public. In answering important questions about public value, this report is an invaluable tool in helping public and commercial bodies alike ensure the continued cultural and societal success of cinemas.

Rishi Coupland  
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BFI  
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## Creative Industries Policy and Evidence Centre

The UK has such a wealth of cultural assets that it is all too easy for us to take for granted the impact they have on our wellbeing. However, competing as they do for public investment with other essential areas like health and education, it is incumbent on policymakers to consider explicitly, and where feasible measure, their value.

For this reason, the Creative PEC – and before it Nesta – has been working hard with organisations like the Department for Culture, Media and Sport, Arts Council England, Historic England, the Arts and Humanities Research Council and the BFI over the past decade to grow the evidence base on the value of the UK's cultural and heritage assets. We have focused on valuation techniques drawn from the discipline of public economics which try and express value in money-metric terms. Notwithstanding the obvious challenges in placing monetary values on complex assets such as our theatres, museums and cinemas, a key strength of the economic approach is that it allows the benefits of investment to be compared in the same units as costs. It is not a coincidence therefore that economic valuation techniques, when applied with due care and attention, are accredited by HM Treasury for use in cost-benefit analysis when government departments appraise investment decisions.

In this new Study, the Creative PEC and the BFI have joined forces with Ipsos, Nordicity and the Bennett Institute at Cambridge University to estimate the economic value of cinemas to their communities. We find that cinema-users derive very significant value from cinemas, over and above the direct benefits they gain from watching films and as captured in the ticket prices they pay. The Study adds to the growing bank of estimates on the economic value of cultural and heritage assets which is being coordinated by the DCMS's Cultural and Heritage Capital Framework: an important attempt to put investment in culture and heritage on the same rigorous footing as other capital assets. As ever, I welcome your comments!

Professor Hasan Bakhshi MBE  
Director, Creative PEC

# Acknowledgments

The BFI, Creative PEC and the Study's project team would like to thank all those involved in the production of this report. We would particularly like to thank the cinema venues that agreed to participate in this Study. We would also like to thank the Department for Culture, Media and Sport and the project steering group; they have provided a valuable steer on this work as well as review of the findings included in this report.

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# Executive Summary

## Key Findings

While there is an existing evidence base demonstrating the economic, social and cultural value for a range of cultural and heritage venues, this is the first research Study that uses quantitative economic valuation techniques to generate comparable evidence on the value people derive from the UK's cinema venues.

The findings from the six cinemas included in this Study demonstrate that cinema venues are valued by all kinds of users in addition to the value accruing to audiences from watching their films; indicating an additional cultural value that is not being accounted for in ticket prices.

The public's Willingness-to-Pay (WTP) for the six cinema venues surveyed as a donation over and above the ticket prices they pay to see a film is estimated to be £18.04 per person per year. The six cinema venues were selected for all having a 'cultural value' offer over in addition to their mainstream cinema programming, defined as: operating in a cinematic or cultural 'cold spot' with no alternatives within a 5km radius; offering a destination café, bar or restaurant (a 'social hub'); and/or providing 'diverse programming'.

£18.04 represents a 'lower bound' estimate of WTP, making it consistent with DCMS and Treasury guidance as an estimate of the benefits that cinema users gain from the continued existence of a cinema with a distinct cultural value offering. These values are tested for robustness and transferability, and can be combined with the ticket revenue and costs of running and supporting cinemas within Social Cost-Benefit Analysis – the standard method for investment appraisal.

The amount people are willing to donate to support the continued existence of the cinema (presented as a hypothetical situation to survey respondents) varies depending on the type of cinema and the cinema facilities, as well as the characteristics, particularly income, of the survey respondents.

The valuation technique used in this Study – specifically, the Contingent Valuation Method – allows the use of 'Benefit Transfer', meaning that comparable cinema venues not included in this Study (but which operate in a similar 'cold spot' as a 'social hub' or offer 'diverse programming' to the 'Study site' cinemas) can apply these findings to their own Business Cases to secure ongoing investment.

## Background

The British Film Institute (BFI) and the Creative Industries Policy and Evidence Centre (Creative PEC) commissioned Ipsos, in partnership with Nordicity and the Bennett Institute (University of Cambridge), to undertake a Study to generate robust evidence on the value of UK cinema venues. As audiences return to cinemas more generally and venues adjust to new realities post-COVID-19, it is crucial that cinema operators can articulate clearly and rigorously their value proposition to future funders on funders' terms – public and private alike. A strong supporting evidence base will leave cinemas better placed to attract different public and private sources of investment and be more resilient in the face of future shocks.

This report focuses on the economic valuation of existing UK cinema venues. It uses a non-market valuation technique known as Contingent Valuation which uses Stated Preference surveys to capture a 'Willingness-to-Pay' value. It explores the value people get from cinema venues that is not reflected in

market prices and is therefore additional to traditional estimates of market value, such as Gross Value Added (GVA).

The research contributes to the Department for Culture, Media and Sport's (DCMS) Culture and Heritage Capital (CHC) Programme, which aims to develop a formal approach, using economic methodologies, to create a robust evidence base for decision making on the value and benefits of culture and heritage assets to society. This will include supplementary guidance to the HM Treasury Green Book, a database of values for a range of culture and heritage assets, and a set of culture and heritage capital accounts.<sup>1</sup> This is important, as the Programme aims to ensure that economic, social and cultural value is assessed equally using economic methodology alongside both quantitative and qualitative evidence to create a robust evidence base for decision making.<sup>2</sup> This Study's findings add to that evidence base.

To capture the Willingness-to-Pay value, an established method of non-market valuation known as Contingent Valuation is applied, which uses Stated Preference surveys to help quantify how people might behave in a given situation by eliciting how much they would pay for the continuation of a service (Willingness-to-Pay) or accept to compensate them for its discontinuation (Willingness-to-Accept). In this instance, the survey is used to elicit cinema users' Willingness-to-Pay (WTP) to support the continued existence of a specific cinema venue they have used in the past five years over and above the prices they pay for tickets. The resulting WTP, when asked across a number of cinema venues, can be seen as representative of the non-market value held by people who use comparable cinema venues (the use of WTP to capture non-market value is a technique suggested by the HM Treasury Green Book). In other words, the WTP shows the value of cinema venues to the public which is not represented in the ticket price. Therefore, when a value estimate based on WTP is combined with what people spend at cinema venues and their contribution to the wider economy, this represents a more complete value of cinema venues than those just captured in market prices alone.

Specifically, the techniques used in this Study enable the measurement of non-use value as well as **cinema users' use value**, which refers to the private value derived from people that want, need, and make direct use of the cinema venues and their social offer, as well as the option to use them in the future. **Non-use value**, which refers to the value people assign to cinema venues as a result of their existence, is included in this Study but only by those who have visited the cinemas. Non-use value can be part of the value that cinema users gain from the cinema venue, but also be held by the general public that are not cinema-goers, because both groups can gain wellbeing from the fact that the cinema venue exists (existence value), and value from knowing that other people can use it now (altruistic value) and in the future (bequest value). Individuals who do not use cinemas are not considered in this Study (see Footnote 2).

## Site Selection

The Stated Preference survey targeted users of six cinema venues across the UK. The cinemas were selected through an extensive scoping process, which aimed to construct a group with sufficient comparability. This is important to enable 'benefit transfer' across venues, subject to validity testing

<sup>1</sup> H. Sagger, J. Philips, and M. Haque, 'Valuing Culture and Heritage Capital: A Framework towards Informing Decision Making' (London, UK: Department for Digital Culture Media and Sport, January 2021), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/955203/GOV.UK\\_-\\_Framework\\_Accessible\\_v2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/955203/GOV.UK_-_Framework_Accessible_v2.pdf)

<sup>2</sup> This study does not seek to capture the non-use value for non-cinema-goers. During the pilot survey, non-users of the cinema venues were more likely to find the scenario of a donation to support the cinema unrealistic. It was subsequently decided to target only users of the cinema venues.



(explained below). This homogeneity is based on all six cinemas being assessed as having a broadly common set of characteristics in terms of their:

- Cinema programming (which in this Study we chose to be mainstream).
- Distinctive place in the areas in which they are situated (they should not be one of many equivalent venues within local vicinity).
- Having some generally perceived value to their communities over and above their core programming offer.

The selected cinema venues for this Study are:

- |                                |                                  |
|--------------------------------|----------------------------------|
| ▪ Vue, Glasgow Fort.           | ▪ Everyman, Cardiff.             |
| ▪ Light Cinema, New Brighton.  | ▪ Broadway, Nottingham.          |
| ▪ Ritzy Picturehouse, Brixton. | ▪ Cameo Picturehouse, Edinburgh. |

Survey responses were collected from 2,126 cinema users spread across the six cinema venues.<sup>3</sup> Although the six cinema venues were chosen with broad homogeneity in value proposition in mind, observable differences emerged in the site selection process around the types of non-core cultural offering they provided. The differences between cinemas were grouped into three categories of non-core cultural offering. This allowed for testing of whether value varied across the sample of cinemas. The three categories are:

1. Access to culture for communities which have low cultural offers (cinematic or cultural ‘cold spots’), henceforth referred to as ‘cold spot’ cinemas.
2. Provision of community spaces and social infrastructure which allow people to interact with each other in a cultural setting (henceforth referred to as ‘social hub’ cinemas).
3. Diverse programming, showing only 30%-50% mainstream films (henceforth referred to as ‘diverse programming’ cinemas).

Two cinemas were sampled as representative of each group (with acknowledgement of some overlap between the three categories).

## Survey design

Cinema users (those who report having visited the cinema venue in question in the past five years, for film viewing or non-film viewing purposes) were asked if they would be willing to pay into a voluntary fund created to raise funds through annual donations to support the cinema venue and ensure that it is able to provide its full range of services for at least ten years. This was framed within a hypothetical counterfactual scenario where *“all of the cinema’s services, including film screenings, film-related events and festivals, the café / restaurant / bar and other social and community activities would no longer be available.”* To ensure that respondents were donating only for the value of the cinema venue (and not the heritage value of the building), they were assured that *“the building itself would be preserved through conversion to another use”*. Survey respondents were asked a range of questions to further understand

<sup>3</sup> Whilst cinemas from Northern Ireland were considered as part of the site selection phase (see Appendix 3: Sampling Methodology), the cinemas considered failed to meet population and population density criteria, which was crucial in ensuring there was a sufficient population to be sampled. Some sites from more populated parts of Northern Ireland were discounted as the cinemas did not show a sufficient level of mainstream programming, reducing comparability to the other sites selected within this Study.

their views of cinemas, including why they do or do not value cinemas; to test their responses for consistency; and socio-demographic questions.

## Willingness-to-Pay results

The Stated Preference survey provided two results (noting that DCMS guidance recommends using the lower bound estimate in any Social Cost-Benefit Analysis):

- **An average Willingness-to-Pay (WTP) estimate of the non-market value of a cinema venue in the UK**, based on a pool of six cinema venues.
- **A lower bound Willingness-to-Pay estimate (based on the lower 95% confidence interval)** which gives a more conservative estimate of the non-market value of a cinema venue in the UK, based on the same pool of six cinema venues.

**Figure 1: Willingness-to-Pay to support the continued existence of the cinema venue per person per year**



*WTP estimated as the sample average and lower bound 95% confidence interval, including those not willing to pay in principle coded as £0. Average cinema ticket price based on Film Distributors Association data from 2022.<sup>4</sup>*

**The lower bound WTP (based on confidence intervals around the average) for the six cinema venues is £18.04.** The relative closeness of the WTP figure for cinema venues to previous studies of other cultural sites in the UK (such as theatres which also charge ticket prices for performances) provides some assurance that the WTP in this Study is realistic, while acknowledging that this is by no means a perfect comparator (it is, however, the closest that can be found in the empirical literature). This is if anything a little higher than the estimates in previous Arts Council England benefit transfer studies (e.g., £15.53 in 2023 prices in the case of regional theatres), while noting that there are substantial differences in the survey design and the characteristics of the sites valued in different Stated Preference studies such as these, which would be expected to drive differences in WTP.

WTP for cinema venues ranges from £13.59 for cinemas with more 'diverse programming', to £14.56 for cinemas which can be characterised as operating in a cinematic or cultural 'cold spot', and £23.98 for cinemas that operate as a 'social hub'.

In summary, all six cinemas studied were valued by the people that use them at a greater amount than implied by the cost of tickets alone. These findings suggest that similar cinemas i.e., those with more 'diverse programming', operating within a cinematic or cultural 'cold spot' or offering a 'social hub', are

<sup>4</sup> <https://filmdistributorsassociation.com/the-industry/databank/uk-and-ireland-market-trends/average-ticket-price/>

also likely to create value to people above the ticket price they pay. While some cinema types do have higher WTP values than others, it is difficult using this Study to draw firm conclusions as to what features of a cinema increase or decrease a cinema's value to people, given that the sample only includes two cinemas in each group and the value that survey respondents stated is influenced by many factors including their ability to pay.

**A key message is that all of the cinema venues in this Study generate considerable value to their users, and that this value is present whether they be operating in a cinematic or cultural 'cold spot', offering more 'diverse programming', or by operating as a 'social hub'.**

By including multiplexes from cinematic or cultural 'cold spots' in the sample, the Study demonstrates that the value of cinemas is positive and comparable across different programming and ownership models (e.g., whether commercial or subsidised, or whether part of a chain or independent), because cinemas offer an important source of value that their communities would lose if the cinema no longer operated there.

Note that cinema venues with a standard offer (i.e., showing only mainstream programming) or those specialising in non-mainstream programming are not included in this Study unless they are considered to be in a cinematic or cultural 'cold spot', so it is not possible to say whether the WTP value for 'standard' cinema venues or specialist non-mainstream cinema venues would be higher or lower. This would require additional research on a different set of cinema venues to those operating in a cinematic or cultural 'cold spot', offering a 'social hub', or having a 'diverse programming' offer.

## **Benefit transfer**

One objective of this Study was to produce estimates of the value of cinema venues in the UK which can be transferred to other cinema venues not participating in the Study, using a process known as 'benefit transfer'. Benefit transfer is used in economic evaluations, such as Business Cases, for investment or funding and in a cost-benefit analysis of cultural assets in government decision-making. When transferring an economic estimate from a valuation Study to a cinema venue for which no valuation evidence exists, it would not be safe to rely on a Study of a single cinema, as this venue may not be representative of other cinemas in the country. Benefit transfer provides a more representative estimate of the value of a cinema venue by surveying cinema users across multiple sites, pooling those sites together to estimate a national average value, and running transfer tests to establish how much error would be introduced if this value were to be transferred to other cinemas in the country.

To test the robustness of this pooled estimate of value, benefit transfer tests are applied to ascertain the level of transfer error that would be introduced when transferring the Willingness-to-Pay values elicited for these six cinemas. If the pooled WTP from the six venues surveyed<sup>5</sup> passes a suite of transfer tests (i.e., exhibiting levels of transfer error below an agreed threshold), then there is greater confidence in presenting this pooled WTP value as representative of other cinemas across the country. The WTP value can then be used for planning, evaluation and Business Case purposes.

Based on transfer testing, it is recommended that the estimated WTP values for cinema venues in this Study be added to the DCMS bank of benefit transfer values, as collected in the CHC portal.<sup>6</sup> This adds

<sup>5</sup> One of the requirements for benefit transfer is that the sites chosen should be broadly comparable, while also exhibiting some of the variation that is seen in the natural population of cinemas in the UK. The six cinema venues were chosen such that they can be considered broadly homogenous in their core cultural value offering. All six cinema venues offer mainstream programming in addition to some further cultural offering which makes them valuable to the local population over and above the alternative of visiting another cinema or streaming films at home.

<sup>6</sup> <https://www.gov.uk/guidance/culture-and-heritage-capital-portal>

to the evidence base of transfer-tested values which can reliably be applied to Social Cost-Benefit Analysis (SCBA) and Business Case evaluations in the cultural and heritage sector going forward. Guidance is provided on how to apply the WTP values for Business Case purposes in Appendix 4: Guidance on Aggregation. This includes step by step guidance on how to aggregate WTP values through worked examples for income-adjusted transfer and function transfer.<sup>7</sup>

## Aggregation

Combining the WTP estimates from this Study with secondary data provided by the BFI, Comscore and the Cinema Advertising Association, it is possible to estimate the aggregate non-market value per cinema (for the type of cinemas used in this Study: at least 30% mainstream programming and is either a cinematic or cultural ‘cold spot’, ‘social hub’ or a ‘diverse programming’ venue).

In particular, assuming that a UK venue attracts on average 38,224 unique adult visitors per year (see Appendix 4: Guidance on aggregation, for a full derivation) and an adjusted<sup>8</sup> lower bound transfer value of £15.73 (adjusted from £18.04 using the recommended benefit transfer approach in this Study, for more detail see Appendix 4), the welfare gains generated to users through the continued existence of a cinema similar to those measured in this Study amount to £0.6m per venue per year; which equates to £5.18m in present value terms over a 10-year appraisal period.

To put this into context, the estimated market benefits (for all types of cinema across the UK) expressed through Gross Value Added (GVA) to the economy (including direct, indirect and induced benefits) of UK cinemas is £1.18m per cinema per year<sup>9</sup>, suggesting that the non-market benefits of UK cinema venues represent a significant - and until now unquantified - benefit of UK cinema venues, and in combination provide a more complete estimate of the total economic value of cinema venues. It is important to note that this estimate still excludes a number of important elements of value, such as the non-market value that non-users may hold for cinema venues (who were not sampled here, due to challenges in data collection and benefit transfer for non-user groups). Furthermore, it is equally as important to note that the non-market value is only valid for cinemas that have at least 30% mainstream programming and operate either in cinematic or cultural ‘cold spots’, operate as ‘social hubs’ or show ‘diverse programming’. Further research would be required to generalise this WTP across all cinemas in the UK.

<sup>7</sup> The complexity of the value function transfer, and the fact that the value function performed worse in the benefit transfer tests compared with the adjusted unit income, means its use should be limited to scenarios where an analyst is performing benefit transfer across a portfolio of cinema venues. In this situation, the value function can provide additional sensitivity by providing different WTP values for cinemas with a social hub to other cinema types.

<sup>8</sup> Transfer of WTP values for cinema sites should only be attempted after adjusting for income differences between the ‘study sites’ and a ‘policy site’. Without adjusting, there is little confidence that the transferred values will represent the value assigned to different cinema sites.

<sup>9</sup> GVA analysis is based on ONS Annual Business Survey, cinema admissions data from Comscore, GDP deflator data from ONS and internal Nordicity estimates combined to produce a total GVA estimate of UK cinema of £1.016bn across all cinemas in the UK. Note that this figure is based on observations over the pandemic period when cinemas were operating below full capacity – which would have affected its operating profits and GVA. When compared to previous periods, the per-cinema GVA in 2018 was £1.57m.

# 1 Introduction

The British Film Institute (BFI) and the Creative Industries Policy and Evidence Centre (the PEC) commissioned Ipsos, in partnership with Nordicity and the Bennett Institute, to explore the value of cinema venues in the UK. The main goal of the Study is to generate robust evidence on the value people get from existing UK cinema venues, beyond market values, such as Gross Value Added (GVA).

## 1.1 Context

During the UK's COVID-19 lockdowns, cinema venues closed to the public and lost their vital sources of revenue. Like other cultural institutions, independent cinema venues benefited significantly from the UK Government's £1.57 billion Culture Recovery Fund. It assisted venues in covering operating costs and debt repayments and replenishing cash reserves to help them remain solvent. As part of this package, the DCMS Culture Recovery Fund for Independent Cinemas in England, administered by the BFI, awarded a total of £34.4 million to 209 independent cinemas<sup>10</sup> across England. Governments across the UK's Devolved Nations also provided support during the COVID-19 Pandemic: the Recovery Fund for Cultural Organisations in Scotland; the Wales Cultural Recovery Fund; and the COVID Recovery Programme for Film Exhibition and Independent Cinema in Northern Ireland. The need for evidence on the value of the nation's cultural and heritage assets was brought into focus during the COVID-19 lockdown, when those running COVID-19 support programmes had to make decisions as to which cultural and heritage assets should receive emergency funding. In such circumstances, it is important to have robust evidence on the value of cultural and heritage assets both in terms of their contribution to market outcomes and their non-market value.

As with the Culture Recovery Fund more generally, the aim of the Culture Recovery Fund for Independent Cinemas was to "help maintain England's cultural ecology by supporting culturally significant organisations, which are now at imminent risk of failure due to the ongoing impact of COVID-19 and have exhausted all other reasonable options for increasing their resilience".

As audiences return to cinemas and venues adjust to new realities post-the COVID-19 crisis, it is crucial that cinema operators can clearly and rigorously articulate their value proposition to future funders on funders' terms – public and private alike. This Study provides a measure of value, consistent with the HM Treasury Green Book<sup>11</sup>, that demonstrates the value to users of cinema venues in non-market terms (the additional value that cinema venues provide, over and above any ticket purchases, memberships, and non-film expenditure that people pay). A strong supporting evidence base will leave cinemas better placed to attract different public and private sources of investment and be more resilient in the face of future shocks.

## 1.2 Purpose of the Study

This Study investigates the value of UK cinema venues to society. The Study employs quantitative survey-based economic valuation techniques that capture the non-market benefits of cinemas. Willingness-to-Pay (WTP) (an economic valuation technique employed by HM Treasury) is utilised to capture the wellbeing (welfare in economic terms) enjoyed by cinema users over and above the price they already pay for cinema tickets, memberships, and non-film expenditure (e.g., buying food and beverages from the concession stand or bar). This 'non-market' value is different from the economic

<sup>10</sup> The DCMS Culture Recovery Fund for Independent Cinemas in England also included small independent chains.

<sup>11</sup> H. M. Treasury, 'Green Book: Appraisal and Evaluation in Central Government' (London, UK: H. M. Treasury, 2022), <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020>

impacts on tourism, jobs, or gross value added to the economy. The values estimated in this report provide evidence of the direct benefits that cinema venues provide to people, in terms of the change in welfare produced by the cinema venue as a site where people can experience cinema programming, socialise and engage with culture. The values can be seen as a quantification of how cinemas improve people's wellbeing (or 'utility' in standard economics terms). By utilising Stated Preference surveys in a way that captures the consumer surplus, it ensures that these non-market values can be added to the market values which are more commonly studied, such as gross value added to the economy and employment impacts.<sup>12</sup>

A review of the existing literature (which can be found in Appendix 6: Literature Review) identifies that there are no previous studies of the non-market value of cinemas in the UK, and only one relevant study in the international literature, undertaken by Lee (2016).<sup>13</sup>

This Study draws upon methodologies from previous studies of other 'quasi-public' goods in the UK, specifically the elements focussing on the value of regional theatres from Arts Council England's "Regional Galleries and Theatres Benefit Transfer Report". That report is useful context for the present Study, given that it also attempts to value the benefits to society of a cultural space over and above the ticket price that users already pay.<sup>14</sup> The methodology is developed further in this Study to account for a wider variability in the types of cinema venues that exist in the UK, compared to the range of regional "producing" theatres used in earlier studies, which arguably have closer comparability to each other in their cultural offering.

This Study provides cinema operators and public and private funders with an evidence base to demonstrate the benefits of investing in existing cinema venues in the UK, including insights into the reasons why people value the existence of the cinema venue in question. Importantly, the research is also designed to contribute to Department for Culture, Media and Sport's (DCMS) major research-led initiative, the Culture and Heritage Capital (CHC) Programme<sup>15</sup>, which aims to place public investment in culture and heritage on a more sustainable footing. The CHC framework sets out DCMS's ambition for a transformational and cultural change to assessing value for money through robust appraisal and evaluation. This Study helps to ensure that cinema venues take their rightful place among other "culturally significant organisations" as methodological advances are made in valuing culture and heritage through DCMS's initiative.

This Study provides values that can be used for benefit transfer of the non-market value of cinemas, at least of the type included in the sample, enabling the BFI, DCMS, and other decision makers, funders and investors to assess the value of existing cinema venues as assets within the CHC framework.<sup>16</sup>

The Stated Preference survey used in this Study was designed in line with HM Treasury Green Book guidance<sup>17</sup> and DCMS standards for high-quality valuation research (as set out in the DCMS Rapid

<sup>12</sup> <https://www2.bfi.org.uk/sites/bfi.org.uk/files/downloads/bfi-uk-film-economy-2019-01-30.pdf>

<sup>13</sup> Lee's (2016) study relates to the construction of a new cinema site in South Korea, rather than WTP for the loss of a cinema venue, as in the current study. It uses a compulsory tax vehicle, asked at the household level, rather than an annual donation at the individual level, which makes it more difficult to aggregate based on visitor numbers (since people typically visit at an individual, rather than household level). It also combined users and non-users which is not recommended, and again presents additional difficulties in aggregation. As a result, Lee's (2016) study is not directly comparable to this Study and suggests the need for a robust valuation study of the value of existing cinema venues.

<sup>14</sup> In contrast to regional galleries from the same study which only includes free to enter museums in its sample: R. N. Lawton et al., 'Regional Galleries and Theatres Benefit Transfer Report' (Arts Council England, 2021), <https://www.artscouncil.org.uk/sites/default/files/download-file/Arts%20Council%20England%20-%20Regional%20Galleries%20and%20Theatres%20Benefit%20Transfer%20Report.pdf>

<sup>15</sup> H. Sagger, J. Philips, and M. Haque, 'Valuing Culture and Heritage Capital: A Framework towards Informing Decision Making' (London, UK: Department for Digital Culture Media and Sport, January 2021), <https://www.gov.uk/government/publications/valuing-culture-and-heritage-capital-a-framework-towards-decision-making/valuing-culture-and-heritage-capital-a-framework-towards-informing-decision-making>

<sup>16</sup> <https://www.gov.uk/guidance/culture-and-heritage-capital-portal>

<sup>17</sup> H. M. Treasury, 'Green Book: Appraisal and Evaluation in Central Government'.

Evidence Assessment<sup>18</sup>) to elicit the annual flow of benefits from individual cinema venues across the UK.

### 1.3 Challenges

Accurately capturing the non-market value of cultural sites is extremely challenging. To ensure robust results, best practice design requires considering and reducing the potential for various types of bias when eliciting responses from survey respondents.

Applying Stated Preference survey techniques to cinema venues provides its own challenges compared with other categories of cultural asset. For example, there is a considerable range in the offerings of cinemas, which makes it difficult to capture a representative value. The methodology outlines the extensive scoping phase undertaken to capture the necessary variety of cinemas.

To ensure that the Willingness-to-Pay values estimated by this Study are usable for Social Cost-Benefit Analysis (SCBA), benefit transfer tests have been applied to test the validity of the results for each cinema.

### 1.4 Overview of the report

The remainder of this report is structured as follows:

- **Section 2** presents the methodology used throughout the Study.
- **Section 3** presents the quantitative economic valuation results.
- **Section 4** presents the top-line benefit transfer testing findings.
- **Section 5** presents concluding remarks.

Further technical details can be found through the Appendices, which are referenced throughout the report.

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<sup>18</sup> R.N. Lawton et al., 'DCMS Rapid Evidence Assessment: Culture and Heritage Valuation Studies - Technical Report' (London, UK: Department for Digital Culture, Media and Sport, 2020).

## 2 Methodology

The main goal of the Stated Preference survey is to generate a robust estimate of the value of existing UK cinema venues that can be used through benefit transfer in cinema owners' Business Cases to secure investment. As set out in the DCMS Culture and Heritage Capital Framework<sup>19</sup>, Stated Preference surveys can be used to capture an individual's Willingness-to-Pay which includes both use and non-use value<sup>20</sup> defined as:

- **Use value** refers to the private value derived from people that want, need, and make direct use of the cinema venues and their social offer, as well as the option to use them in the future.
- **Non-use value** refers to the value people assign to cinema venues as a result of their existence, which may be held by both those who use them and those who will never use them (this Study does not include the value for people who do not use cinemas<sup>21</sup>). Those who directly use cinemas may also derive non-use value, because they may value the fact that the cinema venue exists, value from the possibility of using the cinema venue in the future (option value), or value knowing that other people can use the cinema venue now (altruistic value) and into the future (bequest value).

The Stated Preference survey was designed to target **users of six cinema venues ('study sites') across the UK:**

- Vue, Glasgow Fort.
- Ritzy Picturehouse, Brixton.
- Broadway, Nottingham.
- Light Cinema, New Brighton.
- Everyman, Cardiff.
- Cameo Picturehouse, Edinburgh.

### 2.1 Site Selection process

When deciding which six cinemas ('study sites') to include in the Stated Preference survey, consideration was given to whether the sample would enable the estimation of an average WTP that could be accurately and practically used for benefit transfer. Benefit transfer enables the transfer of Willingness-to-Pay values between cinemas, with the potential of applying the values calculated in the six 'study sites' (to use benefit transfer terminology) to other comparable cinema venues by taking (in the case of simple unit transfer) the estimated average WTP values from the 'study sites' and applying them to the new 'policy' site (i.e., extrapolating the welfare value of an unknown cinema site based on the average welfare value that people state for the six cinema venues surveyed in this Study).

Site selection needed to identify sufficiently comparable cinema venues for transfer of the WTP value to other cinemas in the UK to enable transfer testing between the sites, while ensuring sufficient categorical differences to enable the identification of factors that might drive differences in value. This allows differential WTP values between cinema venues to be quantified and (in the case of adjusted unit

<sup>19</sup> Sagger, Philips, and Haque, 'Valuing Culture and Heritage Capital: A Framework towards Informing Decision Making'.

<sup>20</sup> David Throsby, *Economics and Culture* (Cambridge UK: Cambridge University Press, 2001).

<sup>21</sup> This study does not seek to capture the non-use value for non-cinema users. During the pilot survey, non-users of the cinema venues were more likely to find the scenario of a donation to support the cinema unrealistic. It was subsequently decided to target only users of the cinema venues.



transfer) potentially adjusted to the specifics of other cinema sites to which the values will be transferred. A more detailed discussion on benefit transfer can be found in Appendix 2: Technical Appendix.

The Stated Preference survey was designed to target users of the six cinema ‘study sites’ across the UK. These cinema venues were chosen because they could be considered broadly homogenous (comparable) in their core offering: all six cinema venues offer mainstream programming in addition to some further offering which makes them valuable to their local population, over and above the alternative of visiting another cinema or streaming films at home. This ‘further offering’ is defined as their ‘non-core cultural offering’. Within the sample of the six cinema sites, there exists a degree of heterogeneity (difference) in the non-core cultural offering.

By ensuring a degree of heterogeneity through selecting cinemas with non-core services it enables the research to better understand the categorical differences that might lead to differences in non-market value.

The site selection process required the development of ‘selection criteria’ to narrow an initial ‘long list’, compiled by the Study’s advisory group and the BFI/Creative PEC team down to the six selected study cinema sites. More detail can be found in Appendix 3: Sampling Methodology, Section 10.1.

To ensure testability within the sample, comparability across the six cinemas was necessary. However, to enable further statistical testing of different types of non-core cultural offering, two cinemas from each category were selected:

- **Two cinemas with >50% mainstream programming and in cinematic or cultural ‘cold spot’, henceforth referred to as the ‘cold spot’ group.**
- **Two cinemas with >50% mainstream programming and social hub in the form of a restaurant / bar / café / workspace, henceforth referred to as the ‘social hub’ group.**
- **Two cinemas with 30-50% mainstream and diverse programming, henceforth referred to as the more ‘diverse programming’ group.**

The cinema sites sampled as part of this Study are presented in Table 2.1 Consent was obtained from the six cinema sites before including them within the survey.<sup>22</sup>

**Table 2.1: Cinema sites sampled as part of the Study**

Category (additional non-core cultural offering, in addition to core offer of mainstream cinema programming)	Cinema venue
<b>Two cinemas with &gt;50% mainstream programming and in cinematic or cultural ‘cold spot’</b>	Vue, Glasgow Fort Light Cinema, New Brighton

<sup>22</sup> Whilst cinemas from Northern Ireland were considered as part of the site selection phase (see Appendix 3: Sampling Methodology), the cinemas considered failed to meet population and population density criteria, which was crucial in ensuring there was a sufficient population to be sampled. Some sites from more populated parts of Northern Ireland were discounted as the cinemas did not show a sufficient level of mainstream programming, reducing comparability to the other sites selected within this study.

Category (additional non-core cultural offering, in addition to core offer of mainstream cinema programming)	Cinema venue
<b>Two cinemas with &gt;50% mainstream programming and social hub in the form of a restaurant / bar / café / workspace ('social hub')</b>	Ritzy Picturehouse, Brixton Everyman, Cardiff
<b>Two cinemas with 30-50% mainstream programming and 50%-70% 'diverse programming'</b>	Broadway, Nottingham Cameo Picturehouse, Edinburgh

## 2.2 Stated Preference survey design

A key challenge in this Study is that cinema users already (partially) express their preferences for cinema venues through the market: through ticket purchases, memberships, and non-film expenditure (e.g., buying food and beverages from the concession stand or bar). The survey asks how much people currently pay for these services and elicits the surplus non-market value that cinema users **hold over and above these outgoings**, by asking for their Willingness-to-Pay for the continued survival of the cinema venue in question.<sup>23</sup> The survey is divided into four main sections:

- Section One probes on respondents' engagement with the cinema venue over the past five years, asking questions on the films they have viewed at the cinema, whether they hold a membership, their non-film expenditure, and their satisfaction with the cinema. Section One also asks questions about activities undertaken as part of a wider trip and travel time to the cinema, to cognitively prepare respondents for the WTP questions;
- Section Two explores how much respondents would be willing to pay to support the continued existence of the cinema venue;
- Section Three explores the civic value and pride in place gained through the existence of the cinema; and finally;
- Section Four collects demographic information, and whether COVID-19 may have induced a change in cinema behaviour.

For the purposes of this Study, **a cinema user is defined as someone who has used the cinema venue in question within the past five years, for either film or non-film activities.**<sup>24</sup>

<sup>23</sup> A similar approach was applied previously in the Arts Council England benefit transfer study of regional theatres and galleries: Lawton et al., 'Regional Galleries and Theatres Benefit Transfer Report'.

<sup>24</sup> To be considered a user, respondents must have visited one of the six cinema venues at least once within the last five years, but this visit could include for non-film viewing purposes. Respondents who reported using the cinema in 2017 or earlier were excluded from the sample of users.

### Valuation Scenario: WTP to support the continued existence of the cinema venue

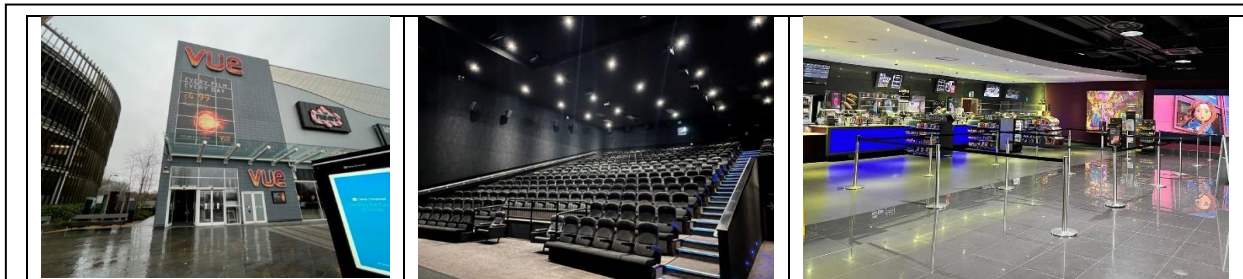
The valuation section in Section 2 of the survey presents respondents with information about cinemas and their cultural role in the local community (see Figure 2.1: below). The survey outlines the services that cinemas may provide in terms of the range of films offered and the ancillary services provided.

**Figure 2.1: Cinema text presented to survey respondents**

*“Cinemas in the UK offer a range of activities in addition to showing mainstream films, including showing independent and world cinema foreign language films. Many cinemas provide screenings for groups like older people (e.g., Silver Screenings), parents (e.g., Parent and Baby Screenings), people with disabilities (e.g., Autism-friendly, Hearing Loss screenings), and non-English language cultural groups e.g., current Hindi language films. Some cinemas host film festivals and other non-film related cultural festivals, or provide opportunities for people to volunteer in a cinema environment. Many cinemas also provide a destination café, restaurant, or bar which can be used before or after a film screening or as part of non-film related activities at the venue housing the cinema. In addition, some cinemas provide community spaces that are part of the cinema for viewing performance (e.g., comedy) or social participation (e.g., film quizzes or open mike nights), or provide spaces to host community activity e.g., self-help groups, coffee mornings, charity events, or provide places for people to work or study.”*

Respondents were shown site-specific information about the cinema venue in question, including information such as how long it had been open, its location, the cinema size and the types of films programmed. An example of the text for the Vue cinema located in the Glasgow Fort shopping centre is presented in Figure 2.2 below. Site-specific images were also presented to respondents.<sup>25</sup>

**Figure 2.2: Example of cinema specific text presented to respondents**



*“The Glasgow Fort Vue cinema was opened end of 2013. It is located a few miles to the east of Glasgow city centre, off the M8 motorway at junction 10, within a shopping and leisure park. It has eight screens. The cinema primarily shows mainstream films but also shows some independent films, plus alternative content such as music concerts and theatre productions on the big screen. It offers screenings for people with accessibility needs, families, and older people.”*

A hypothetical scenario presented respondents with a situation where *“The impact of COVID-19 and the ongoing cost of living and heating crisis has meant that cinemas have suffered cuts in their revenue stream while having to compete with the growth of home streaming services”* would mean that *“[cinema name] would have to permanently close”*.

Respondents were asked to imagine a scenario where *“All of the cinema’s services, including film screenings, film-related events and festivals, the café/restaurant/bar and other social and community*

<sup>25</sup> With thanks to the six cinema venues that provided both the cinema specific text and images included within the survey.

activities would no longer be available. The building itself would be preserved through conversion to another use”.

To avoid this scenario, respondents were asked if they would be willing to pay into a **voluntary fund created to raise funds through annual donations to support cinemas** and ensure that the cinema venue in question is able to provide its full range of services for at least ten years.

The payment mechanism was an **annual per person donation to a voluntary fund**<sup>26</sup>, where respondents were asked the maximum annual donation they would be willing to pay into an independent voluntary fund over the next 10 years. Respondents were reassured that their donation could be cancelled at any time. Respondents were also reminded that the building itself would be preserved through conversion to another use, to avoid confusion that the donation would be to support the built heritage of the cinema building (i.e., the venue would only cease to function as a cinema without the donation).<sup>27</sup>

To elicit respondents' WTP, a payment card approach was adopted. Respondents were presented with a range of monetary values from which they were asked to select their WTP, in terms of an annual donation (per person) to a voluntary fund, to support the continued existence of the cinema venue in question. For statistical analysis, use of a payment card elicitation mechanism means that respondents' stated values must be taken as the minimum value of their actual WTP<sup>28</sup> because the actual amount they are willing to pay will lie somewhere in between the amount they choose and the next amount on the payment card. Some respondents chose to enter an amount not shown on the payment card, selecting the 'other' option that was presented to them. In these instances, the respondent's 'other' value was used as their WTP.<sup>29</sup>

Following standard practice, all those who responded that they were not willing to pay in principle were coded as having a WTP of £0. This ensured that the full range of societal preferences were included in the evaluation.<sup>30</sup>

Internal validity tests were performed to assess how respondent WTP was associated with theoretically consistent drivers of value (i.e., does lower or higher WTP across the sample align with prior expectations and previous findings from literature?).<sup>31</sup> Multivariate regression analysis was used to test the validity of the reported WTP results.

<sup>26</sup> It is acknowledged in the literature that voluntary payment vehicles are more prone to hypothetical bias (responding in an unrealistic way due to the hypothetical and inconsequential nature of the payment question) and 'free-riding' (saying you would pay nothing or a small amount in the knowledge that other people will pay the donation to support the club) than collective payment vehicles e.g. taxes. However, extensive consultation with stakeholder groups found that government-linked tax mechanisms would be too politically sensitive at a time of high inflation and cost of living challenges, meaning that on balance a voluntary donation was the most appropriate payment vehicle. See Sajise *et al.* (2021) *Contingent Valuation of non-market benefits in project economic analysis: A guide to good practice*.

<sup>27</sup> To ensure that any cultural or historical value associated with the building does not contaminate the value assigned to the cinema operating in the building.

<sup>28</sup> Bateman *et al.*, *Economic Valuation with Stated Preference Techniques*.

<sup>29</sup> These values included £12, £12, £20, £40, £125 and £200.

<sup>30</sup> Using the mean WTP, rather than the median WTP, is standard practice in CV studies where the objective is to aggregate values. The mean WTP value is relevant if the context of the valuation exercise is cost-benefit analysis because it represents an average WTP for the population which can be aggregated (by the population size) to derive the total WTP across the population. William J. Vaughan *et al.*, 'Uncertainty in Cost-Benefit Analysis Based on Referendum Contingent Valuation', *Impact Assessment and Project Appraisal* 18, no. 2 (1 June 2000): 125–37, <https://doi.org/10.3152/147154600781767466>

<sup>31</sup> Noonan, Douglas S. 2003. 'Contingent Valuation and Cultural Resources: A Meta-Analytic Review of the Literature'. *Journal of Cultural Economics* 27 (3–4):159–76. <https://doi.org/10.1023/A:1026371110799>

## 2.3 Data collection

Given the size and reach of the final cinema study sites selected, a mixed data collection mode approach was adopted.

In the first phase, an online survey sample of adults aged 16+ in the UK (excluding Northern Ireland) was recruited by combining several panel companies, to augment the Ipsos Interactive Services panel. This provided the necessary sample size for conducting robust economic analysis and benefit transfer testing.<sup>32</sup> A pilot survey was run from 17<sup>th</sup> February 2023 to 20<sup>th</sup> February 2023. Insights from the pilot survey were used to inform the design of the final survey and are summarised in detail in Appendix 1: Pilot Survey Results.<sup>33</sup> The full online survey took place from 15<sup>th</sup> March 2023 to 22<sup>nd</sup> May 2023. A Welsh language version of the survey was available for Welsh language speakers in Cardiff.

Due to low response rates for the Scottish and Welsh cinema sites, a second data collection phase was implemented. This added a “push-to-web” telephone survey which was used to identify those who had visited the target cinema in the past five years and consented to be sent a link to the online survey. The push-to-web survey was run using a large panel of telephone numbers (landline and mobile), the database for which contained the location of residence and other demographic and behavioural data. Having a large panel accompanied with geospatial data allowed the population around the target cinema sites to be targeted by constructing a radius around the cinema and then moving out until the target number of cinema users had been met. The demographic and behavioural data held in the database also enabled more specific targeting of people who were more likely to be cinema users.<sup>34</sup> More detail on the push-to-web approach and sampling can be found in Appendix 3: Sampling Methodology, Section 10.3.

The final sample size for the Willingness-to-Pay question within the Stated Preference survey was 2,126 respondents. This sample size is considerably higher than in previous benefit transfer studies for DCMS (e.g., a total sample of 847 in the case of regional theatres<sup>35</sup>).

More detail on respondent exclusion can be found in Appendix 3: Sampling Methodology, Section 10.4.

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<sup>32</sup> All survey participants in this research were residents of the United Kingdom aged 16+ and answered a detailed consent form. Ipsos UK is compliant with the highest regulatory standards for the legal and safe processing of personal and/or sensitive data, including the Market Research Society Code of Conduct, ISO 27001, 20252, 9001 and GDPR. Ipsos UK is also a Fair Data company and an MRS Company Partner and compliant with GDPR, the Data Protection Act, HMG Cyber Essentials, UK Statistics Code of Practice, the GSR Code and the MRS Code of Conduct. In terms of retention and destruction of personal data, Ipsos's processes ensure client contractual requirements are met as well as GDPR legislation regarding how information should be labelled, handled, stored, transferred and destroyed. Any personal data is collected is destroyed after project close (usually three months after projects are completed). Identifiable data is anonymised when reporting. This was outlined in a privacy notice available to participants, which also provided details on why Ipsos was collecting the data, what it was being used for and any further information for participants to make a subject access request, which Ipsos would promptly respond to. Alongside these measures, once Ipsos received the data from the online panels, all work was conducted in-house by Ipsos staff and researchers who have undergone data protection and GDPR training.

<sup>33</sup> Respondents from the Pilot survey were included in the final sample. Respondents that were not users of the study cinemas were dropped from the final sample.

<sup>34</sup> For example, the data held enabled the survey team to target a panel that was identified as being more likely to have visited a cinema recently, and geospatial data enabled respondents to be targeted that lived within a given radius of each cinema. The advantage of a push-to-web survey is that it provides targeted flexibility for hard-to-reach samples in online panels. For instance, Scottish and Welsh residents had lower coverage in the online panel samples used for this Study compared to their English counterparts. Email addresses were collected over the phone, and a survey link emailed to potential respondents. If the survey was not completed within three days, a follow up call was made to remind them to complete. A Welsh language version of the survey was available for Welsh language speakers in Cardiff.

<sup>35</sup> <https://www.artscouncil.org.uk/sites/default/files/download-file/Arts%20Council%20England%20-%20Regional%20Galleries%20and%20Theatres%20Benefit%20Transfer%20Report.pdf>

## 2.4 Benefit transfer

Benefit transfer is the process of taking average WTP for a culture or heritage asset from the existing evidence base and transferring it to another similar cultural institution with confidence that it will be a robust estimate of the non-market value of that institution (see Section 4 for more detail).

Some level of error is always expected through benefit transfer because no two cultural institutions are the same. It is recommended to statistically test how much error is created when transferring from the 'study sites' to a hypothetical 'policy site'. Section 4 includes more detail on the methods used to test the transfer error of the different benefit transfer methods.

## 3 Results

This section analyses the results of the Stated Preference survey. The first part of this section focuses on the average Willingness-to-Pay results, which is the recommended result to be used for benefit transfer in a Social Cost-Benefit Analysis. The second part explores the difference in the Willingness-to-Pay between the different groupings of cinema ‘study sites’ and any socio-demographic characteristics that may also be driving Willingness-to-Pay.

The specific Stated Preference survey question respondents were asked is designed to elicit the **welfare loss that cinema users would experience if the cinema venue in question were to close**. The valuation scenario aims to quantify this welfare loss in monetary terms by asking **how much survey respondents would be willing to pay to avoid that outcome**.

Sample sizes of valid WTP values for each cinema grouping are presented in Table 3.1 below. This is considerably larger than the minimum sample size of 200 per site recommended by ACE and DCMS guidance.<sup>36</sup> Appendix 5: Additional Results Tables, Table 12.1., presents the sample size for each individual cinema site.

**Table 3.1: Sample size, by cinema group**

	‘Cold spot’ group	‘Social hub’ group	‘Diverse programming’ group	Total Sample
<b>Total sample, N</b>	800	709	730	2,239
<b>Total sample with valid WTP (after exclusions)</b>	<b>766</b>	<b>676</b>	<b>684</b>	<b>2,126</b>

### 3.2 Willingness-to-Pay

Overall, the results of the Stated Preference survey demonstrate that respondents positively value the target cinema site they are questioned about, and would be willing to pay an annual donation to support its continued existence (Table 3.2). Across all three cinema groupings (and therefore all six cinema sites), the results indicate that **cinema users would be willing to pay an average annual donation of £19.20 (lower bound £18.04) per person per year** to support the continued existence of the cinema site in question to ensure it is able to continue to provide its full range of services.<sup>37</sup>

Throughout this Study, reporting is based on the lower bound WTP results, following DCMS and Arts Council England guidance that states the lower bound 95% confidence interval of WTP should be used for Business Case purposes, to offset the risk of over-estimation of values due to hypothetical bias in surveys such as this.<sup>38</sup>

<sup>36</sup> R.N. Lawton et al., ‘DCMS Rapid Evidence Assessment: Culture and Heritage Valuation Studies - Technical Report’ (London, UK: Department for Digital Culture, Media and Sport, 2020), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/955142/REA\\_culture\\_heritage\\_value\\_Simetri.ca.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/955142/REA_culture_heritage_value_Simetri.ca.pdf)

<sup>37</sup> This compares favourably to recent studies of the value of other public services like libraries where library users were willing to pay £12.25 (lower bound £11.18) per person per year as an increase in annual council tax (equivalised to individual level). It is important to caveat that although this is favourable, comparison between studies is difficult where the payment vehicle is different (annual personal donation vs annual household council tax increase, equivalised to the individual level) and that the socio-economic characteristics of the sample are distinct, with average household income being significantly lower among the sample of library users than cinema users (£45k in the libraries study compared to an average of £66k in this sample of cinema users).

<sup>38</sup> Lawton et al., ‘Guidance Note: How to Quantify the Public Benefit of Your Museum Using Economic Value Estimates. A Resource for Understanding the Economic Value of Museums’.

**Table 3.2: Willingness-to-Pay to support the continued existence of the cinema site in question, per person per year**

	Mean	Standard Error	Lower bound 95% Confidence Interval	Median	Sample Size
<b>Pooled Willingness-to-Pay across all three cinema groupings (all six cinema venues)</b>	£19.20	£0.59	£18.04	£9.50	2,126

Note: WTP estimated as the sample average and lower bound 95% confidence interval, including those not willing to pay in principle coded as £0. Survey question: Would you be prepared to pay an annual donation, even if only a very small amount, to support the continued existence of the cinema and ensure it is able to continue to provide the full range of services, activities and programmes it currently offers?

The results of the WTP at the cinema group level are presented below in Table 3.3.

**Table 3.3: Willingness-to-Pay to support the continued existence of the cinema site, per person per year, by cinema group**

	‘Cold spot’ group	‘Social hub’ group	‘Diverse programming’ group	Total sample
<b>Mean</b>	£16.39	£26.39	£15.25	<b>£19.20</b>
<b>Standard error</b>	£0.93	£1.23	£0.85	<b>£0.59</b>
<b>Lower bound 95% Confidence Interval</b>	<b>£14.56</b>	<b>£23.98</b>	<b>£13.59</b>	<b>£18.04</b>
<b>Median</b>	£5.50	£11.25	£7.50	<b>£9.50</b>
<b>Sample Size</b>	766	676	684	<b>2,126</b>

WTP estimated as the sample average and lower bound 95% confidence interval, including those not willing to pay in principle coded as £0. WTP by cinema venue is presented in Appendix 5: Additional Results Tables, Table 12.11. Note that the total sample column is a true average. Final column does not sum to average of other three columns due to rounding at 2 decimal places. Survey question: What is the maximum you would be willing to pay per year, in terms of an annual donation to a voluntary fund to support the continued existence of [NAME OF CINEMA VENUE] and ensure it is able to continue to provide the full range of services, activities and programmes it currently offers?

**Respondents appear to value the ‘social hub’ cinemas most highly:** ‘cinemas with a ‘social hub’ are associated with a significantly higher WTP value than the more ‘diverse programming’ and ‘cold spot’ cinemas groupings. This may suggest that the non-core offering at ‘social hub’ cinemas, in the form of their café, bar, restaurant, workspace or other community hub facilities, is a driver of higher economic values. However, other factors could be driving these differences in WTP: for example, the survey sample of respondents in the ‘social hub’ cinema group also had a much higher household income on average (£85k) compared to £55k and £59k for the ‘diverse programming’ and ‘cold spot’ groups respectively and this is a known driver of higher WTP (since WTP is known to be constrained by lower household budgets).

### 3.3 Attitudes towards cinemas

In addition to their Willingness-to-Pay, respondents were asked about their attitudes towards cinemas and what they do at the cinema or during their wider trip. The results of these questions are explored below, particularly focusing on any findings which add context to the Willingness-to-Pay results.



## Cinema venues as a source of pride in place

Overall, 63% of respondents report that the cinema venue in question contributes to the local sense of pride in the area where they live. The highest levels of pride are reported for cinema venues with a 'social hub' (70% of respondents). Qualitative research would be required to understand the reasons for this. However, assuming that cinema users appreciate the non-core service offering of 'social hub' cinemas and value the cinema more highly as a consequence, then the distinct offering of a café, bar, restaurant or workspace in a cinema venue setting may contribute to enhanced sense of pride, and this could be part of the broader offer that people are willing to pay to support.

**Figure 3.1: Sense of pride in the community, by cinema group**

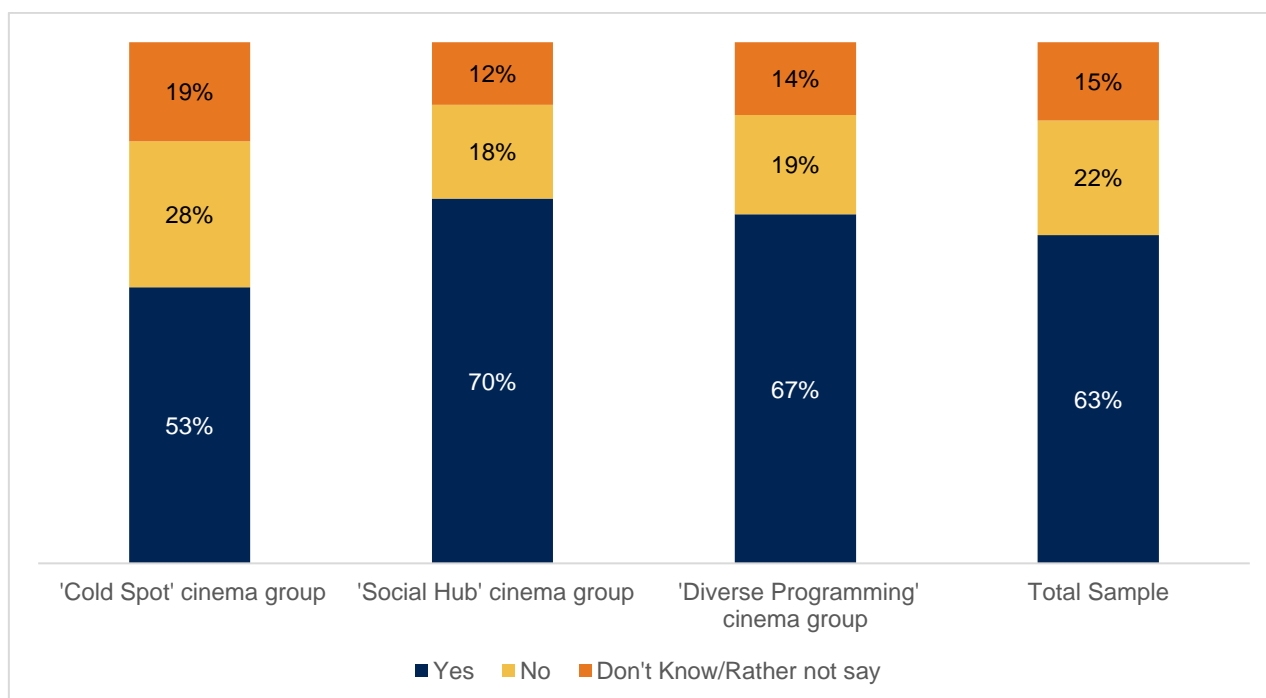


Figure 3.1 presents results of the online survey question: 'Do you think that [cinema venue in question] contributes to your sense of pride in the area where you live? (this can be thought of as a sense of connection to the community you live in)'. Total sample  $n=2,126$ .

See Table 12.18: for the results at an individual cinema site level.

## Cinema venues provide 'enabling' cultural infrastructure, linking to other cultural offerings in the surrounding area

Cinema venues are found to provide a hub, or focal point around which people engage with the wider area. The survey asked respondents the types of activities they undertook as part of a wider cinema trip (Figure 3.2); note, respondents were able to select more than one option. A high proportion of respondents from the 'cold spot' group reported that, as part of a wider trip, they would *go shopping* (63% of 'cold spot' respondents), compared with around 50% in the other groups. Conversely, they were the group least likely to 'visit the high street' (25%) compared with around 40% in the other groups. This could be due to the fact that the 'cold spot' cinema venues in question were located in out-of-town venues. Across all three cinema groups, only a very low proportion of respondents (2% or less) reported *not engaging in other activities* as part of their cinema trip, highlighting how cinema visits are integrated into wider social and cultural experiences. Respondents from the 'cold spot' group were most likely of all three groups to *go for food/coffee refreshments at a different venue* (59%).

Respondents from the 'social hub' cinema group reported higher levels of engagement with other culture and heritage activities than other groups. These activities include *visit a museum or other cultural site* (23%), *visit a historic building or other heritage site* (24%) and *visit a local park* (29%), suggesting perhaps that even where the cinema has a self-contained 'social hub' on-site, it still provides positive spillovers as infrastructure that links visitors to other cultural offerings in the surrounding area that more out-of-town complexes may not be near. Interestingly, 55% of 'social hub' venue respondents said they would *go to a pub or bar* and 54% said they would *go for food/refreshments at a different venue* despite similar facilities being available within the cinema.

**Figure 3.2: Activities undertaken as part for a wider trip to the cinema, by cinema group**

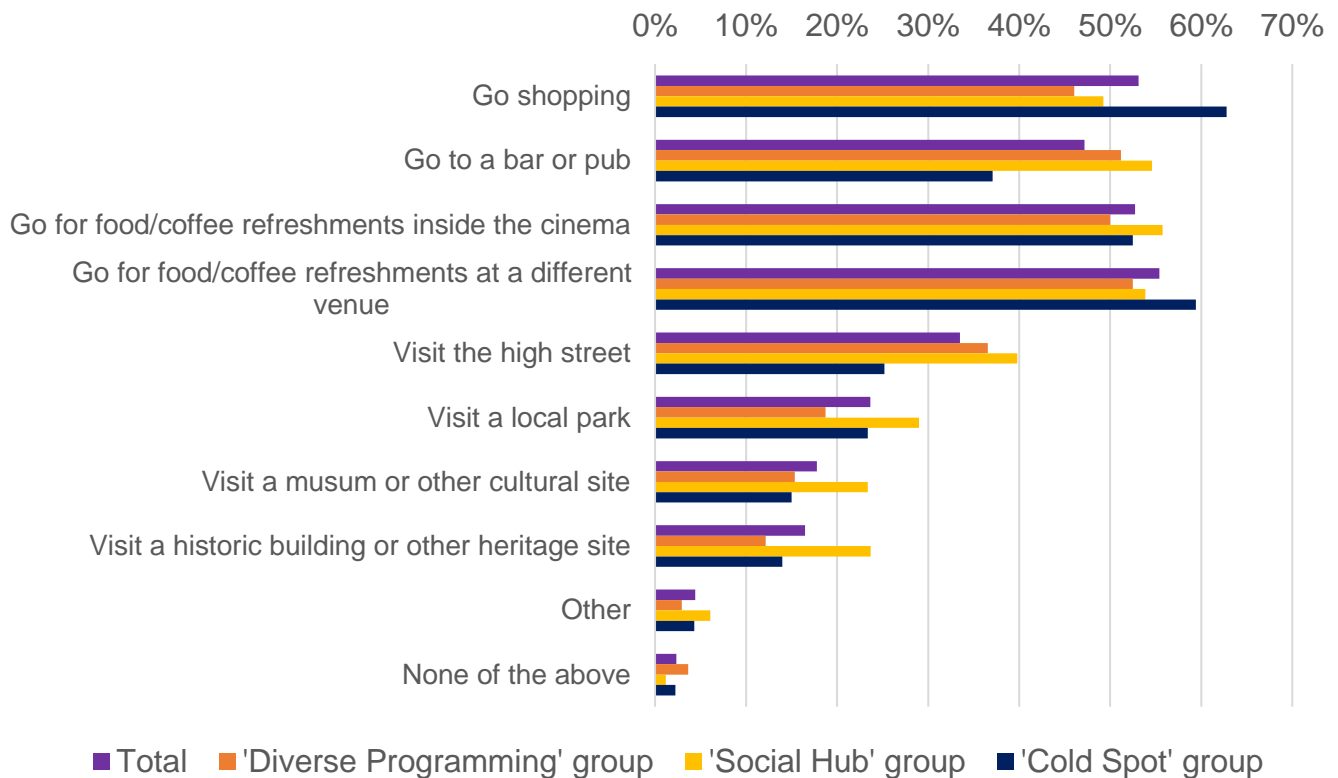


Figure 3.2 presents results of the online survey question: 'What would you usually do as part of your wider trip? Please select all that apply.' Note: respondents could choose more than one option. Sample size  $n = 2,121$ . Sample excludes those that responded "Don't know/ Rather not say" due to low sample size ( $n=5$ ).

See Table 12.19: for the results at a cinema venue level.

### Cinema sites are used for activities beyond their core Hollywood mainstream programming offer

Data from all three cinema groups demonstrates a wide range of activities engaged with at cinema venues beyond seeing a mainstream Hollywood film (see Figure 3.3).

In the 'cold spot' group, 24% of respondents said they watched *independent English language films (not backed by US studios)* at the cinema; 21% watched *archive or classic films from the past*; and 20% said they made use of the cinema space for *community activities*.

In the 'social hub' group, 31% of respondents said they watched *archive or classic films from the past*; 30% watched *independent English language films (not backed by US studios)*; 28% watched *foreign language/world cinema films*; and 28% used *spaces that are part of the cinema for viewing performance (e.g., comedy) or social participation (e.g., film quizzes or open mic nights)*.

In the 'diverse programming' group, 41% of respondents said they watched *independent English language films (not backed by US studios)*; 40% watched *archive or classic films from the past* and 38% watched *foreign language/world cinema* films.

**Figure 3.3: Activities undertaken when visiting the cinema venue, by cinema group**

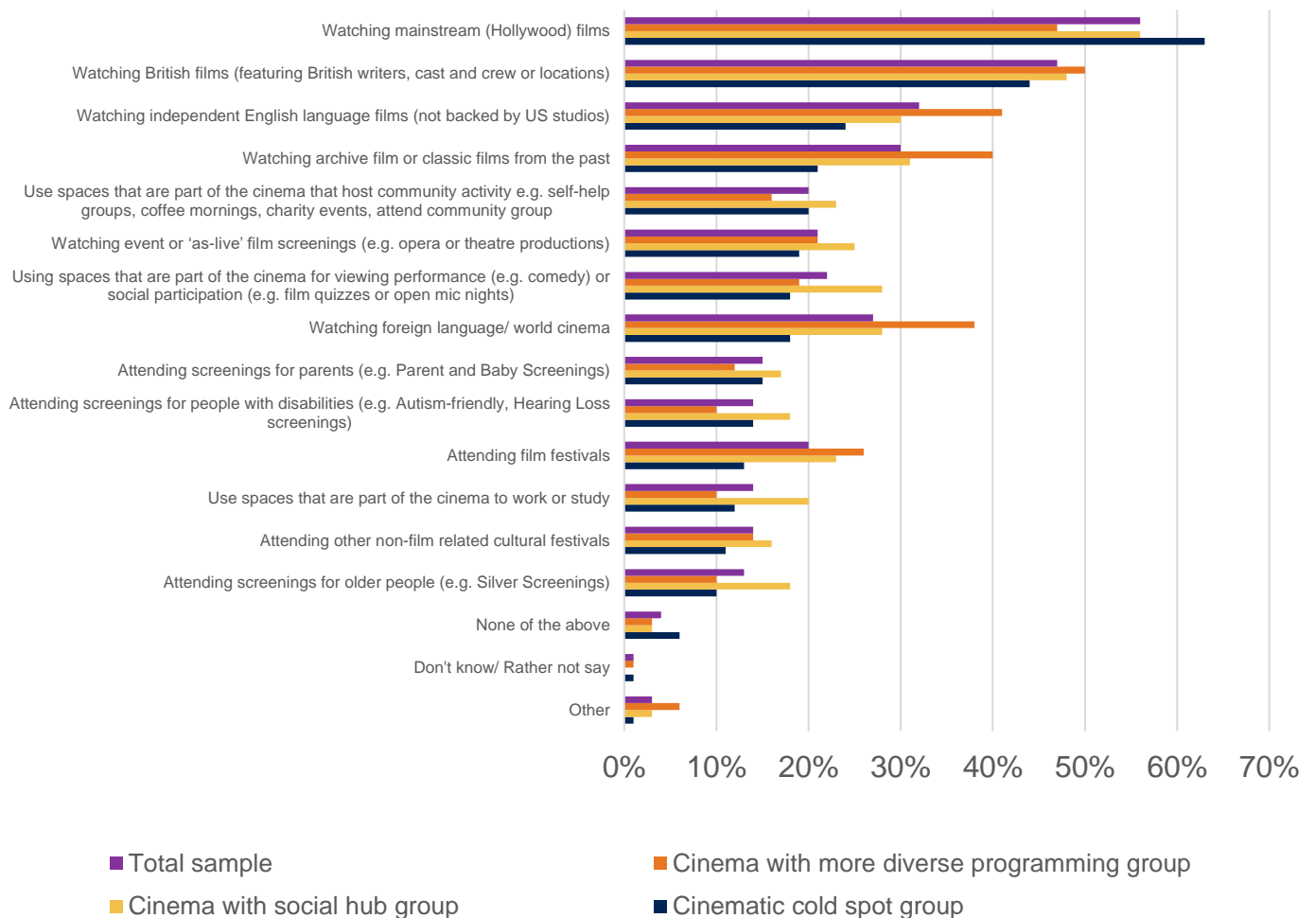


Figure 3.3 presents results of the online survey question: 'Which of the following, if any, activities do you use when visiting [cinema venue in question]? (select as many as relevant)'. Note: respondents could choose more than one option. For 'cold spot' group  $n=766$ ; for 'social hub' group  $n=676$ ; for 'diverse programming' group  $n=684$ ; for total sample  $n=2,126$ . Appendix 5: Additional Results Tables, 12.4 presents the results for each cinema venue.

### 3.4 Demographic characteristics

Across the three cinema groupings used in this Study, users of 'social hub' cinemas exhibited the highest mean annual household income (£84,625) and the highest median household income (£77,500), as shown in Table 3.4 overleaf. The significantly higher average annual household income of respondents in the 'social hub' cinema group is likely driven by the geographical disparities in wage between London, where the Ritzy Picturehouse, Brixton, is located, and the rest of the UK.<sup>39</sup> It could also be driven by selection effects whereby 'social hub' cinemas may attract respondents with higher

<sup>39</sup> The average annual household income of the 'social hub' cinema group is significantly greater than the average household income of the other two groups (statistical t-test of significant differences in average income between the groups yield a p-value of 0.0000). Note, household income is elicited as all household income sources (pre-tax): salaries, scholarships, pension and Social Security benefits, dividends from shares, income from rental properties, child support and alimony. The median household income estimated in this study (£50,000) is higher than the median household disposable income for 2022 reported by the ONS (£32,300). Likewise, the mean household income reported in this survey (£65,703) is higher than the mean household disposable income for 2022 reported by the ONS (£39,300).

disposable income who are able to afford the food and drink offer, alongside the core cinema services offered.<sup>40</sup>

In other demographics, the proportion of female respondents (at 54% to 57%) is relatively constant across the three cinema groups. However, users in the 'diverse programming' group are less likely to have dependent children (42%, compared with 57% and 58% for respondents of the 'cold spot' and 'social hub' groups respectively). As shown in regression analysis in Appendix 2: Technical Appendix, Table 9.1, having dependent children is a significant driver of higher WTP. It may be that those with children value the cultural experience that cinema venues provide for the whole family. Respondents from the 'cold spot' cinemas group are less likely to be from a Black and Global Majority<sup>41</sup> background compared with respondents from the 'social hub' group. However, ethnic background is not a significant driver of value in the regression analysis in Table 9.1.

Please see Appendix 2: Technical Appendix, Table 9.1 to further understand the relationship of different demographics with estimated WTP for this Study.

**Table 3.4: Demographic characteristics of online survey respondents, by cinema group**

	'Cold spot' group	'Social hub' group	'Diverse programming' group	Total sample
	Mean	Mean	Mean	Mean
Respondents classified as 'younger' (16 – 34)	38%	41%	35%	38%
Respondents classified as 'middle aged' (35 – 54)	47%	48%	44%	46%
Respondents classified as 'older' (55+)	15%	11%	21%	15%
Female	57%	54%	57%	56%
Male	43%	46%	43%	44%
Dependent Children	57%	58%	42%	52%
Degree level of education, or above	65%	80%	73%	72%
Employed (full or part-time, or self-employed)	84%	89%	78%	83%
Household income (mean)	£58,972	£84,625	£54,475	£65,703
Household income (median)	£40,000	£77,500	£40,000	£50,000
Social grade: 'Middle' or 'upper' class (Grades A-B) <sup>42</sup>	52%	66%	53%	57%
Black and Global Majority	7%	13%	14%	11%
Heritage and arts in top-five spending priorities	32%	45%	46%	41%
Member of a cultural organisation	24%	36%	32%	30%

Table presents results of demographic responses from the online survey. For 'cold spot' grouping n=766; for 'social hub' grouping n=676; for 'diverse programming' grouping n=684; for total sample n=2,126. For results for each cinema venue see Table 12.2:

The extent to which demographic characteristics drive the reported WTP values is explored in Appendix 2: Technical Appendix, Section 9.2. Statistical analysis (Ordinary Least Squares (OLS) regression) is used to estimate the marginal impact of individual demographics, holding all other demographics constant, on WTP. Factors that are expected to influence a respondent's WTP (e.g., income, cultural

<sup>40</sup> This highlights the importance of testing for income adjustment in benefit transfer testing, as in Appendix 2: Technical Appendix, Section 9.2. A statistical t-test for difference in average annual household income reveals that the Brixton mean annual household income (£101,109) is statistically different (p-value = 0.0000) compared to the mean annual household income of non-Brixton participants (£57,657).

<sup>41</sup> Black and Global Majority refers to respondents who are Black, Asian or other Ethnic Minority backgrounds.

<sup>42</sup> [https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT\\_thoughtpiece\\_Social\\_Grade\\_July09\\_V3\\_WEB.pdf](https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT_thoughtpiece_Social_Grade_July09_V3_WEB.pdf)

engagement) are found to be statistically significant within the regression analysis, which gives confidence to the WTP results.

## 4 Transfer testing

Benefit transfer is the process of using average WTP values from one study (e.g., the mean WTP of the six cinema sites surveyed as part of this Study) and transferring that value to a non-study site (known as the 'policy site') where the 'policy site' cinema needs to be valued for a Business Case or other purposes but for which WTP values have not been estimated. Care must be taken to ensure that the WTP value is a robust representation of the value that people place on a cinema venue with broadly similar characteristics. In this case, the 'policy site' (the cinema venue to which these values are to be transferred) must also have a core programming offer of mainstream films (at least 30%) and some non-core cultural offering over and above mainstream cinema programming, such as 'social hub' facilities (e.g., a café, bar, restaurant or workspace), a 'diverse programming' offer or offering cultural services in an area with few other alternatives (operating in a cinematic or cultural 'cold spot').

Some error will always be introduced through benefit transfer because no two cinema venues are exactly the same in terms of their characteristics or the demographics of their users. It is recommended to statistically test how much error is created when transferring benefit from the 'study sites' to a hypothetical 'policy site'. To do this, and following best practice<sup>43</sup>, 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. This Study surveyed six study sites, which is 50% more study sites than the minimum required to perform benefit transfer.<sup>44</sup> This tells us which of the three transfer methods is most appropriate to ascertain WTP figures for the 'policy site', based on the WTP figures estimated in this Study:

- **Simple unit transfer** using the 'raw' mean or lower bound pooled cinema venue WTP from the six study sites without any adjustment to differences observed between the cinemas.
- **Adjusted transfer** using differences in user household income levels as a key factor for adjustment (as income is the main driver of consumer differences in WTP in most cultural value studies, this should be the first factor to be tested). This can be especially important when surveying sites across the UK, to account for socio-economic differences across regions.
- **Function transfer** using multivariate regression on demographic and cinema-level factors known to drive differences in WTP. A crucial contribution of this Study is that by surveying six cinema sites, and categorising them in terms of the different cultural value offer they represent ('social hub', 'diverse programming', and 'cold spot' cinemas), a categorical term can be included in the transfer testing to identify whether some forms of added cultural services (over and above the core mainstream programming service) are valued more or less by cinema users.

The conclusions from the benefit transfer testing are as follow:

- **It is not appropriate to apply a simple unit transfer of the mean and lower bound WTP values from this Study to other cinema sites**, as there is little confidence that the transferred values will represent the value assigned to different cinema sites. **Transfer of WTP values for cinema sites should only be attempted after adjusting for income differences between the**

<sup>43</sup> Robert J. Johnston, John Rolfe and Ewa Zawojcka (2018), 'Benefit Transfer of Environmental and Resource Values: Progress, Prospects and Challenges', *International Review of Environmental and Resource Economics*: Vol. 12: No. 2-3, pp 177-266.

<sup>44</sup> Ricky Lawton et al., 'The Economic Value of Heritage in England: A Benefit Transfer Study', *City, Culture and Society*, 27 September 2021, 100417, <https://doi.org/10.1016/j.ccs.2021.100417>

‘study sites’ and a ‘policy site’, and transfer should not be undertaken using simple unit transfer of the ‘raw’ WTP value for cinema sites.

- **Using adjusted unit benefit transfer presents a robust way to apply the results of this Study to different cinema sites. It is recommended that any benefit transfer of mean WTP values for cinema sites from this Study should adjust WTP by the differential in income levels between cinema users at the ‘policy site’ (see key information in Appendix 2: Technical Appendix, and worked example in Appendix 4: Guidance on Aggregation).**
- **Function transfer does not provide a more robust method to transfer benefits compared with the adjusted unit transfer**, which is likely due to the fact that the additional factors included in the function model do not better explain the differences observed in WTP between the ‘study sites’, but instead lead to overcomplication within the function transfer model, reducing its explanatory power and increasing its transfer error.
- This suggests that adjusting cinema venue WTP by income is the strongest predictor of how WTP should be controlled between sites, and provides the closest approximation to a representative WTP for cinema venues for the purpose of transfer testing. **With adjusted unit transfer, any of the WTP values of any type of Study cinema can be confidently transferred to any type of ‘policy site’ cinema that align with the cinema groupings used for this Study (i.e., is in a cinematic or cultural ‘cold spot’, has a ‘social hub’ or shows more ‘diverse programming’, all with a core mainstream programming offer of above 30%), providing there is an adjustment for differences in income around the ‘policy site’.**

Based on transfer testing, it is recommended that WTP values for cinemas be added to DCMS’s bank of benefit transfer values, as collected in the CHC portal.<sup>45</sup> This adds to the evidence base of transfer-tested values which can reliably be applied to Social Cost-Benefit Analysis and Business Case evaluations in the cultural and heritage sector going forward. As advised in the ACE guidance<sup>46</sup>, an economist or valuation professional should be consulted when applying the WTP values to a specific Business Case. However, following the guidance in Appendix 4: Guidance on Aggregation (developed from Lawton et al. 2021)<sup>47</sup>, it will be possible to transfer the annual Willingness-to-Pay values (lower bound result recommended) for cinema sites identified in this Study to a Business Case for demonstrating the value of cinema venues to comparable cinema venues across the UK. **If the cinema venue does not align with this description of core mainstream programming offer plus the additional cultural offering of being in a ‘cold spot’, offering a ‘social hub’, or providing more ‘diverse programming’, it will not be possible to perform benefit transfer.**

<sup>45</sup> <https://www.gov.uk/guidance/culture-and-heritage-capital-portal>

<sup>46</sup> <https://www.artscouncil.org.uk/sites/default/files/download-file/Guidance%20Note%20-%20How%20to%20estimate%20the%20public%20benefit%20of%20your%20Museum%20using%20the%20Economic%20Values%20Database.pdf>

<sup>47</sup> R. N. Lawton et al., ‘Guidance Note: How to Quantify the Public Benefit of Your Museum Using Economic Value Estimates. A Resource for Understanding the Economic Value of Museums’ (London, UK: Arts Council England, 2021), <https://www.artscouncil.org.uk/sites/default/files/download-file/Guidance%20Note%20-%20How%20to%20estimate%20the%20public%20benefit%20of%20your%20Museum%20using%20the%20Economic%20Values%20Database.pdf>

## 5 Conclusion

The results from the Stated Preference survey demonstrate that cinema venues contribute positively to the welfare of their users in several ways. This value can be thought of in economic terms as the ‘consumer surplus’ that users experience to their welfare, over and above the market prices they already pay at the cinema venue. This value can be used as an estimate of the flow of benefits associated with users of cinema venues in terms of use and non-use values. This is in alignment with the guidance from the DCMS Culture and Heritage Capital (CHC) framework, which sets out DCMS’s ambition for a transformational and cultural change to assessing value for money through robust appraisal and evaluation.

The Stated Preference survey was completed by 2,126 respondents who had been to one of the six selected cinema ‘study sites’ in the past five years. The survey results provide an average WTP that is representative of the non-market value of the six cinema ‘study sites’ which all have broadly comparable offers of core mainstream programming plus an additional non-core cultural offering, such as operating in a cinematic or cultural ‘cold spot’, providing more ‘diverse programming’, or offering a ‘social hub’ in the form of a café, bar, restaurant or workspace. In line with Arts Council England guidance<sup>48</sup>, reporting is of the lower bound WTP, based on the lowest 95% confidence interval around the mean, because this is more robust to the hypothetical biases which have been shown to lead survey respondents to over-estimate values when reported at the mean.<sup>49</sup>

**The lower bound WTP for the six ‘study sites’ is £18.04.** This ranges from £13.59 for cinemas with more ‘diverse programming’ to £14.56 for cinemas which operate in a cinematic or cultural ‘cold spot’, to £23.98 for cinemas that offer a ‘social hub’. It should be noted, however, that the differences in reported WTP are likely at least partially driven by the differences in the household income of the survey respondents. The CHC programme is currently exploring the use of welfare weighting to adjust for diminishing marginal utility of income – where higher income users may state a higher Willingness-to-Pay. For the purpose of benefit transfer, the adjusted unit transfer is recommended, where guidance on transferring WTP between cinema venues can be found in Appendix 4: Guidance on Aggregation.

Combining the WTP estimates from this Study with secondary data provided by the BFI, Comscore and the Cinema Advertising Association, it is possible to estimate the aggregate non-market value per cinema (for the type of cinemas used in this Study: at least 30% mainstream programming and is either a located in a cinematic or cultural ‘cold spot’, offers a ‘social hub’ or offers ‘diverse programming’). In particular, assuming that a UK cinema venue attracts on average 38,224 unique adult visitors per year (for a full derivation, see Appendix 4: Guidance on aggregation) and an adjusted lower bound transfer value of £15.73 (adjusted from £18.04 using the recommended benefit transfer approach in this Study, for more detail see Appendix 4), the welfare gains generated through the continued existence of the type of cinema venue sampled in this Study to those who use it amount to £0.6m per venue per year; which equates to £5.18m in present value terms over a 10-year appraisal period.<sup>50</sup>

<sup>48</sup> <https://www.artscouncil.org.uk/sites/default/files/download-file/Guidance%20Note%20-%20How%20to%20estimate%20the%20public%20benefit%20of%20your%20Museum%20using%20the%20Economic%20Values%20Database.pdf>

<sup>49</sup> Patricia A. Champ, Rebecca Moore, and Richard C. Bishop, ‘A Comparison of Approaches to Mitigate Hypothetical Bias’, *Agricultural and Resource Economics Review* 38, no. 2 (2009): 160–80.

<sup>50</sup> If the cinema venue does not align with this description of core mainstream programming offer plus the additional cultural offering of being in a ‘cold spot’, offering a ‘social hub’, or providing more ‘diverse programming’, it will not be possible to perform benefit transfer due to systematic differences in the cinema. In other words, the WTP estimated in this study is not representative of all types of cinema - only cinemas in a ‘cold spot’, or with a ‘social hub’, or providing more ‘diverse programming’. See Appendix 2 and 4 for more details.



To put this into context, the estimated market benefits (for all cinemas across the UK) expressed through Gross Value Added (GVA) to the economy (including direct, indirect and induced benefits) of UK cinemas is £1.18m per cinema per year<sup>51</sup>. This suggests that the non-market benefits of UK cinema venues represent a significant and, until now, unquantified benefit. In combination with the GVA estimate, this provides a more complete estimate of the total economic value of cinema venues. It is important to note that this estimate still excludes a number of important elements of value, such as the non-market value that non-users may hold for cinema venues (who were not sampled here, due to challenges in data collection and benefit transfer for non-user groups). **Furthermore, it is equally as important to note that the non-market value is only valid for cinemas that have at least 30% mainstream programming and are either: located in a cinematic or cultural ‘cold spot’, have a ‘social hub’ or show ‘diverse programming’. Further research would be required to generalise this WTP across all cinemas in the UK.**

This Study also highlighted potential areas of future research that would provide UK cinemas with a more comprehensive measure of economic value and expand the DCMS Culture and Heritage Capital (CHC) evidence base:

- Whilst there is confidence that this Study has quantified and monetised the largest part of the non-market value produced by cinema venues, there may nonetheless be a substantial element of cultural value that remains unmonetised among non-users.<sup>52</sup>
- This Study only sought to estimate the non-market value of cinemas that fell under the ‘cold spot’ cinema, ‘social hub’ cinema, or ‘diverse programming’ cinema definition. Therefore, the findings of this Study are not representative of cinemas that lie outside of this definition. Further research would be required to understand the non-market value of *all* types of UK cinema.

Estimating these values would provide a more complete estimate of the total economic value of UK cinemas.

In addition to the above, future work should seek to understand the appropriateness of using welfare weighting. This would align with ongoing research from the CHC programme which aims to understand, and correct for, the potential of higher income users stating a higher Willingness-to-Pay.

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<sup>51</sup> GVA analysis is based on ONS Annual Business Survey, cinema admissions data from Comscore, GDP deflator data from ONS and internal Nordicity estimates combined to produce a total GVA estimate of UK cinema of £1.016bn across all cinemas in the UK. Note that this figure is based on observations over the pandemic period when cinemas were operating below full capacity – which would have a negative impact on operating profits and GVA. When compared to previous periods, the per-cinema GVA in 2018 was £1.57m.

<sup>52</sup> Non-users were removed from the study based on pilot results suggesting that non-users felt the scenario was unrealistic.

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## 7 Glossary

**95% Confidence Interval:** A range of values where, with 95% certainty, the true value of the population mean lies within.

**Adjusted transfer:** using respondent income as a key factor for adjustment for benefit transfer.

**Benefit Transfer:** the process of taking average Willingness-to-Pay (WTP) from one research study and transferring it to another similar site.

**Cinema user:** for the purpose of this Study, a cinema user is a respondent who has been to one of the selected cinema sites, in their local area, within the last five years.

**Culture and Heritage Capital (CHC) Framework:** a document, published by Department for Culture, Media and Sport (DCMS), which sets out DCMS's approach to valuing the benefits provided by culture and heritage assets.

**Consumer surplus:** the amount consumers are willing to pay for a good or service above the price.

**Contingent Valuation:** A Stated Preference technique utilising surveys to ask respondents directly to report values for goods and services based on hypothetical scenarios.

**Cinematic or cultural cold spot:** for the purposes of this Study, is defined as being an Arts Council England 'Priority Place', or not have a competing cinema within a 5km radius.

**Function transfer:** using multivariate regression on demographic factors known to drive differences in WTP.

**Gross value added (GVA):** measures the contribution made to an economy measured by Gross Domestic Product (GDP).

**HM Treasury Green Book:** guidance issued by HM Treasury on how to appraise policies, programmes and projects.

**Non-market benefits:** benefits which are not captured by standard economic measures e.g., wellbeing.

**Non-use value:** the value people assign to cinema venues as a result of their existence, even if they do not use them.

**Payment card (elicitation mechanism):** presents respondents with a visual aid containing a number of monetary amounts to answer stated preference questions which helps avoid starting point bias.

**Pilot survey:** used to test the questionnaire using a smaller sample compared to the planned sample size.

**Present value:** the current value of a future sum of money.

**"Push-to-web" telephone survey:** the use of phone contact to 'push' people to go online and complete a web questionnaire.

**Simple unit transfer:** the simplest form of benefit transfer whereby values are transferred directly from one site to another without modification.

**Social Cost-Benefit Analysis:** a way of expressing the value of a good, service, policy or investment to society.

**Social hubs:** For the purpose of this Study, social hubs are cinemas with provision of community spaces and social infrastructure which allow people to interact with each other in a cultural setting.

**Stated Preference survey:** quantifies how people might behave in a given situation by showing them different choices.

**Social Infrastructure:** places and spaces that enable communities to create social connections.

**Use Value** - refers to the private value derived from people that want, need, and make direct use of the cinema venues and their social offer, as well as the option to use them in the future.

**Value Proposition:** includes the reasons why a customer would choose a product or service.

**Willingness-to-Pay (WTP):** the maximum price that a customer is willing to pay for a good or service.

## 8 Appendix 1: Pilot survey results

The pilot survey was launched on 17<sup>th</sup> February 2023, using the nationally representative Ipsos Interactive Services (IIS) online panel. It achieved a sample size of n=109 after being in the field for three days. From the pilot sample, 26% of respondents were cinema users, and 74% were non-users. The pilot took place under identical conditions to the main survey.

The pilot targeted five of the six cinema venues ('study sites'): Vue in Glasgow Fort, Light Cinema in New Brighton, Ritzy Picturehouse in Brixton, Broadway Cinema in Nottingham, and Cameo Picturehouse in Edinburgh. The Everyman in Cardiff was not included as the Welsh translation was not available.

Debrief questions were asked at the end of the pilot to ascertain how respondents responded to the survey, to identify potential problem areas in need of change prior to launch of the main survey.

### 8.1 Testing realism of hypothetical payment scenario

Towards the end of the pilot survey, respondents were asked how realistic they felt the scenario in which they could pay an annual donation to support the cinema venue in question was. The majority of respondents (71%) agreed that the survey was either 'extremely', 'very', 'neutral' or 'somewhat' realistic. Approximately one quarter (24%) of respondents felt that the scenario was 'not realistic at all'. It is worth noting that of the 25 respondents who found the scenario unrealistic, 24 were not willing to pay in principle to support the cinema. In other words, there was no significant issue in terms of the realism of the scenario among the majority of cinema users.

**Table 8.1: Respondents answering 'Not at all realistic' to question testing realism of hypothetical payment scenario**

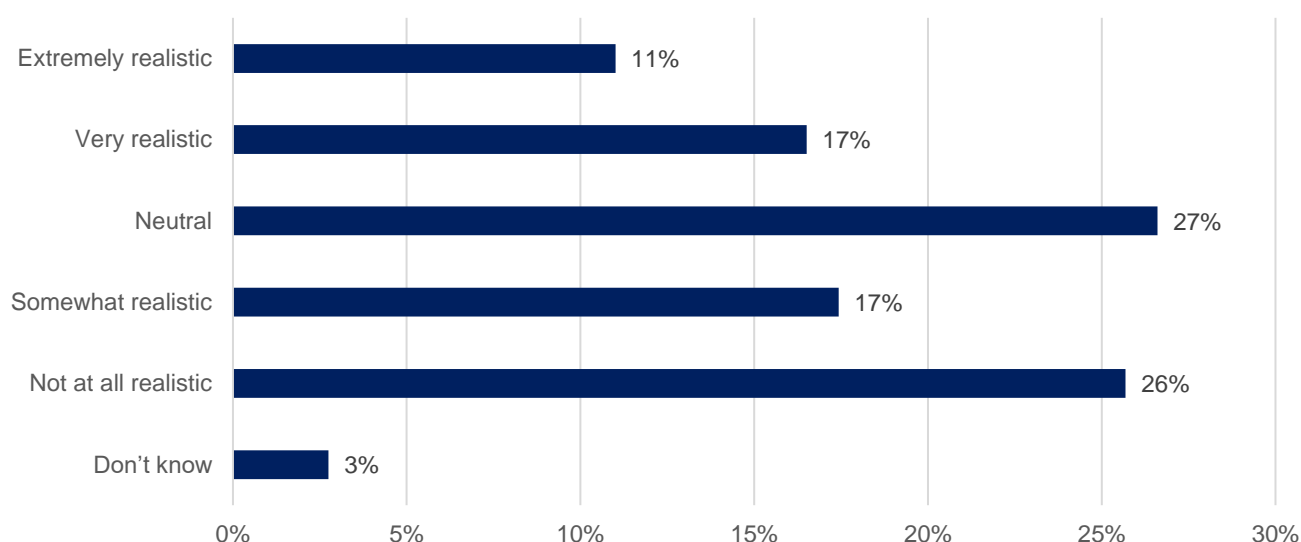
Cinema site	Number of 'not at all realistic' responses		Total 'not at all realistic' responses
	Cinema users	Non-users of the cinema	
<b>Vue, Glasgow Fort</b>	1	7	8
<b>Light Cinema, New Brighton</b>	0	5	5
<b>Ritzy Picturehouse, Brixton</b>	0	3	3
<b>Broadway, Nottingham</b>	2	3	5
<b>Cameo Picturehouse, Edinburgh</b>	2	2	4
<b>TOTAL</b>	<b>5</b>	<b>20</b>	<b>25</b>

It is a common finding across many Stated Preference studies that non-users find the payment scenario unrealistic, and the uncertainties around non-use value and non-user samples is an ongoing issue currently being explored in larger research studies as part of DCMS's Culture Heritage Capital work.<sup>53</sup>

**Table 8.1: above demonstrates that non-users were more likely than users to find the payment scenario of a donation to support the cinema unrealistic.** This is a challenge from a design perspective because there are few payment vehicle options available for non-users who cannot be asked to pay an increase in ticket prices or a top-up donation on top of their ticket price. Only donation and council tax payment vehicles are applicable to non-users, and it is not clear that council tax would be more realistic since cinemas are not typically supported financially by local governments. **It may therefore be that non-users of cinema sites are less inclined to pay under any payment scenario to keep the cinema open, and that, when asked about the realism of the payment question, they are referring to the realism of whether they would personally pay, rather than commenting on the design of the survey (borne out by the fact that nearly all of them were not willing to pay in principle).** This is one of the challenges in the interpretation of Likert scale debrief questions such as these.

**On this basis, and given that alternative payment scenario designs were not expected to improve realism among non-users of the study site cinemas, it was not recommended to change the payment scenario in the main survey.**

**Figure 8.1: Realism of the Willingness-to-Pay scenario (pilot sample, including users and non-users)**



*Sample size: N=109. Survey question: You were asked how much you would be willing to pay as an annual donation to support [CINEMA VENUE]. How realistic/unrealistic did you find this donation scenario?*

Given the lack of realism of the Willingness-to-Pay scenario in the pilot debrief questions, especially among non-users, it was recommended to remove non-users from the target sample: findings from previous benefit transfer research commissioned by Arts Council England<sup>54</sup> have shown that non-user WTP is often more challenging to measure and interpret (due to uncertainties around interpretation, hypothetical bias, and measurement error), as well as offering challenges at the point of aggregation (questions of what real-world sample a non-user WTP should be aggregated to, and the risk of over-

<sup>53</sup> <https://www.ukri.org/news/new-projects-to-measure-value-of-culture-and-heritage-to-society/>

<sup>54</sup> Examples include Arts Council England's benefit transfer study of regional theatres and galleries: Lawton et al., 'Regional Galleries and Theatres Benefit Transfer Report'.

inflated values). Consequently, in many of the Arts Council England benefit transfer guidance notes<sup>55</sup> it has been recommended to take caution when transferring non-user WTP to other policy sites.

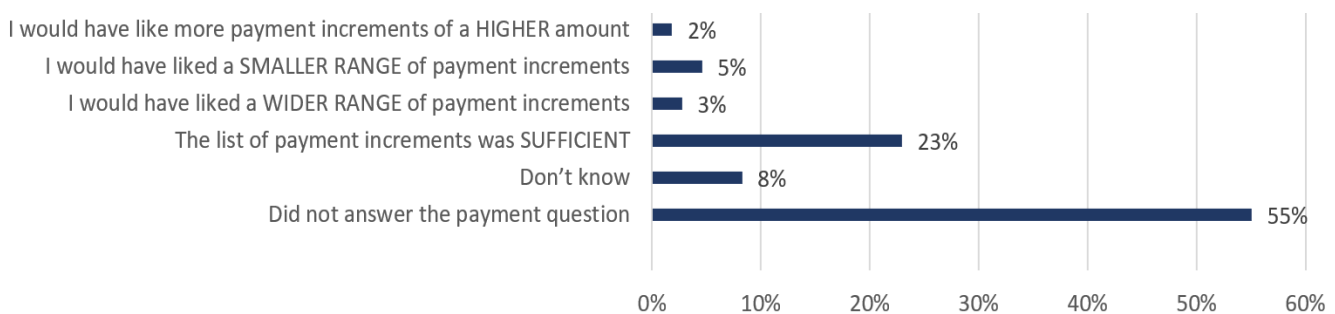
**On the basis that WTP values for cinema users were the priority for this Study, and that WTP values elicited for cinema non-users may be negligible or difficult to interpret and therefore not have an impact on Business Cases for cinema venues, it was recommended that the Study should re-channel that data collection capacity into the user sample, which would improve the statistical confidence of transfer testing of user WTP.**

In addition, a clarification was added to the debrief question and responses to this were collected for the duration that the main survey was in field. This allowed the research team to monitor the realism of the Willingness-to-Pay scenario among cinema users.<sup>56</sup>

## 8.2 Piloting payment card range

Respondents to the pilot survey were asked about the appropriateness of the payment increments available for them to select from within the payment card. 23% of respondents found the payment range to be sufficient.

**Figure 8.2: Appropriateness of payment card increments**



Sample size: N=49 (survey structure means that this question was only asked of those who answered the payment card question). Survey question: Thinking back to the range of payment increments that were presented to you when you asked how much you were willing to pay to support [CINEMA VENUE]:

Finally, respondents were asked whether they would give the same WTP response a month from now if they were to take the survey again. Respondents responded positively towards this question, with 74% being either 'somewhat' or 'extremely' certain that they would respond in the same way again. **This provided a good indication of the internal consistency and confidence in respondent-stated WTP.**

In response to the pilot results on the payment card increments, the research team concluded that, while 10% of pilot survey respondents would like changes to be made, these changes were competing in some places, (i.e., 3% wanted a wider increment range, while 5% want a smaller range).<sup>57</sup>

The logic for not having too many lower-end payment values was that the scenario is an annual donation, so values below £1 would be almost negligible, especially given the high inflation rate at the time the survey was in field (February-May 2023). There was also the paradox that to satisfy the 5% who wanted a smaller payment range, some of the values at the other end of the spectrum would have to be

<sup>55</sup> Links to ACE benefit transfer guidance notes can be found here: <https://www.artscouncil.org.uk/culture-heritage-capital>

<sup>56</sup> Revised survey question: You were asked how much you would be willing to pay as an annual donation to support [CINEMA VENUE]. How realistic/unrealistic did you find this donation scenario? (please note, this is not about whether you would personally pay, but about whether the donation question was realistic).

<sup>57</sup> Note that only those who were willing to pay a positive amount (n=45) were asked this question, meaning that these percentages represent a small actual number of observations (i.e. 5% stating they want a smaller payment range equates to 5 respondents)

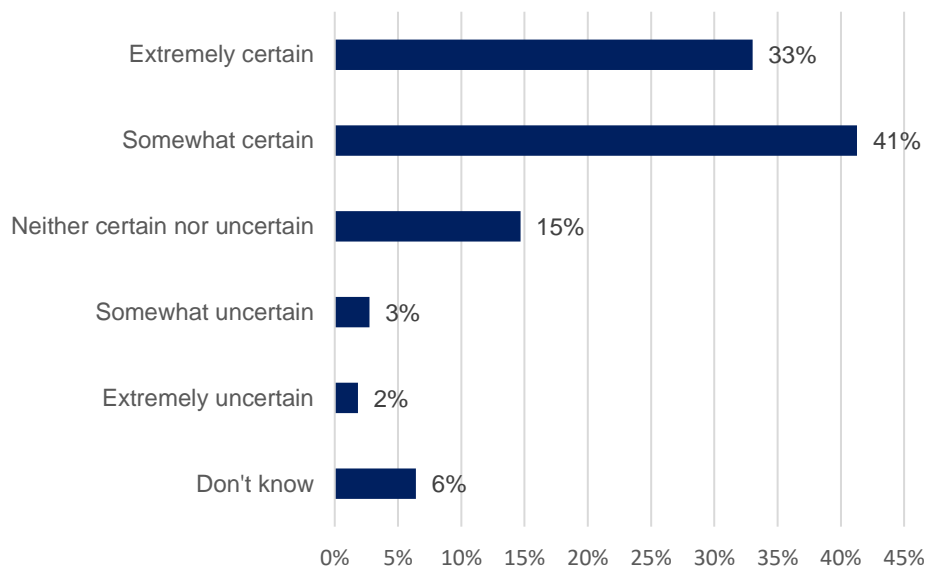


deleted (in order to narrow the range), which would go against the will of the 2% who wanted further higher payment increments.

Most importantly, there was no evidence revealed in their stated WTP values that people were unable to express their true WTP at the lower end of the scale. No respondents selected anything below £1 despite there being three options they could have selected (£0.01, £0.25, £0.50).

In conclusion, given the low numbers of respondents seeking these changes, the lack of consensus towards a single change, and the actual behaviour of respondents in terms of the payment level they selected (i.e., they did not appear to be constrained by the payment card), it was not recommended to make changes to the payment card.

**Figure 8.3: Reliability of respondents' Willingness-to-Pay response**



*Sample size: N=109. Survey question: If you were to take this same survey one month from now, how certain are you that you would give the same willingness to pay responses?*

# 9 Appendix 2: Technical Appendix

## 9.1 Internal Validity Tests

### 9.1.1 Methodology

Internal validity tests were performed to assess how respondent Willingness-to-Pay is associated with other variables in ways that align with prior expectations and previous findings from the literature.<sup>58</sup> Multivariate regression analysis was used to understand whether covariates, expected to influence a respondent's WTP (e.g., income), are reported as statistically significant within the regression analysis.

Two regression models were used as part of the validation process to test factors that are theoretically expected to affect WTP, as represented in the formulae below:

$$WTP_{ip} = \alpha + \beta X_i + \gamma Z_i + \epsilon_i$$

Where  $WTP_{ip}$  is the amount that individual  $i$  has stated that they are willing to pay (mid-point) for site  $p$ ;  $\alpha$  is the deterministic factor (and is independent of an individual's reported WTP);  $X_i$  is a matrix of observed determinants of WTP that relate to the respondent, where marginal effects are captured within a vector of corresponding regression coefficients  $\beta$ ;  $Z_i$  is a binary variable indicating which block of randomly assigned text the respondent saw (either Group A, seeing Throsby's cultural value elements, or Group B, seeing no additional text – see section 9.1.3 for more detail ) with corresponding marginal effect  $\gamma$ ; finally,  $\epsilon_i$  is the error term containing unobserved factors that determine WTP.<sup>59</sup>

An extension to the above regression was also used:

$$WTP_{ip} = \alpha + \beta X_i + \gamma Z_i + \delta T_p + \epsilon_i$$

Where  $T_p$  is a vector of cinema specific characteristics (e.g., café/bar/restaurant onsite, available workspace, cold spot, diverse programming etc.), where marginal effects are captured within a vector of corresponding regression coefficients  $\delta$ .

### 9.1.2 Results

Ordinary Least Squares (OLS) regression<sup>60</sup> was used to identify the statistical drivers of WTP. Regressing WTP on a set of demographic and cinema characteristics enables the researcher to explore how the demographics and characteristics are associated with WTP, whilst holding other factors constant. The results are presented in Table 9.1: and Table 9.2:. The regression output produces two metrics of interest: a coefficient, i.e., a description of the statistical relationship between the variable in question and WTP; and a p-value, which is the probability of obtaining the coefficient under the assumption that the coefficient in question is not associated with WTP. A p-value less than 0.1 is labelled with one asterisk, indicating that there is a 90% probability that the factor in question is statistically associated with WTP, holding the other factors in the table constant. Two asterisks in the table indicates a 95% probability, and three asterisks a 99% probability. Positive coefficients indicate that the factor is

<sup>58</sup> Noonan, Douglas S. 2003. 'Contingent Valuation and Cultural Resources: A Meta-Analytic Review of the Literature'. *Journal of Cultural Economics* 27 (3–4):159–76. <https://doi.org/10.1023/A:1026371110799>

<sup>59</sup> An experimental test included in the survey, informed by previous work by David Throsby, Anita Zednik, and Jorge E. Araña, 'Public Preferences for Heritage Conservation Strategies: A Choice Modelling Approach', *Journal of Cultural Economics* 45, no. 3 (1 September 2021): 333–58, <https://doi.org/10.1007/s10824-021-09406-7>

<sup>60</sup> A statistical method used to estimate the linear relationship between a dependent and one or more independent variables by fitting a line of best fit such that the sum of the squared distance between the observations and the fitted line is minimised.

positively associated with WTP (i.e., those with a degree or higher level of education on average report higher WTP, controlling for other factors such as income, gender, age, etc.). Negative coefficients indicate that the factor is associated with lower WTP.

The first regression presented regresses the WTP on a set of economic and demographic indicators that are theoretical drivers of WTP. The regression output identifies that variables such as the logarithm of household income, whether the respondent has a degree, whether the respondent feels that spending on heritage arts and culture is one of the top five priorities of public spending and whether the respondent is a member of a cultural organisation are all individually positively associated (and statistically significant at the 99% confidence level) with WTP, when all other factors are held constant. This aligns with theoretical expectations and provides internal validity to the analysis. The adjusted  $R^2$  of a regression provides a metric for overall model fit, measuring how well the independent variables (demographic control variables) included in the model capture the variability in the dependant variable (WTP). This indicates that there are a range of other factors which drive WTP which are not captured in this model (which is why we explore motivations in more detail in qualitative research), but the adjusted  $R^2$  (20%) is in line with, or if anything higher than, the adjusted  $R^2$  from comparable cultural value studies of this kind, providing internal validity to the estimated results.<sup>61</sup>  $R^2$  goodness of fit in WTP regressions are typically low in Stated Preference surveys of this type<sup>62</sup>, due to the challenge of capturing all of the observable (and unobservable) drivers of value through quantitative indicators.

**Table 9.1: Ordinary Least Squares Regression: Willingness-to-Pay to support cinema venue regressed on respondent demographics, pooled sample**

Independent variable	Coefficient	p-value
Log of household income	15.717***	0.000
Respondent age	-0.067*	0.083
Female	-5.074***	0.000
Respondent has dependent children	5.864***	0.000
Respondent has a degree or above	3.445***	0.004
Respondent is employed (full or part time)	-1.865	0.192
Social grade: middle or upper class (Grades A-B) <sup>63</sup>	1.004	0.417
Respondent is a member of the Black and Global Majority	-1.838	0.320
Public spending in heritage, arts and culture is in the top five spending priorities	4.527***	0.000
Respondent is a member of a cultural organisation	10.821***	0.000
Five visits or more to cinema over the last five years	9.043***	0.000

<sup>61</sup>  $R^2$  values range from 6% to 22% for a range of assets in Lawton et al., 'The Economic Value of Heritage in England'; Ricky N. Lawton, Daniel Fujiwara, and Ulrike Hotopp, 'The Value of Digital Archive Film History: Willingness to Pay for Film Online Heritage Archival Access', *Journal of Cultural Economics*, 24 June 2021, <https://doi.org/10.1007/s10824-021-09414-7>; Daniel Fujiwara, Ricky N. Lawton, and Susana Mourato, 'More than a Good Book: Contingent Valuation of Public Library Services in England', *Journal of Cultural Economics* 43, no. 3 (2019): 639–66, <https://doi.org/10.1007/s10824-019-09369-w>

<sup>62</sup> Lawton et al., 'The Economic Value of Heritage in England'; Ricky N. Lawton, Daniel Fujiwara, and Ulrike Hotopp, 'The Value of Digital Archive Film History: Willingness to Pay for Film Online Heritage Archival Access', *Journal of Cultural Economics*, 24 June 2021, <https://doi.org/10.1007/s10824-021-09414-7>; Daniel Fujiwara, Ricky N. Lawton, and Susana Mourato, 'More than a Good Book: Contingent Valuation of Public Library Services in England', *Journal of Cultural Economics* 43, no. 3 (2019): <https://doi.org/10.1007/s10824-019-09369-w>

<sup>63</sup> [https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT\\_thoughtpiece\\_Social\\_Grade\\_July09\\_V3\\_WEB.pdf](https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT_thoughtpiece_Social_Grade_July09_V3_WEB.pdf)

Independent variable	Coefficient	p-value
<b>Group A: Respondent was shown text on Throsby's cultural value elements<sup>64</sup></b>	-0.373	0.749
<b>Distance to cinema</b>	0.007**	0.049
<b>Constant</b>	-62.307***	0.000
<b>Adjusted R-Squared</b>	0.204	
<b>Observations</b>	1,847	

Note: \* p-value < 0.1, \*\* p-value < 0.05, \*\*\* p-value < 0.01. OLS regression is estimated with heteroskedastic robust standard errors. Regression samples may be smaller than the total group sample due to missing observations in control variables where respondents were not forced to answer.

A second regression was also run, to explore how the inclusion of cinema-specific characteristics drives WTP. The second regression used the same respondent demographics as above, but includes cinema specific binary variables that capture the cinema group, and therefore the associated characteristics of the cinema group.

The regression output identifies that the cinemas with a 'social hub' on average exhibit a higher WTP value compared with cinemas in the 'cold spot' group, which aligns with the subgroup WTP analysis in Table 9.2. However, cinemas that show more 'diverse programming' do not exhibit statistically significant differences in their WTP compared with cinemas in the 'cold spot' group. This differential indicates that the characteristics of a cinema can be drivers of cultural and social value, holding all other factors constant.

In this regression specification, the respondent's distance to the cinema becomes significant at the 90% confidence level. Interestingly, the sign of the coefficient suggests that the further away the respondent is, the *greater* the WTP. This may suggest that the cinema generates social and cultural benefits beyond the immediate area in which it is located. It could also align with travel cost preference-based methods, which assume that the further a person is willing to travel to experience something, the more they value it.

**Table 9.2: Ordinary Least Squares Regression: Willingness-to-Pay to support cinema regressed on respondent demographics and cinema characteristics, pooled sample**

Independent variable	Coefficient	p-value
<b>Log of household income</b>	14.406***	0.000
<b>Respondent age</b>	-0.044	0.261
<b>Female</b>	-4.953***	0.000
<b>Respondent has dependent children</b>	5.659***	0.000
<b>Respondent has a degree or above</b>	3.169***	0.009
<b>Respondent is employed (full or part time)</b>	-2.049	0.148
<b>Social grade: middle or upper class (Grades A-B)<sup>65</sup></b>	0.591	0.630
<b>Respondent is a member of the Black and Global Majority</b>	-2.139	0.244

<sup>64</sup> An experimental test included in the survey, informed by previous work by Throsby, Zednik, and Araña, 'Public Preferences for Heritage Conservation Strategies'.

<sup>65</sup> [https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT\\_thoughtpiece\\_Social\\_Grade\\_July09\\_V3\\_WEB.pdf](https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT_thoughtpiece_Social_Grade_July09_V3_WEB.pdf)

Independent variable	Coefficient	p-value
Public spending in heritage, arts and culture is in the top five spending priorities	4.423***	0.000
Respondent is a member of a cultural organisation	10.650***	0.000
Five visits or more to cinema over the last five years	9.229***	0.000
Cinema Group Two	5.967***	0.000
Cinema Group Three	-1.425	0.283
Group A: Respondent was shown text on David Throsby's cultural value elements <sup>66</sup>	-0.349	0.763
Distance to cinema	0.009**	0.011
Constant	-58.184***	0.000
Adjusted R-Squared		0.215
Observations		1,847

Note: \* p-value < 0.1, \*\* p-value < 0.05, \*\*\* p-value < 0.01. OLS regression is estimated with heteroskedastic robust standard errors. Regression samples may be smaller than the total group sample due to missing observations in control variables where respondents were not forced to answer.

### 9.1.3 Experimental Element

The Stated Preference survey also contained an **experimental design element**. Before being presented with the hypothetical payment scenario, respondents were randomly assigned into one of two groups: Group A was presented with text explaining how the cinema venue in question aligns with David Throsby's taxonomy of cultural values, including Aesthetic, Social and Historical value; Group B was not shown any additional text.

Randomising respondents into two groups allowed for ex-post validity testing, exploring whether there were statistically significant differences in terms of WTP. This experimental approach provided insight on whether introducing a set of culture and heritage valuation concepts to users had any effect on stated WTP.

Interestingly, the coefficient for the dummy variable indicating whether a respondent was shown the motivating text or not, termed 'Group A' in the regression output, is statistically insignificant. This suggests that there are no significant differences between the reported WTP values of participants briefed on Throsby's cultural value elements and those who were not, holding all other factors constant. This may conceivably suggest that respondents already have an appreciation of the cultural benefits that flow from cinemas (enhanced by the fact only users were surveyed as part of this Study), where further prompting was not required to engage participants with the intangible benefits that arise from the existence of cinema.<sup>67</sup> Alternatively, it may be that participants are not easily able to interpret these more abstract terms and, as such, on average their use had no significant impact on the reported WTP.

<sup>66</sup> An experimental test included in the survey, informed by previous work by Throsby, Zednik, and Araña, 'Public Preferences for Heritage Conservation Strategies'.

<sup>67</sup> The statistical significance of the Group A variable was also separately tested outside of a regression framework, using an unpaired Students t-test. The results align with the findings from the regression analysis, indicating that there were no significant differences between the WTP of participants shown Throsby's cultural value elements and those not shown it. Experiment informed by previous work by Throsby, Zednik, and Araña.

## 9.2 Benefit transfer error testing

The key element of the benefit transfer test is an analysis of the transfer error, i.e., the difference between the transferred value and the estimated value. To do this, one of the six cinema sites is used as a 'policy site' and the other five sites as the 'study sites'. Following guidance from Johnston *et al.* (2018), the following transfer methods are used within this Study, and are summarised below:

- Simple unit value transfer.
- Adjusted unit value transfer.
- Value function transfer.

### 9.2.1 Methodological overview of benefit transfer methods

#### Simple unit value transfer

Simple unit transfer is where a single point estimate of benefit (e.g., mean WTP) is taken from one or more study sites and applied to the new policy site under the implicit assumption that the good, socio-economic characteristics and preferences of the population are homogenous between the study sites and the policy site; characterised by the below equation:

$$\widehat{WTP}_p = \overline{WTP}_s \quad (1)$$

Where  $\widehat{WTP}_p$  is the predicted (mean) WTP at the policy site and  $\overline{WTP}_s$  is the mean WTP at the study sites.

#### Adjusted unit value transfer

Adjusted unit value transfer is where the transfer accounts for differences in conditions between the policy site and study sites. This method typically focuses on differences in respondents' income, which would affect WTP estimates between the two sites. Building on Equation (1) above:

$$\widehat{WTP}_p = \left(\frac{\bar{Y}_p}{\bar{Y}_s}\right)^e \overline{WTP}_s \quad (2)$$

Where  $\bar{Y}_p$  is the average household income at the policy site;  $\bar{Y}_s$  is the average household income at the study sites; and  $e$  is the elasticity of the marginal utility of income with respect to WTP, assumed to equal 1.3 (i.e.,  $e = 1.3$ ) as per HM Treasury Green Book (2022).<sup>68</sup>

#### Value function transfer

The value function represents the relationship between WTP and other explanatory variables. In this set-up, the researcher transfers the entire benefit function estimated at the study sites to the policy site, where characteristics of the policy site are used to estimate WTP (such as socio-economic characteristics and other measurable characteristics that systematically differ between the policy and study site).<sup>69</sup> Under a functional transfer setting, the transfer equation becomes:

<sup>68</sup> <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020>

<sup>69</sup> Rosenberger, R. S. and Loomins, J. B. (2003) 'Benefit Transfer'. In *A Primer on Nonmarket Valuation*, 445-482. Springer. [https://link.springer.com/chapter/10.1007/978-94-007-0826-6\\_12](https://link.springer.com/chapter/10.1007/978-94-007-0826-6_12)

$$\widehat{WTP}_{ip} = b_0 + b_1Q_p + \delta T_p + b_2A_p + \beta X_{ip} \quad (3)$$

Where  $\widehat{WTP}_{ip}$  is the predicted Willingness-to-Pay of individual  $i$  for policy site  $p$ ;  $b_0$  is the deterministic factor;  $Q_p$  is the change in provision of the cultural good/service at cinema  $p$ , with corresponding marginal effect  $b_1$ ;  $T_p$  is a vector of cinema specific characteristics for site  $p$  with a vector of corresponding marginal effects  $\delta$ ;  $A_p$  is the availability of substitute cinemas for site  $p$ , with corresponding marginal effect  $b_2$ ; and  $X_{ip}$  are the socio-economic characteristics of individual  $i$  at site  $p$ , with a vector of corresponding marginal effects  $\beta$ .

The coefficients  $b_0, b_1, \delta, b_2$  and  $\beta$  are obtained from the WTP function estimated at the study site (Equation 3 is estimated for the study sites whereby the subscripts  $p$  becomes subscripts  $s$ ). Under this approach, transfer errors are likely to be smaller given more information about the site and population are transferred.<sup>70</sup> Conversely, a value function benefit transfer approach requires the availability of a range of demographic and possibly attitudinal/behavioural variables specific to each policy site cinema.

For policy decisions, the interest is in average WTP for a cinema, knowing the WTP per individual is not required. For this reason, Equation 3 can be averaged out across individuals:

$$\widehat{WTP}_p = b_0 + b_1Q_p + \delta T_p + b_2A_p + \beta \bar{X}_p \quad (4)$$

Where  $\bar{X}_p$  is now a set of the average socio-economic characteristics of individuals at site  $p$ ; and the remaining notation is the same as in Equation 3. Equation 4 highlights the fact that individual-level data from the policy site is not necessary to predict average WTP. Rather, information on the average characteristics of the policy site is sufficient and this may be held by the policy site itself, without the need for any further primary data collection.

Within this Study, Equation 4 is obtained iteratively for each site. Out of the six cinemas, a sub-set of five cinemas becomes the study site and a benefit function is estimated using the pooled data from these five sites. The omitted sixth site then becomes the policy site and characteristics from the omitted cinema are then substituted into Equation 4 to predict the WTP at each site.<sup>71</sup> Each of the six cinemas in the Study 'take turns' being the policy site for that particular iteration of the Study. WTP values are therefore predicted for each of the six sites based on the pooled benefit functions from the other five sites.

### 9.2.2 Methodological overview of transfer error testing

The statistical validity of benefit transfer assumes that value estimates are statistically identical across study and policy contexts. In other words, the values estimated from the pooled study sites should not exhibit statistically significant differences from the policy site. This difference, known as transfer error, is measured in two ways:

- First, the percentage difference between the observed and predicted WTP is calculated. An acceptable level of transfer error (and whether this is still informative despite the level of transfer error) depends on the intended policy use of the transferred estimates and the corresponding accuracy required.<sup>72</sup> Estimates of transfer error are compared with established ranges within the

<sup>70</sup> Brouwer, Roy, and Frank A. Spaninks. 1999. 'The Validity of Environmental Benefits Transfer: Further Empirical Testing'. *Environmental and Resource Economics* 14 (1):95–117.

<sup>71</sup> Bateman et al. (2011)

<sup>72</sup> Brookshire and Neill (1992); Desvougues *et al.* (1992b).

literature.<sup>73</sup> Following results within literature, namely Ready and Navrud<sup>74</sup> who found that the average transfer error was in the range of 20% to 40% for intra- and cross-country benefit transfer studies, this Study applies a threshold of a maximum 40% transfer error to all individual transfer errors.

- Second, the statistical difference between observed and predicted WTP in each case can be tested, using a Students t-test. The literature does not identify an acceptable threshold of statistically significant transfer error; for the purposes of this Study, transfer errors are considered to be at an acceptable level if differences in the observed policy site and pooled study sites WTP values are statistically insignificant. Given the lack of guidance from within literature, more weight should be placed on transfer tests which produce errors below the 40% transfer error threshold proposed by Ready and Navrud (2006).

For use values across sites and populations, three hypotheses are tested for the three benefit transfer methods outlined above. The statistical tests and accompanying null hypotheses are presented in Table 9.3:.

**Table 9.3: Benefit transfer tests**

BT Approach	T-Test Hypothesis
<b>Simple unit transfer</b>	$H_{0,s}: \overline{WTP}_p = \overline{WTP}_s$ <p>Null Hypothesis: The observed mean WTP of the policy site is equivalent to the mean pooled WTP of the study site.</p>
<b>Adjusted unit transfer</b>	$H_{0,a}: \frac{1}{(\bar{Y}_p)^e} \overline{WTP}_p = \frac{1}{(\bar{Y}_s)^e} \overline{WTP}_s$ <p>Null Hypothesis: The observed mean WTP of the policy site is equivalent to the mean pooled WTP of the study site, adjusted for differences in income between the policy and study sites.</p>
<b>Value function transfer</b>	$H_{0,f}: \overline{WTP}_p = \Psi \cdot \bar{\Pi}_p$ <p>Null Hypothesis: The observed mean WTP of the policy site is equivalent to the mean predicted pooled WTP of the study site.</p>

Notes:  $\overline{WTP}_p, \overline{WTP}_s$  = average WTP at policy (p) and study (s) sites respectively;  $\bar{Y}_p, \bar{Y}_s$  = average household income at policy and study site respectively;  $e$  = elasticity of the marginal utility of income = 1.3 as per HM Treasury Green Book (2022);  $\Psi$  = a matrix of coefficients obtained from WTP function estimated at the study sites =  $(b_0, b_1, \delta, b_2, \beta)$ ;  $\bar{\Pi}_p$  = a matrix containing average characteristics of the policy site =  $(Q_p, T_p, A_p, \bar{X}_p)$ . For simple and adjusted unit transfer approaches, the equivalent of a two-sample unpaired t-test with unequal variances for weighted data is used; for the function transfer approach, a paired t-test is used.

<sup>73</sup> Mourato *et al.* (2014); Navrud and Ready (2007).

<sup>74</sup> Richard Ready and Ståle Navrud, 'International Benefit Transfer: Methods and Validity Tests', *Ecological Economics* 60, no. 2 (2006): 429–34.



The accuracy of transfers (either unit or function transfers) is assessed by estimating the respective transfer errors, as shown in Equation (5) below:

$$TE = \left( \frac{\widehat{WTP}_p - \overline{WTP}_p}{\overline{WTP}_p} \right) \times 100 \quad (5)$$

Where  $\widehat{WTP}_p$  is the predicted value for the policy site; and  $\overline{WTP}_p$  is the observed mean WTP of the policy site.

### 9.2.3 Transfer testing results

#### Simple unit transfer test

Simple unit benefit transfer takes the mean pooled WTP (raw and unadjusted) from the study sites and assumes that the policy site (or policy group) are sufficiently homogenous to the study sites (or study groups) for the raw WTP value to be a robust representation of the value assigned to the policy group.

The results of the simple unit transfer test suggest that levels of unacceptable error (>40% error) are exhibited by two of the six cinemas when used as the policy site: Glasgow Fort Vue (transfer error of 81%) and the Ritzy Picturehouse in Brixton (transfer error of 53%), which have the lowest and highest (raw and unadjusted) WTP respectively. Across all sites except for the Light Cinema in New Brighton, t-tests reveal statistically significant differences between the observed WTP, with a confidence level of at least 90%. Glasgow Fort Vue in particular has the lowest mean WTP and the highest level of transfer error. Based on raw unadjusted WTP, these results would suggest that Glasgow Fort Vue is different in terms of its cultural value when compared with the other five cinemas. However, this may also be a function of the lower household budgets of those cinema users at that cinema site, and this must be tested through adjusted transfer in the next section.

Simple unit transfer tests suggest that **it may not be appropriate to apply the simple mean WTP values from this Study to other cinema sites**, as there will be little confidence that the transferred values will represent the value assigned to different cinema sites. This is a common finding in instances where cultural or heritage sites are located in different parts of the country, and with different local population income levels.<sup>75</sup> **It would therefore be necessary to explore the transferability of cinema WTP values under different forms of adjustment or function transfer**, as set out below.

**Table 9.4: Simple unit transfer error, by cinema venue (central estimate mean WTP): red italics indicate unacceptable transfer error**

	Vue Glasgow Fort	Light Cinema New Brighton	Ritzy Picturehouse Brixton	Everyman Cardiff	Broadway Nottingham	Cameo Picturehouse Edinburgh
Policy site mean WTP (observed)	£11.57	£21.28	£34.14	£16.25	£15.43	£15.02
BT predicted WTP (study sites mean WTP)	£20.89	£18.75	£15.92	£19.67	£20.03	£19.89

<sup>75</sup> Ready, Richard, and Ståle Navrud. 'International Benefit Transfer: Methods and Validity Tests'. *Ecological Economics* 60, no. 2 (2006): 429–34

	Vue Glasgow Fort	Light Cinema New Brighton	Ritz Picturehouse Brixton	Everyman Cardiff	Broadway Nottingham	Cameo Picturehouse Edinburgh
Absolute Difference	£9.32	£2.53	£18.23	£3.42	£4.60	£4.87
Transfer error	<i>81%</i>	12%	<i>53%</i>	21%	30%	32%
$H_0$ : difference in means = 0	<i>0.0000</i>	0.1025	<i>0.0000</i>	<i>0.0466</i>	<i>0.0029</i>	<i>0.0041</i>

Note: Red italics indicate that transfer error exceeds the recommended maximum of 40%; or indicate that there are significant differences (greater than the 90% confidence level) between the observed value and predicted value.

### Adjusted unit transfer tests

In situations where the average income of sample groups differs significantly, it can be more appropriate to apply a form of benefit transfer which adjusts the transfer test to control for the difference in income between the study sites and the policy site.<sup>76</sup> This is an important tool in the benefit transfer methodology, since it is known that WTP is strongly associated with a respondent's budget, and therefore constrains their ability to pay.<sup>77</sup> The adjusted unit transfer takes respondent income as a key factor for adjustment.

**Adjusted unit transfer performs considerably better than the simple unit transfer. In all cases, transfer errors are below 40%.** However, both Glasgow Fort Vue and the Light Cinema in New Brighton exhibit statistically significant differences between the mean and transferred WTP (at the 99% and 95% confidence level respectively). This indicates that there exist differences between the estimated WTP and true WTP that cannot be explained by noise; nonetheless, these differences remain within the bounds of 40% transfer error.

**Table 9.5: Adjusted unit transfer test (central estimate mean WTP), by cinema venue: red italics indicate unacceptable transfer error**

	Vue Glasgow Fort	Light Cinema New Brighton	Ritz Picturehouse Brixton	Everyman Cardiff	Broadway Nottingham	Cameo Picturehouse Edinburgh
<b>Income adjustment</b>						
Policy site: mean income	£53,653	£64,176	£101,109	£61,657	£52,210	£57,446
Study site: mean income	£68,352	£66,048	£57,657	£66,323	£68,669	£67,018
Income adjustment: $(\bar{Y}_p/\bar{Y}_s)^e$	0.730	0.963	2.075	0.910	0.700	0.818
<b>Benefit Transfer</b>						
Policy site mean WTP (observed)	£11.57	£21.28	£34.14	£16.25	£15.43	£15.02
BT predicted WTP (study sites mean WTP)	£15.25	£18.06	£33.04	£17.89	£14.03	£16.28
Absolute Difference	£3.68	£3.21	£1.11	£1.64	£1.40	£1.26

<sup>76</sup> R. Johnston et al., *Benefit Transfer of Environmental and Resource Values - A Guide for Researchers and Practitioners*, The Economics of Non-Market Goods and Resources 14 (London, UK: Springer, 2015), <http://www.springer.com/gb/book/9789401799294>

<sup>77</sup> I. Bateman et al., *Economic Valuation with Stated Preference Techniques: A Manual* (Cheltenham, UK: Edward Elgar, 2002).

	Vue Glasgow Fort	Light Cinema New Brighton	Ritz Picturehouse Brixton	Everyman Cardiff	Broadway Nottingham	Cameo Picturehouse Edinburgh
Transfer error	32%	15%	3%	10%	9%	8%
$H_0$ : difference in means = 0	<i>0.0016</i>	<i>0.0323</i>	0.6807	0.2991	0.2202	0.3753

Note:  $\bar{Y}_p$  is the average household income at the policy site;  $\bar{Y}_s$  is the average household income at the study sites; and  $e$  is the elasticity of the marginal utility of income with respect to WTP, assumed to equal 1.3 (i.e.,  $e = 1.3$ ) as per HM Treasury Green Book (2022).<sup>78</sup> Red italics indicate that transfer error exceeds the recommended maximum of 40%; or indicate that there are significant differences between the observed value and predicted value.

Compared with the simple unit transfer, the Glasgow Fort Vue cinema performs with acceptable levels of transfer error. **This confirms the hypothesis from the previous section that simple unit transfer is inadequate to deal with the heterogeneity of income within the sample of six when Glasgow is included.** However, once the income levels at the Glasgow Fort Vue cinema site are adjusted for, the transfer is acceptable. **This provides confidence that the mean WTP values estimated across the six cinemas in this Study can be transferred with adjustments for income to a broad range of cinemas across the country** (provided that they are homogenous in their core mainstream cinema offering and provide cultural value to the community, either by offering cultural services in a cinematic or cultural ‘cold spot’, operating as a ‘social hub’, or offering more ‘diverse programming’).

Benefit transfer tests undertaken within this Study suggest that **using adjusted unit benefit transfer presents a robust way to apply the results of this survey to different cinema sites. It is recommended, therefore, that any benefit transfer of WTP values for cinema venues should adjust WTP by the differential in income levels between cinema users at the policy site (explained in detail in Appendix 4: Guidance on Aggregation). Benefit transfer should not be undertaken using simple unit transfer of the ‘raw’ WTP value for cinema venues.**

### Value function transfer

Just as an income-adjusted transfer may be an improvement over a simple unit transfer – because it is able to control for important differences between sites that can drive differences in WTP – a function transfer may provide a more advanced form of adjustment, by controlling for additional factors which may drive WTP, such as a user’s distance to the cinema and the type of cinema that is being valued (e.g., a cinema with diverse programming).<sup>79</sup> The regression specification used for the transfer testing differs to the regression specification used to understand drivers of WTP. For the purposes of out-of-sample prediction, a more parsimonious model is preferred to an over-fitted, more complicated model. This is to say that the increased complexity of introducing a lot of variables can adversely affect the predictive power of a model, where some simplistic models tend to perform favourably.

<sup>78</sup> <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020>

<sup>79</sup> Given cinemas operating as a ‘social hub’ presented the highest mean WTP after accounting for income, the value function uses a dummy variable to identify whether the site falls into the category of more diverse screening. Whilst possible to extend the model assigning factors for each group, the single dummy variable presented a simpler approach that will be easier for cinemas and Business Case practitioners to implement should they choose to use the value function benefit transfer.

**Table 9.6: Value function transfer test (central estimate mean WTP), by cinema venue: red italics indicate unacceptable transfer error**

	Vue Glasgow Fort	Light Cinema New Brighton	Ritzy Picturehouse Brixton	Everyman Cardiff	Broadway Nottingham	Cameo Picturehouse Edinburgh
Policy site: observed mean WTP	£12.82	£22.34	£34.71	£16.79	£15.57	£15.74
BT predicted WTP using fitted model	£17.74	£15.56	£21.83	£26.76	£16.25	£16.61
Absolute difference	£4.93	£6.78	£12.88	£9.96	£0.69	£0.88
Transfer error	38%	30%	37%	<i>59%</i>	4%	6%
$H_0$ : difference in means = 0	<i>0.0001</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	0.5778	0.5298

Note: Red italics indicate that transfer error exceeds the recommended maximum of 40%; or indicate that there are significant differences between the observed value and predicted value.

The results of the value function test indicate that the Everyman Cardiff exceeds the maximum recommended transfer error of 40%. The transfer error likely reflects a combination of 1) the extent to which the pooled WTP of the study sites is genuinely not representative of the WTP for the Everyman Cardiff, and 2) biases in estimating the OLS coefficients when there are a relatively small number of study sites. As such, the results do not support a conclusion that the value function transfer provides a robust method of benefit transfer across cinema venues. Under certain circumstances (e.g., for a social hub cinema), however, business case practitioners may wish to apply the function transfer to capture the additional WTP exhibited by social hub cinemas, identified in Section 9.1.2.

Four of the six sites also exhibit significant differences between the predicted WTP and the observed WTP, suggesting **the cinema site-level value function provides lower levels of robustness than the adjusted unit transfer.**

Differences between the observed and predicted WTP can arise when the factors included in the function model do not explain the differences observed in WTP between the sites. The result suggests that adjusting cinema venue WTP by income is the strongest predictor of how WTP should be controlled between sites and provides the closest approximation to a representative WTP for cinema venues for the purpose of transfer testing. Income adjustment is also suggested in a similar study of historic high streets and historic civic buildings<sup>80</sup>.

**Failure to see improvement in the value function compared with the adjusted unit transfer is a sign that adding additional factors such as a user's distance to the cinema and the type of cinema that is being valued (e.g., a cinema with more 'diverse programming') leads to an overcomplicated model which is less effective at explaining differences in WTP between the sites, and therefore increases, rather than decreases, transfer error. Instead, adjusted unit transfer should be applied.**

#### 9.2.4 Transfer testing conclusions

- **It is not appropriate to apply a simple unit transfer of the mean and lower bound WTP values from this Study to other cinema sites**, as there is little confidence that the transferred values will represent the value assigned to different cinema sites. This is a common finding in

<sup>80</sup> <https://historicengland.org.uk/content/docs/research/heritage-value-of-place/>

instances where sites are located in different parts of the country, and with different local population income levels. **Transfer of WTP values for cinema venues should only be attempted after adjusting for income differences between the study sites and a policy site, and transfer should not be undertaken using simple unit transfer of the 'raw' WTP value for cinema venues.**

- **Using adjusted unit benefit transfer presents a robust way to apply the results of this survey to different cinema sites. It is recommended that any benefit transfer of mean WTP values for cinema venues from this Study should adjust WTP by the differential in income levels between cinema users at the policy site (see key information in Table 9.7: below, and worked example in Appendix 4: Guidance on Aggregation).**
- **Function transfer does not provide a more robust method to transfer benefits compared with the adjusted unit transfer**, which is likely due to the fact that the additional factors included in the function model do not better explain the differences observed in WTP between the sites, but instead lead to overcomplication within the function transfer model, reducing its explanatory power and increasing its transfer error.
- This suggests that adjusting cinema venue WTP by income is the strongest predictor of how WTP should be controlled between sites and provides the closest approximation to a representative WTP for cinema venues for the purpose of transfer testing. **With adjusted unit transfer, any of the WTP values of any type of study cinema can be confidently transferred to any type of policy cinema (which is in a cinematic or cultural 'cold spot', offers a 'social hub' or shows more 'diverse programming', all with a core mainstream programming offer of above 30%) providing there is an adjustment for differences in income around the policy site.**

**Table 9.7: Key data for benefit transfer of cinema venue WTP (based on Arts Council England guidance)<sup>81</sup>**

Cinema Venues							
Based on user WTP values Glasgow: Fort Vue, New Brighton Light Cinema, Ritzy Picturehouse Brixton, Everyman Cardiff, Broadway Nottingham and Cameo Picturehouse Edinburgh							
	1. Simple (unadjusted) transfer		2. Adjusted (income) transfer		3. Function transfer		
	Pooled mean WTP value	Confidence in transfer (<40% transfer error)	Adjustment factors	Confidence in transfer (<40% transfer error)	Adjustment factors	Confidence in transfer (<40% transfer error)	Predictive power of function modelling (regression analysis and model fit)
<b>Cinema venue (with core programming offer of at least 30% mainstream films, and an additional cultural offer such as social hub facilities, more diverse programming, or operating in a cold spot)</b>							
Central estimate mean WTP	£18.04	No	Ratio of median household income of policy site (£X) to the ratio of the median household income of the study site (£50,000) to the power of 1.3. The adjustment factor would be: $(£X/£50,000)^{1.3}$	Yes	Log(income): 17.70 Distance: 0.014 Cinema has more diverse programming: -60.16 Log(income) interaction if cinema has more diverse programming: 14.30 Regression constant: -67.26	Yes	Low predictive power

See Appendix 4: Guidance on aggregation. for instructions on how to transfer the WTP values from this Study to a different cinema.

<sup>81</sup> Lawton et al., 'Guidance Note: How to Quantify the Public Benefit of Your Museum Using Economic Value Estimates. A Resource for Understanding the Economic Value of Museums'.

# 10 Appendix 3: Sampling Methodology

## 10.1 Site selection

The six cinema venues ('study sites') were chosen from an initial 'Long List', which was compiled through engagement with the project's advisory Group and the BFI/PEC project team. The cinemas chosen were:

- Vue in Glasgow Fort.
- Light Cinema in New Brighton.
- Ritzy Picturehouse in Brixton.
- Broadway Cinema in Nottingham.
- Cameo Picturehouse in Edinburgh.
- Everyman in Cardiff.

Table 10.1: presents the inclusion and exclusion criteria applied; failure to meet all the exclusion criteria meant the cinema was excluded from this Study; cinema venues were required to meet at least one of the factors for inclusion, noting these inclusion factors are not mutually exclusive.<sup>82</sup>

**Table 10.1: Inclusion and exclusion criteria from the 'Long List'**

Exclusion Criteria	Inclusion Criteria
Must have core of mainstream programming with optional specialist programming or screenings with a social offering	<b>Lack of competing cinemas:</b> Defined as no other cinema within a 5km radius
Must have sufficient population size: Large Town or City. Indicate if urban or suburban	<b>Cinematic or Cultural 'Cold Spot':</b> Defined as being an Arts Council England Priority Place <sup>83</sup> , or not have a competing cinema within a 5km radius
Exclude: Multi-arts, drive-in, mobile cinemas	<b>Marginalised communities provision:</b> E.g., located in a deprived community, programming aimed at local ethnic groups, locally sensitive programming
	<b>In-house facilities:</b> Social/cultural hub services e.g., café, bar, restaurant, workspace, other community/social/cultural activities
	<b>Community outreach:</b>

<sup>82</sup> During this process, three of the four cinemas on the long list from Northern Ireland were discounted because they did not meet the population size and density criteria, and the one remaining cinema was an independent with a strong focus on diverse programming. This cinema was discounted because of the low level (30%) of mainstream programming.

<sup>83</sup> <https://www.artscouncil.org.uk/your-area/priority-places-and-levelling-culture-places#t-in-page-nav-2>

Exclusion Criteria	Inclusion Criteria
	E.g., schools outreach, apprenticeships, community groups etc
	<b>Hosting Events:</b> E.g., festivals, talent development activities.

The 'Long List' was refined into a 'Medium List', where the interaction of mainstream and cultural offering was considered. Cinema sites were selected into the 'Medium List' on the basis that there were sufficient levels of homogeneity between sites. There were three main criteria against which the cultural offer of each cinema was assessed:

- The extent of its core mainstream programming.
- Whether it had a socio-cultural offer and the nature of that offer.
- The nature of its specialist programming and social offer screenings.

The ownership model, as represented by the size of the cinema chain, was also considered. Consultation with the project's advisory group and the BFI/PEC project team resulted in a taxonomy of cinema sizes. For the purposes of this Study, the three categories are: 'large operator' (90 or more sites in the UK); 'small operator' (between four sites and 35 sites in the UK); and operators with three or fewer sites categorised as 'independent'. The different classifications of each category were largely determined by a step-change in the number of sites between 'large' and 'small' operators i.e., the gap between 35 and 90 sites<sup>84</sup> (details of the distribution of sites in Table 10.2: below). Final site selection was based on the criteria identified in the 'Medium List' which considered how these categorical definitions of cultural value interact with mainstream vs 'diverse programming'. This allowed six cinemas to be identified with sufficient homogeneity in terms of their core mainstream offer, while defining three characteristics which provided cultural value over and above this core offer. The six sites were considered testable as a group because they were all cinemas that offered a sufficient proportion of mainstream programming (above 30% on a representative day) and they all had some cultural offering over and above their competitors. This could be due to their offering being the only cinematic cultural presence in an area that is otherwise a cinematic or cultural 'cold spot' for cinema users; because they offer a particularly 'diverse programming' schedule while still providing access to mainstream films (as high as 70% non-mainstream programming); or because they offer locations for social activities in a cultural setting, such as a destination bar, café, restaurant or workspace set within the cinema environment, but which people may choose to visit even when not watching films ('social hub').

<sup>84</sup> With the exception of Picturehouse which was classified as a large operator as it is owned by Cineworld.



## 10.2 Cinema sites within each chain

**Table 10.2: Cinema chains identified and the number of sites within the chain**

Cinema Chain	Number of cinemas within chain
Parkway Cinemas	4
Movie House	5
Scott and WTW	7
WTW	4
Light	12
Curzon	13
Empire	14
Reel	15
Showcase	17
Merlin	18
IMC (Eire & NI)	19
Picturehouse	26
Omniplex (Eire & NI)	34
Everyman	35
Vue	91
Odeon	>120
Cineworld	128

## 10.3 Push-to-web sampling

Due to initial low response rates for the Scottish and Welsh cinema venues, a second phase was introduced: a “push-to-web” telephone survey. This was used to identify those who had visited the target cinema in the past five years and consented to be sent a link to the online survey. Their email address

was collected, and the survey link emailed to them. If the survey was not completed within three days a follow-up call was made to remind them to complete.<sup>85</sup> The push-to-web survey was run using a large panel of telephone numbers (landline and mobile) with a base of 10 million people nationally. The database includes the location of residence and other demographic and behavioural data which allowed the survey to target those who are more likely to be cinema users, as well as those that live in close proximity to the target cinemas.

The advantage of a push-to-web survey is that it provides targeted flexibility for hard-to-reach samples in online panels. For instance, Scottish and Welsh residents had lower coverage in the online panel samples used for this Study compared to their English counterparts, and telephone surveys can be used to compensate for this in real-time in response to emerging sample sizes in the online panel data collection.

The push-to-web approach avoids these survey mode effects, while increasing the sample available for harder-to-reach cinemas. This is especially helpful in the case of this Study, where the site selection process demanded inclusion of cinemas in some areas (Wales and Scotland) which typically exhibit lower coverage in online panels.

#### 10.4 Respondent exclusions

The data was checked for survey 'speedsters' (those who complete the survey in an unreasonably short period of time) to remove them from the sample. A threshold was set as the minimum period of time in which all the information provided in the survey could realistically be read and used to make informed preference decisions based on internal testing and exploration of the data.<sup>86</sup>

The main variable of interest for this Study is Willingness-to-Pay. For those that indicated they would, or may, be willing to pay in principle, but then answered in the payment card that they "Don't know/Rather not say", it was not possible to infer any positive or non-positive WTP value. For this reason, these respondents were dropped from the analysis.<sup>87</sup>

Following best practice in minimising hypothetical bias, respondents who gave inconsistent follow-up answers when asked why they gave their stated WTP value were removed. This included those who selected an option which did not align with the requirements of realism and consequentiality ("I don't believe I would really have to pay").<sup>88</sup>

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<sup>85</sup> Welsh language users were directed to complete the Welsh translated survey online.

<sup>86</sup> No participants completed the survey in less than 2 minutes, so none were classed as 'speedsters'.

<sup>87</sup> 64 participants were excluded from the total sample based on them giving an unclear "Don't know/ Rather not say" response to the payment card question.

<sup>88</sup> 18 participants were excluded based on their follow up response: "I don't believe I would really have to pay".

# 11 Appendix 4: Guidance on aggregation

Willingness-to-Pay (WTP) was elicited as a per-person annual payment on behalf of the individual, which means it can be aggregated to the annual number of unique adult visitors at the ‘policy site’ cinema (in the absence of data on unique visitors, assumptions must be made around the proportion of total adult ticket sales which are repeat visitors). Given that WTP is elicited per visitor, it is necessary to estimate the ‘unique’ number of adult visitors (i.e., how many people visited the cinema at least once in the past year, as distinct from the total number of cinema visits, which does not tell us how many people visited). This data is derived from the results of the Stated Preference survey, which gives us the self-reported number of visits per user from a sample of six cinema venues. It is recommended that a cinema’s own data on unique adult visitors is used, if available.

Following Arts Council England guidance<sup>89</sup>, the aggregation of non-market values estimated through Stated Preference studies should adopt the lower bound WTP (based on lower bound 95% confidence interval), to account for the hypothetical bias that is known to affect Stated Preference surveys (including the survey used in this Study), and which leads to a likely overstatement of value if uncorrected. The lower bound WTP provides a more conservative estimate than the central estimate (mean), making it more reliable for Business Case purposes and HM Treasury Green Book consistent cost-benefit analysis.

The lower bound of the pooled cinema user WTP value of £18.04 should be transferred to the ‘policy site’ with an adjustment for the income difference between the cinema venues surveyed as ‘study sites’ in this Study (median annual household income of £50,000). The income-adjusted WTP value can then be multiplied by the number of unique adult cinema visitors who have used the ‘policy site’ cinema in the past year using the cinema’s own administrative, revenue, and activity data.

The Study surveyed six cinema venues, categorised into three groups: ‘cold spots’, ‘social hubs’, and more ‘diverse programming’ cinemas. Function transfer testing can be applied to identify the differential in WTP between the three groups. This information can be used by the analyst to further adjust the WTP to the specifics of the ‘policy site’ cinema they are interested in valuing using benefit transfer, by either increasing or reducing WTP depending on the differences between cinema types in the pooled sample within the function approach. Guidance is set out below for benefit transfer aggregation for (1) income adjusted and (2) function transfer by cinema type.

**If the cinema venue does not align with this description of core mainstream programming offer plus the additional cultural offering of being in a ‘cold spot’, offering a ‘social hub’, or providing more ‘diverse programming’, it will not be possible to perform benefit transfer.** This is because this Study has not sort to estimate representative results for all typologies of cinema; rather, it quantifies the non-market value for three cinema groups: ‘cold spot’, a ‘social hub’, ‘diverse programming’. Further research would be required to generalise the results found in this Study to all types of cinema.

<sup>89</sup> <https://www.artscouncil.org.uk/sites/default/files/download-file/Guidance%20Note%20-%20How%20to%20estimate%20the%20public%20benefit%20of%20your%20Museum%20using%20the%20Economic%20Values%20Database.pdf>

## 11.1 Aggregation using income-adjusted unit transfer

The adjusted unit transfer approach (the ratio of median household income at the policy site to the median household income at the study sites, all raised to the power of 1.3) should be used as an adjustment factor. To transfer the lower bound of the 95% confidence interval of the mean (*LBWTP*) from the study sites to a different cinema (recall, named the 'policy site'), the below equation should be used:

$$WTP \text{ at policy site} = \left( \frac{\text{median household income at policy site}}{\pounds 50,000} \right)^{1.3} \times LBWTP \pounds 18.04$$

Where 

£50,000 is the median household income of the study sites (recall Table 3.4:).

## 11.2 Worked example: Income-adjusted unit transfer

Business case practitioners should insert the median household income of the users of the 'policy site' cinema venue in question into the above equation to derive the non-market benefits associated with the policy site cinema venue.

In the worked example below, the median household income of a 'policy site' cinema is assumed to be 

£45,000 per year. The calculation would be:

$$WTP \text{ at policy site} = \left( \frac{45000}{50000} \right)^{1.3} \times \pounds 18.04 = \pounds 15.73$$

BFI data on the number of cinema admissions in 2022 (117.3million visits) and Comscore data on the number of cinemas in the UK (860) can be used to develop assumptions for the purposes of aggregation. It is assumed that an average cinema will receive 136,400 visits per year (rounded to the nearest hundred). Based on survey data from this Study, 10% of respondents visited once, 10% visited twice, 18% visited three times, 26% visited four times, and 37% visited 5 times or more (to which a mid-point between 5 and 10 is assigned).<sup>90</sup> Taking these ratios, it is estimated that of the 136,400 visits, 43,935 are unique visitors. Some of these will be children, where WTP values cannot be assigned. Using data from the Cinema Advertising Association, it is assumed that 13% of the unique visitors are children.<sup>91</sup> The remaining 87% (38,224) are unique adult visitors per year.<sup>92</sup> It is recommended that this value is only used where a 'policy site' cinema does not hold their own data on the number of unique visitors - in that circumstance, precise visitor numbers should be used.

The steps set out in Table 11.1, below, generate the aggregate of annual (lower bound) WTP values for cinema venues. The transferred WTP from the 'study sites' to the 'policy site' is multiplied by the number of unique annual cinema visitors to produce an aggregate figure which shows that the welfare gains generated through the continued existence of the cinema venue to those who use it amounts to 

£601,295 per year (£5,175,763 in present value terms over a 10-year evaluation period).

<sup>90</sup> Note, these values are derived based on respondents who cited that they visited the cinema in 2022. As such, these estimates will differ to the results presented in Appendix 5: Additional Tables, Table 12.3.

<sup>91</sup> Cinema Advertising Association (CAA) Film Monitor, Q4 2020, 2021, 2022. Base: Those who report having gone to cinema in the last 12 months.

<sup>92</sup> The estimated number of visitors, and corresponding cinema use per unique visitor derived for the purposes of aggregation align with internal estimates held by the BFI.

**Table 11.1: Guidance for aggregation of income-adjusted WTP values to cinema venues (lower bound WTP is used in line with Arts Council England guidance on benefit transfer)**

	Cinema user value
<b>Step 1: Identify benefit transfer lower bound WTP value for cinema venue (annual per person donation)</b>	Lower bound WTP = £18.04 per person per year
<b>Step 2: Adjust WTP by differential of median income at your cinema venue to median income of study site cinemas in this study (£50,000), to the power of 1.3 (Green Book elasticity of income)</b>	$(45,000/50,000)^{1.3} \times £18.04 = £15.73$
<b>Step 3: Identify correct unit of aggregation</b>	Per unique adult visitor in the past year = 38,224
<b>Step 4: Annual aggregation: multiply income adjusted WTP by relevant population size</b>	$£15.73 \times 38,224 = £601,295$
<b>Step 5: Evaluation period: apply Green Book corrections and adjustments over evaluation period</b>	Total present value benefit over a 10-year evaluation period = £5,175,763
<b>Calculate present value over appropriate evaluation period (typically 10 years for cultural projects), with 3.5% future discount rate (see HMT Green Book guidance (2022, Table 2)</b>	

*Note that this aggregate figure includes only the value of the cinema venue to users, and does not include the preferences that non-users in the general public may hold to preserve the cinema venue.*

### 11.3 Aggregation using value function transfer to adjust by cinema group, and by cinema visitor income and distance of residence

To account for the specific offer of a cinema venue, business case practitioners may wish to use the value function transfer. The value function transfer accounts for the different offers of cinemas, and how this may affect the non-market value associated with the cinema venue. However, **business case practitioners should be mindful that the value function transfer exhibited higher levels of transfer error, where the Everyman Cardiff exceeded the recommended maximum level of transfer error.**<sup>93</sup> It should be noted that the value function transfer may not always be possible, as it requires more detailed information about the users compared to the adjusted unit transfer.

A worked example is provided to demonstrate to practitioners and analysts how to perform function transfer, using adjustment factors (coefficients from the function regression) to isolate the difference in WTP for a cinema venue which operates as a 'social hub' compared with other types of cinema site (noting that all of the sites must have a core mainstream programming offering in order to qualify for benefit transfer).<sup>94</sup> The equation below should be used to transfer the WTP value of this Study to a different policy site; cinemas can substitute their local policy site-specific characteristics into the equation below:

<sup>93</sup> As discussed in Section 4, whilst the high transfer error is likely an artefact of the Ritzy Picturehouse in Brixton inflating the regression coefficients (as income is the main driver of WTP), the research team is unable to quantitatively assess how both the Ritzy Picturehouse, Brixton and Everyman, Cardiff cinemas perform in a group together.

<sup>94</sup> Cinemas operating as a 'social hub' were chosen as the sole cinema group in which there is a differential WTP, as the validity testing only identified statistically significant differences in WTP between cinemas operating as a 'social hub' and other cinema groups; all else held equal.

$$\begin{aligned}
& \text{WTP at 'policy site'} \\
& = (\log(\text{median household income at 'policy site'}) \times 17.70) \\
& + (\text{average user distance from cinema} \times 0.014) \\
& + ([-60.16 \text{ if 'diverse programming' cinema ; 0 otherwise}]) \\
& + ([14.30 \\
& \times \log(\text{median household income at 'policy site'}) \text{ if 'diverse programming' cinema ; 0 otherwise}]) \\
& - 67.26
\end{aligned}$$

Where  $\log(\text{median household income at the policy site})$  is the logarithm (using base 10) of the median household income at the policy site in GBP per year; and the average distance from the cinema is in kilometres. If the 'policy site' cinema is considered to have a social hub, the binary variable takes the value of 1; if the 'policy site' is considered not to show more 'diverse programming', the binary variable adopts the value of 0. The accompanying regression output can be seen in Appendix 5: Additional Results Tables, Table 12.24:4.

#### 11.4 Worked example: Function transfer

For example, the calculation for a 'policy site' cinema which operates as a 'social hub', where cinema users have a median household income of £45,000 per year, and where users live an average of 5km away from the cinema would be:

$$\text{WTP at 'policy site'} = (\log(45,000) \times 17.70) + (5 \times 0.014) - 60.16 + (14.30 \times \log(45,000)) - 67.26$$

$$\text{WTP at 'policy site'} = £21.55$$

The steps set out in Table 11.2 (below) generate the aggregate of annual (lower bound) WTP values for cinema venues that can be multiplied by the number of unique annual cinema visitors to produce an aggregate figure of £823,834 per year (£7,091,307) in present value terms over a 10-year evaluation period. This value represents the welfare gains generated through the continued existence of the cinema venue to those who visit it.

The example assumes an average of 38,224 unique adult visitors to the cinema each year. It should be noted that a 'policy site' cinema's own internal estimates of the number of unique visitors is preferred to the estimated number of unique visitors derived for the purposes of this Study.

**Table 11.2: Guidance for aggregation of function adjusted WTP values to cinema venues (lower bound WTP is used in line with Arts Council England guidance on benefit transfer)**

<b>Cinema user value</b>																															
<b>Step 1: Identify the information that needs to be inserted into the value function transfer</b>	-Household income of 'policy site' = £45,000 per year -Average distance = 5km -Does the cinema show more 'diverse programming' = yes																														
<b>Step 2: Insert the required information into the relevant row of the table</b>	<table border="1"> <thead> <tr> <th>Element</th> <th>Coefficient</th> <th>Policy site value</th> </tr> </thead> <tbody> <tr> <td>Log(Household income)</td> <td>17.70</td> <td>Log(45,000)</td> </tr> <tr> <td>Distance from cinema</td> <td>0.014</td> <td>5</td> </tr> <tr> <td>'Social hub' cinema</td> <td>-60.16</td> <td>1</td> </tr> <tr> <td>'Social hub' cinema interacted with log(household income)</td> <td>14.30</td> <td>Log(45,000)</td> </tr> <tr> <td>Regression constant</td> <td>-67.26</td> <td>NA</td> </tr> </tbody> </table>			Element	Coefficient	Policy site value	Log(Household income)	17.70	Log(45,000)	Distance from cinema	0.014	5	'Social hub' cinema	-60.16	1	'Social hub' cinema interacted with log(household income)	14.30	Log(45,000)	Regression constant	-67.26	NA										
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Regression constant	-67.26	NA																													
<b>Step 3: Multiply along the rows of the table</b>	<table border="1"> <thead> <tr> <th>Element</th> <th>Coefficient</th> <th>Policy site value</th> <th>Multiply along the row</th> </tr> </thead> <tbody> <tr> <td>Log(Household income)</td> <td>17.70</td> <td>Log(45,000)</td> <td><math>17.70 \times \log(45,000) = 82.36</math></td> </tr> <tr> <td>Distance from cinema</td> <td>0.014</td> <td>5</td> <td><math>0.014 \times 5 = 0.07</math></td> </tr> <tr> <td>'Social hub' cinema</td> <td>-60.16</td> <td>1</td> <td><math>-60.16 \times 1 = -60.16</math></td> </tr> <tr> <td>'Social hub' cinema interacted with log(household income)</td> <td>14.30</td> <td>Log(45,000)</td> <td><math>14.30 \times \log(45,000) = 66.54</math></td> </tr> <tr> <td>Regression constant</td> <td>-67.26</td> <td>NA</td> <td>-67.26</td> </tr> </tbody> </table>			Element	Coefficient	Policy site value	Multiply along the row	Log(Household income)	17.70	Log(45,000)	$17.70 \times \log(45,000) = 82.36$	Distance from cinema	0.014	5	$0.014 \times 5 = 0.07$	'Social hub' cinema	-60.16	1	$-60.16 \times 1 = -60.16$	'Social hub' cinema interacted with log(household income)	14.30	Log(45,000)	$14.30 \times \log(45,000) = 66.54$	Regression constant	-67.26	NA	-67.26				
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Regression constant	-67.26	NA	-67.26																												
<b>Step 4: Summing the final row</b>	<table border="1"> <thead> <tr> <th>Element</th> <th>Coefficient</th> <th>Policy site value</th> <th>Multiply along the row</th> </tr> </thead> <tbody> <tr> <td>Log(Household income)</td> <td>17.70</td> <td>Log(45,000)</td> <td><math>17.70 \times \log(45,000) = 82.36</math></td> </tr> <tr> <td>Distance from cinema</td> <td>0.014</td> <td>5</td> <td><math>0.014 \times 5 = 0.07</math></td> </tr> <tr> <td>'Social hub' cinema</td> <td>-60.16</td> <td>1</td> <td><math>-60.16 \times 1 = -60.16</math></td> </tr> <tr> <td>'Social hub' cinema interacted with log(household income)</td> <td>14.30</td> <td>Log(45,000)</td> <td><math>14.30 \times \log(45,000) = 66.54</math></td> </tr> <tr> <td>Regression constant</td> <td>-67.26</td> <td>NA</td> <td>-67.26</td> </tr> <tr> <td><b>Total</b></td> <td></td> <td></td> <td><b>£21.55</b></td> </tr> </tbody> </table>			Element	Coefficient	Policy site value	Multiply along the row	Log(Household income)	17.70	Log(45,000)	$17.70 \times \log(45,000) = 82.36$	Distance from cinema	0.014	5	$0.014 \times 5 = 0.07$	'Social hub' cinema	-60.16	1	$-60.16 \times 1 = -60.16$	'Social hub' cinema interacted with log(household income)	14.30	Log(45,000)	$14.30 \times \log(45,000) = 66.54$	Regression constant	-67.26	NA	-67.26	<b>Total</b>			<b>£21.55</b>
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<b>Total</b>			<b>£21.55</b>																												
<b>Summing the final row gives the WTP value that can be used for benefit transfer.</b>																															

	Cinema user value
<b>Step 5: Annual aggregation: multiply income adjusted WTP by relevant population size</b>	£21.55 x 38,224= £911,770
<b>Step 6: Evaluation period: apply Green Book corrections and adjustments over evaluation period</b>	Total present value benefit over a 10-year evaluation period = £7,091,307
<b>Calculate present value over appropriate evaluation period (typically 10 years for cultural projects), with 3.5% future discount rate (see HMT Green Book guidance (2022, Table 2). Note that this aggregate figure includes only the value of the cinema venue to users, and does not include the preferences that non-users in the general public may hold to preserve the cinema.</b>	

### 11.5 Discussion: Realism of Willingness-to-Pay results and addressing non-user values

The WTP values estimated across the six cinema venues in this Study are intended to be representative of the non-market value of similar cinema venues, over and above the market value that cinema users already pay for tickets, memberships, and non-film expenditure (e.g., buying food and beverages from the bar). In welfare terms, this can be interpreted as the welfare loss that cinema users would experience if the cinema ceased to exist.

Based on comparable evidence, the value of cinema venues estimated here can be considered proportionate for a number of reasons. Firstly, evidence from the subjective wellbeing literature<sup>95</sup> shows that regular engagement with cinema is statistically associated with higher levels of wellbeing, and that this can be detected in large national datasets.<sup>96</sup> For instance, the DCMS study on the wellbeing value of engagement with sport and culture reported that those who go to the cinema at least once a week report higher levels of subjective wellbeing (life satisfaction) compared with those who do not go to the cinema at least once a week, which is equivalent to £418 annually in equivalent income (£539 updated to 2023 prices).<sup>97</sup> Comparing the £418 annual wellbeing value (a central estimate in that study) to the annual mean WTP per person (£19.20 central estimate as an annual donation across the pooled sample of six cinemas) shows that WTP estimates in this Study are lower and arguably more realistic than those obtained through alternative non-market valuation methods, adding additional confidence to these results. Note that Stated Preference and Wellbeing Valuation are based on different non-market valuation methodologies, which means that the comparison is not like-for-like. Triangulation between different non-market valuation methods has not yet been fully developed<sup>98</sup>; however, comparing the values provided by different methods can be used as a way to assess whether the estimates are within the bounds of realism.

<sup>95</sup> Such as Your health and the arts: a study of the association between arts engagement and health [https://webarchive.nationalarchives.gov.uk/ukgwa/20160204164338mp\\_/http://www.artscouncil.org.uk/media/uploads/documents/publications/yourhealth\\_phpfUVF18.pdf](https://webarchive.nationalarchives.gov.uk/ukgwa/20160204164338mp_/http://www.artscouncil.org.uk/media/uploads/documents/publications/yourhealth_phpfUVF18.pdf)

<sup>96</sup> Such as Understanding Society: <https://www.understandingsociety.ac.uk/research/publications/523567>

<sup>97</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/304899/Quantifying\\_and\\_valuing\\_the\\_wellbeing\\_impacts\\_of\\_sport\\_and\\_culture.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/304899/Quantifying_and_valuing_the_wellbeing_impacts_of_sport_and_culture.pdf)

<sup>98</sup> Though see Bakhshi et al., (2015) for an exception.



Secondly, comparison with market-based value estimates shows that the non-market valuation is realistic. Part of the total economic value of cinema is already partially expressed through the market prices in terms of Gross Value Added. This includes direct GVA (income earned by cinema employees and business owners), indirect GVA (supply chain impacts) and induced GVA (wider economic benefits from re-spending of income earned by direct and indirect workers). The ONS Annual Business Survey and internal Nordicity estimates are combined to produce a total GVA estimate of UK cinema of £1,016m across all cinemas in the UK. Dividing by the number of cinemas in the UK (recall 860) yields an estimated per cinema GVA impact of £1.18m. Comparatively, the estimated market benefits expressed through GVA (including direct, indirect and induced benefits) of UK cinemas is £1.18m per cinema per year (compared to £0.6m in non-market benefits estimated using the recommended adjusted unit transfer), indicating that the non-market benefits of UK cinema represent a significant - and until now unquantified – benefit which, in combination, provide a more complete estimate of the total economic value of cinema venues. It is important to note that this estimate still excludes a number of important elements of value, such as the non-market value that non-users may hold for cinema venues (who were not sampled here, due to challenges in data collection and benefit transfer for non-user groups).

Thirdly, triangulation of previous benefit transfer values should be made with comparable types of cultural assets. For example, Arts Council England previously estimated theatre users' Willingness-to-Pay to keep regional theatres present in their respective cities. The relative closeness of the WTP figure for cinema venues to previous studies of other cultural sites in the UK (such as theatres which also charge ticket prices for performances) provides some assurance that the WTP in this Study is realistic, while acknowledging that this is by no means a perfect comparator (it is, however, the closest that can be found in the empirical literature). This is, if anything, a little higher than the estimates in previous Arts Council England benefit transfer studies (e.g., £15.53 in 2023 prices in the case of regional theatres), while noting that there are substantial differences in the survey design and the characteristics of the sites valued in different Stated Preference studies such as these, which would be expected to drive differences in WTP. It may be that the higher WTP is associated with the donation payment vehicle used for cinema venues, in contrast to the annual tax vehicle in the theatres study, with an acknowledgement in the literature that donations, as a voluntary payment mechanism, can lead to higher levels of hypothetical bias than compulsory payment vehicles such as taxes, and that hypothetical bias can lead to an overstatement of value.<sup>99</sup> However, without time-series data on the value of cinema venues or theatres in order to test the inflationary driver, or experimental testing of different compulsory or voluntary payment vehicles within the same survey instrument to test for the upward bias of donations as a payment vehicle, these comparisons are incidental.

There may also be some anchoring effect around the amount that cinema users typically pay as cinema ticket prices (which ranges from £4.99 for a 'super saver' seat at Glasgow Fort Vue to £14.90 at the Ritzy Picturehouse Brixton).<sup>100</sup> It is possible that, when asked to provide an annual donation to support the cinema venue, respondents' WTP values are anchored around the cost of purchasing X number of cinema tickets per year, whereas this anchor of a ticket price does not exist for public services such as libraries which are free at the point-of-use. This could also in part explain why respondents' WTP for Glasgow Fort Vue was the lowest value and respondents' WTP value for the Ritzy Picturehouse Brixton was the highest in this Study's sample. However, this conclusion is speculative and would require further

<sup>99</sup> Patricia A. Champ and Richard C. Bishop, 'Donation Payment Mechanisms and Contingent Valuation: An Empirical Study of Hypothetical Bias', *Environmental and Resource Economics* 19, no. 4 (2001): 383–402.

<sup>100</sup> Prices from the time of writing, May 2023.

research, with a specific follow-up survey designed to tease out the cognitive biases operating on respondents' Willingness-to-Pay.

In terms of non-user values (WTP held by non-users in the general public who have never visited the cinema venue in question) due to design constraints, inconsistencies in pilot responses, and high non-user transfer errors identified in previous benefit transfer studies,<sup>101</sup> it was decided that the main survey should focus only on the welfare value of cinema venues to their users. However, the continued existence of the cinema can be expected to be valuable to non-users in the wider community as well. This value is currently unknown but means that the aggregate WTP values estimated here for Business Case purposes represent only part of the total community value that cinemas are expected to provide. Nonetheless, previous studies have shown that non-user values for comparable cultural sites are still positive, though around 37% lower than user values (theatres are a good comparison, as they are similar to cinemas in that they are a quasi-public good which charges for shows but provide public benefit over and above market prices).<sup>102</sup> Therefore, while there is confidence that this Study has quantified and monetised the largest part of the non-market value produced by cinema venues, there may nonetheless be a substantial element of cultural value that remains unmonetized among non-users, and this should be a topic for future research.

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<sup>101</sup> For example, in the DCMS benefit transfer study of regional museums, inconsistent findings are observed for non-user WTP transfer tests, with a recommendation for "further research with larger data sets to understand better the transferability of non-use values between non-user populations in the general public."  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/963226/The\\_Economic\\_Value\\_of\\_Culture\\_-\\_A\\_Benefit\\_Transfer\\_Study\\_-\\_Final\\_report\\_V2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/963226/The_Economic_Value_of_Culture_-_A_Benefit_Transfer_Study_-_Final_report_V2.pdf)

<sup>102</sup> <https://www.artscouncil.org.uk/sites/default/files/download-file/Arts%20Council%20England%20-%20Regional%20Galleries%20and%20Theatres%20Benefit%20Transfer%20Report.pdf>

# 12 Appendix 5: Additional Results Tables

## 12.1 Demographic characteristics

**Table 12.1: Sample size, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
<b>Total sample N</b>	400	400	400	309	400	330	2,239
<b>Total sample with valid WTP (after exclusions)</b>	<b>386</b>	<b>380</b>	<b>383</b>	<b>293</b>	<b>382</b>	<b>302</b>	<b>2,126</b>

**Table 12.2: Demographics, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
<b>Respondents aged 16 – 34</b>	37%	39%	40%	43%	42%	26%	<b>38%</b>
<b>Respondents aged 35 – 54</b>	50%	43%	52%	43%	40%	49%	<b>46%</b>
<b>Respondents aged 55+</b>	13%	17%	8%	14%	17%	25%	<b>15%</b>
<b>Female</b>	63%	52%	49%	61%	58%	56%	<b>56%</b>
<b>Dependent Children</b>	54%	60%	66%	46%	44%	39%	<b>52%</b>
<b>Degree or above</b>	66%	64%	86%	72%	70%	76%	<b>72%</b>
<b>Employed: full-time, part-time or self-employed</b>	82%	86%	92%	85%	82%	72%	<b>83%</b>
<b>Mean household income</b>	£53,653	£64,176	£101,109	£61,657	£52,210	£57,446	<b>£65,703</b>
<b>Median household income</b>	£40,000	£50,000	£87,500	£50,000	£40,000	£40,000	<b>£50,000</b>
<b>Social grade: middle or upper class (Grades A-B)<sup>103</sup></b>	46%	59%	68%	64%	52%	55%	<b>57%</b>
<b>Member of Black and Global Majority</b>	7%	7%	16%	8%	21%	5%	<b>11%</b>
<b>Heritage and arts in top 5</b>	26%	37%	52%	36%	43%	51%	<b>41%</b>

<sup>103</sup> [https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT\\_thoughtpiece\\_Social\\_Grade\\_July09\\_V3\\_WEB.pdf](https://www.ipsos.com/sites/default/files/publication/6800-03/MediaCT_thoughtpiece_Social_Grade_July09_V3_WEB.pdf)

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
<b>spending priorities</b>							
<b>Member of cultural organisation</b>	19%	28%	42%	28%	34%	28%	<b>30%</b>
<b>Convenient cultural experience</b>	74%	74%	85%	80%	75%	81%	<b>78%</b>
<b>Shared cultural experience</b>	76%	77%	87%	78%	78%	81%	<b>80%</b>
<b>Familiar with the cinema information presented</b>	85%	90%	96%	91%	93%	94%	<b>91%</b>

## 12.2 User experience

### The majority of cinema users are repeat visitors

On average, 85% of respondents (all of which had used the cinema in the last 5 years) used the cinema venue more than once in the last five years (Figure 12.1). There are no significant differences in the proportion repeat users between the three cinema groups. This suggests that all the groups of cinemas are subject to repeat visits by the majority of users, making engagement with the cinema venue a recurring part of many people's social or cultural life, rather than being a one-off event.<sup>104</sup>

**Figure 12.1: Frequency of use of the cinema venue in the last five years (including visits for non-film viewing), by cinema group**

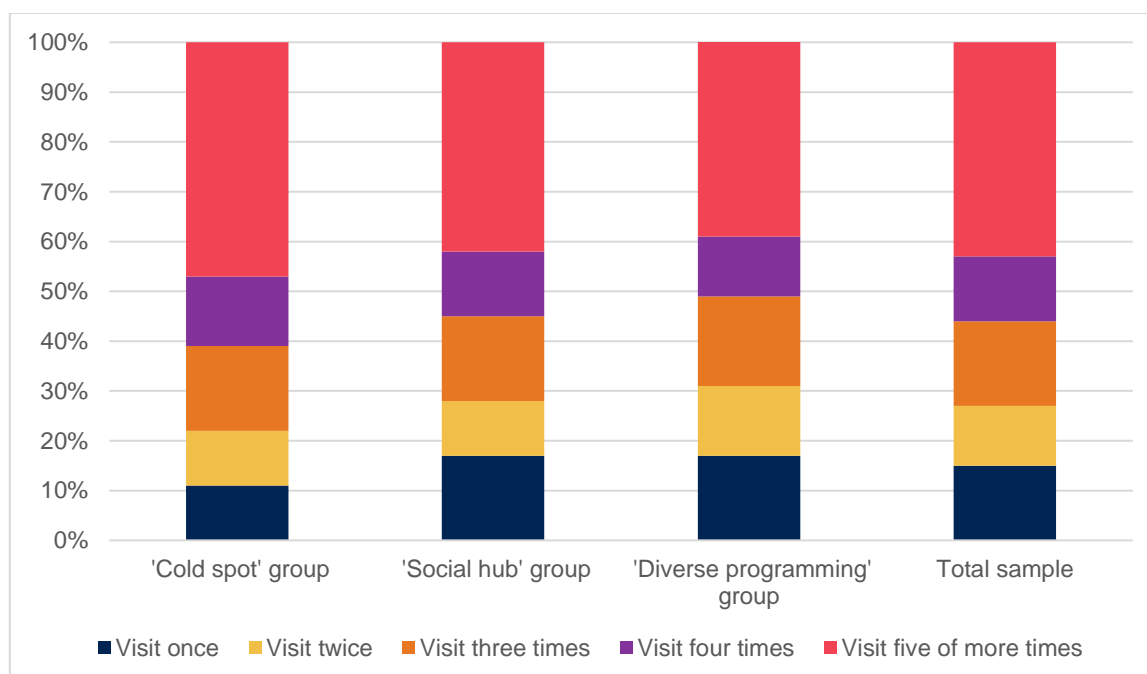


Figure 12.1 presents results of the online survey question: 'How often have you visited this cinema in the past 5 years either to see a film or use the bar as a social space?'. Total sample 2,105 (excluding n=21 Don't Know/ Prefer not to say)

<sup>104</sup> 'Cinema users' are defined as having visited the study cinema venue at least once in the last five years.

**Table 12.3: Frequency of use of the cinema venue in the last five years (including visits for non-film viewing), by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
<b>Visited once</b>	12%	11%	9%	27%	14%	20%	<b>15%</b>
<b>Visited twice</b>	10%	12%	10%	11%	15%	13%	<b>12%</b>
<b>Visited three times</b>	17%	17%	15%	20%	19%	17%	<b>17%</b>
<b>Visited four times</b>	12%	16%	15%	10%	12%	12%	<b>13%</b>
<b>Visited five or more times</b>	49%	45%	51%	31%	41%	39%	<b>43%</b>

Note: Users are defined as having visited the target cinema venue at least once in the last five years. Total sample 2,105 (excluding n=21 Don't Know/ Prefer not to say). Survey question: How often have you visited this cinema in the past 5 years either to see a film or use the bar or venue as a social space?

**Table 12.4: Activities undertaken when visiting the cinema venue, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
<b>Watching mainstream (Hollywood) films</b>	68%	58%	51%	63%	48%	46%	<b>56%</b>
<b>Watching British films (featuring British writers, cast and crew or locations)</b>	43%	45%	52%	42%	49%	53%	<b>47%</b>
<b>Watching independent English language films (not backed by US studios)</b>	19%	30%	37%	22%	36%	49%	<b>32%</b>
<b>Watching foreign language/world cinema</b>	13%	23%	34%	19%	34%	43%	<b>27%</b>
<b>Watching event or 'as-live' film screenings (e.g., opera or theatre productions)</b>	11%	26%	28%	19%	23%	19%	<b>21%</b>
<b>Attending screenings for older people (e.g., Silver Screenings)</b>	8%	13%	26%	7%	12%	8%	<b>13%</b>
<b>Attending screenings for parents (e.g., Parent and Baby Screenings)</b>	13%	17%	24%	8%	14%	9%	<b>15%</b>
<b>Attending screenings for people with disabilities (e.g., Autism-friendly, Hearing Loss screenings)</b>	10%	18%	26%	9%	11%	8%	<b>14%</b>
<b>Attending film festivals</b>	9%	17%	30%	13%	22%	30%	<b>20%</b>

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse , Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse , Edinburgh	Total Sample
Attending other non-film related cultural festivals	8%	13%	23%	8%	15%	13%	14%
Using spaces that are part of the cinema for viewing performance (e.g., comedy) or social participation (e.g., film quizzes or open mic nights)	12%	25%	39%	15%	23%	13%	22%
Using spaces that are part of the cinema that host community activity e.g., self-help groups, coffee mornings, charity events, attend community group	14%	27%	30%	13%	20%	11%	20%
Using spaces that are part of the cinema to work or study	6%	17%	28%	11%	13%	7%	14%
Watching archive film or classic films from the past	18%	25%	36%	25%	36%	44%	30%
Other	1%	1%	2%	3%	7%	5%	3%
None of the above	8%	4%	2%	4%	3%	3%	4%
Don't know/ Rather not say	1%	2%	0%	1%	1%	2%	1%

Note: respondents are able to select more than one option. Total sample 2,126. Survey question: Which of the following, if any, activities do you use when visiting [CINEMA VENUE]? (select as many as relevant)

## 12.3 Cinema Membership

Table 12.5: Cinema membership, by cinema group

	'Cold spot' group	'Social hub' group	'Diverse programming' group	Total sample
Number of respondents with a cinema membership	149	207	102	458
Total sample size of cinema group	766	676	684	2,126
Proportion with membership	19%	31%	15%	22%

Total sample size 2,126. Survey question: Do you have a membership/loyalty card for [CINEMA VENUE]?

**Table 12.6: Cinema membership, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
Number of respondents with a cinema membership	43	106	171	36	68	34	458
Sample size of cinema	386	380	383	293	382	302	2,126
Proportion with membership	11%	28%	45%	12%	18%	11%	22%

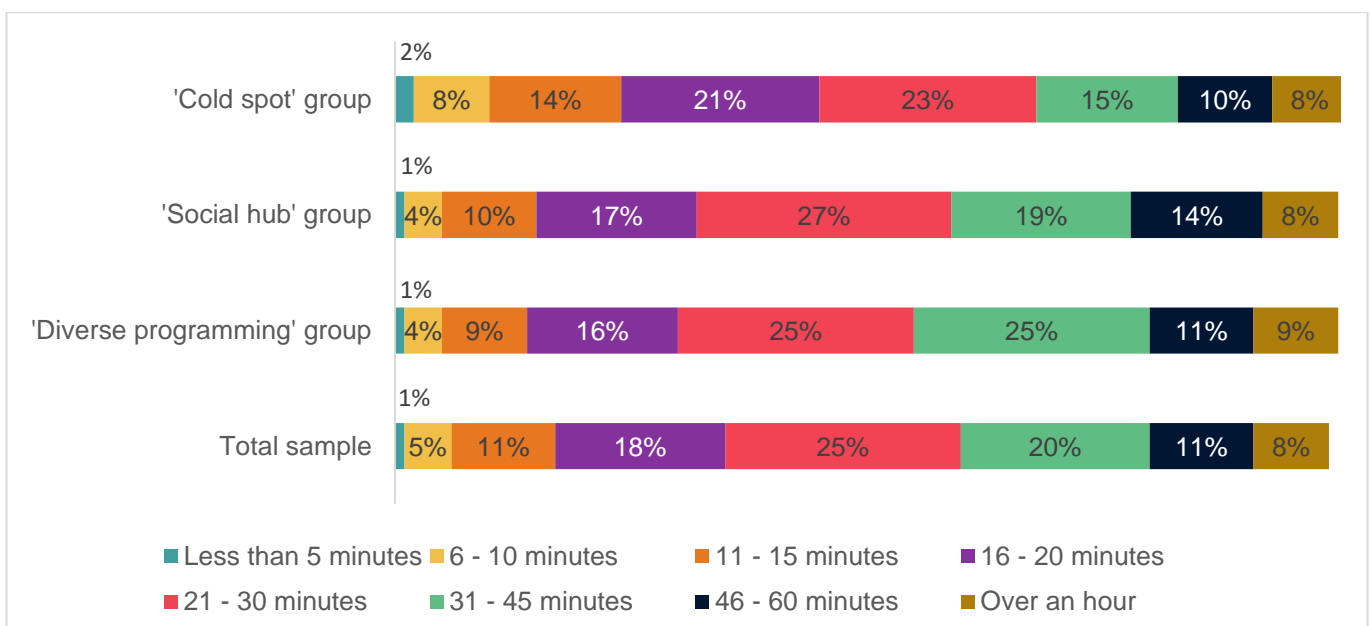
Total sample size, n=2,126. Survey question: Do you have a membership/loyalty card for [CINEMA VENUE]?

## 12.4 Travel time to cinema

**Table 12.7: Travel time to cinema, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
Less than 5 minutes	2%	2%	2%	0%	1%	1%	1%
6 - 10 minutes	9%	7%	3%	5%	4%	4%	5%
11 - 15 minutes	15%	13%	8%	12%	10%	8%	11%
16 - 20 minutes	24%	17%	16%	18%	16%	16%	18%
21 - 30 minutes	24%	23%	27%	27%	26%	24%	25%
31 - 45 minutes	12%	17%	19%	19%	24%	27%	20%
46 - 60 minutes	8%	11%	18%	9%	11%	10%	11%
Over an hour	5%	10%	6%	10%	8%	11%	8%

Sample size: Total sample n=2,126; Vue Glasgow fort, n=386; Light Cinema New Brighton, n=380; Ritzy Picturehouse Brixton, n=383; Everyman Cardiff, n=293; Broadway Nottingham, N=382; Cameo Picturehouse Edinburgh, n=302. Survey question: How long does it take you to travel to [CINEMA VENUE] from your home?

**Figure 12.2: Travel time to cinema, by cinema group**

## 12.5 Counterfactual: What would happen if the cinema closed?

**Table 12.8: How far respondents would be prepared to travel to see a film if the cinema venue in question were to close, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
Less than 5 minutes	1%	1%	1%	0%	1%	0%	1%
6-10 minutes	3%	3%	2%	2%	3%	3%	3%
11-15 minutes	6%	7%	5%	5%	4%	3%	5%
16-20 minutes	18%	15%	12%	11%	13%	9%	13%
21-30 minutes	34%	28%	23%	31%	29%	28%	29%
31-45 minutes	20%	19%	25%	27%	22%	27%	23%
46-60 minutes	10%	15%	21%	14%	17%	17%	16%
Over 1 hour	5%	10%	9%	9%	7%	8%	8%
Don't Know/ Rather not say	3%	2%	2%	2%	3%	4%	3%

Total sample 2,126. Survey question: How far would you be prepared to travel to see a film if [CINEMA VENUE] were to close?

## 12.6 Change in use of cinema due to COVID-19 pandemic

**Table 12.9: Change of cinema use due to the COVID-19 pandemic, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
Yes	37%	37%	48%	41%	40%	43%	41%
No	60%	62%	48%	55%	57%	54%	56%
Don't know/ Rather not say	3%	1%	4%	3%	4%	3%	3%

Total sample 2,126. Survey question: Have the ways you use cinemas changed because of the COVID-19 pandemic?

## 12.7 Willingness-to-Pay

**Table 12.10: Willing to pay in principle, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total Sample
Yes	25%	43%	61%	37%	39%	30%	40%
Maybe	32%	31%	26%	31%	34%	34%	31%
No	44%	27%	13%	31%	27%	36%	29%
Sample Size	386	380	383	293	382	302	2126

Total sample 2,126. Survey question: Would you be prepared to pay an annual donation, even if only a very small amount, to support the continued existence of the cinema and ensure it is able to continue to provide the full range of services, activities and programmes it currently offers?



**Table 12.11: Willingness-to-Pay to support the continued existence of the cinema venue per person per year, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh
<b>Mean</b>	£11.57	£21.28	£34.14	£16.25	£15.43	£15.02
<b>Standard error</b>	£1.09	£1.48	£1.80	£1.38	£1.14	£1.26
<b>Lower bound of 95% confidence interval</b>	£9.42	£18.37	£30.61	£13.54	£13.18	£12.54
<b>Median</b>	£2.25	£11.25	£22.50	£7.50	£8.50	£7.50
<b>Sample Size</b>	386	380	383	293	382	302

Note: WTP estimated as the sample average and lower bound 95% confidence interval, including those not willing to pay in principle coded as £0. Total sample 2,126. Survey question: What is the maximum you would be willing to pay per year, in terms of an annual donation to a voluntary fund to support the continued existence of [CINEMA VENUE] and ensure it is able to continue to provide the full range of services, activities and programmes it currently offers?

## 12.8 Willingness-to-Pay allocation: cultural elements of the cinema

The Stated Preference survey included a follow-up question for those who were willing to pay to support the cinema venue. Respondents were asked to think about the importance of different elements of the cinema venue and its services.

The allocation question was designed to pull out whether WTP is divisible into its constituent elements of cultural value, as defined by David Throsby<sup>105</sup>, and the DCMS CHC Framework.

Throsby (2001) disaggregates cultural value into several components. His list of “some of [the] more important constituent elements” of cultural value includes the following six ‘dimensions’:

- Aesthetic value refers to “properties of beauty, harmony, form, and other aesthetic characteristics”.
- Spiritual value relates to its “significance to the members of a religious faith, tribe or other cultural grouping,” or its secular importance.
- Social value is linked to the sense of connection with others evoked.
- Historical value is related to the way “it reflects the conditions of life at the time it was created” or over time.
- Symbolic value is linked to the capacity of a cultural or heritage asset to convey a particular meaning.
- Authenticity value comes from the fact that the cultural or heritage asset or the art it produces is original.

<sup>105</sup> David Throsby, ‘Heritage Economics: Coming to Terms with Value and Valuation’, in *Values in Heritage Management: Emerging Approaches and Research Directions*, by Erica Avrami et al. (Los Angeles, CA: The Getty Conservation Institute, 2019), 199–209.

Previous literature<sup>106</sup> has sought to explore these elements and has found some significant results when applied to heritage sites. This is the first time that this approach has been applied specifically to cinema venues, defined using the statements listed in Table 12.12.

Respondents were asked if they would allocate their WTP equally or differently across each of these elements if they were given the choice, and those who answered yes were shown the list of six different elements of cultural value within the online survey.

Across groupings, lower-valued elements included the 'symbolic' and 'authenticity' value of the cinema. This may indicate that these dimensions of value are less important in the eyes of users than the social and aesthetic value of cinema venues, or it may be that respondents found 'symbolic value' and 'authenticity' harder to conceptualise and articulate, given they are abstract concepts. The benefit of the allocation approach is that the value of each element can potentially be disaggregated with minimal double counting between them, though this is still to be properly tested in the literature.

**Table 12.12: Allocating WTP across different elements of cultural value of the cinema, by cinema group**

	'Cold spot' group		'Social hub' group		'Diverse programming' group	
	mean	LB 95% CI	mean	LB 95% CI	mean	LB 95% CI
The aesthetic value of the cinema venue (the attractiveness of the cinema interiors and exteriors to you)	£3.78	£3.16	£5.47	£4.76	£2.95	£2.42
The spiritual value of the cinema venue (if the cinema has a spiritual connection to you and others)	£2.42	£1.94	£3.71	£3.12	£1.62	£1.29
The social value of the cinema venue as a location where people are able to connect with others in the community	£4.23	£3.65	£5.00	£4.40	£3.42	£2.87
The historical value of the cinema as part of the history of the area	£2.29	£1.92	£3.98	£3.38	£2.36	£1.97
The symbolic value of the cinema venue as something which means something to me and others	£2.32	£1.92	£2.78	£2.32	£1.59	£1.31

<sup>106</sup> Throsby, Zednik, and Araña, 'Public Preferences for Heritage Conservation Strategies'.

	'Cold spot' group		'Social hub' group		'Diverse programming' group	
	mean	LB 95% CI	mean	mean	LB 95% CI	mean
<b>The authenticity value of the cinema venue as a real, original and unique venue</b>	£2.08	£1.71	£3.00	£2.52	£2.08	£1.80
<b>The value of the cinema as a place that makes people happier</b>	£3.24	£2.80	£3.16	£2.76	£2.60	£2.23
<b>The value of the cinema's programming (the choice and range of films that it puts on)</b>	£2.35	£1.95	£2.63	£2.28	£3.32	£2.74
<b>Other</b>	£0.75	£0.51	£1.24	£0.98	£0.44	£0.28

Note: LB= Lower bound 95% confidence interval around the mean. Sample size 2,126. Survey question: We would like you to think about how important or unimportant each of the following elements of the cinema venue and its services are to you, and to think about how you would allocate your [WTP] equally or differently across each of these elements if you were given the choice? If one of the elements is not important to you, please enter 0. See Table 12.13, for the results at a cinema venue level.

Table 12.13: Allocating WTP across different elements of cultural value of the cinema, by cinema venue

	Vue, Glasgow Fort		Light Cinema, New Brighton		Ritz Picturehouse, Brixton		Everyman, Cardiff		Broadway, Nottingham		Cameo Picturehouse, Edinburgh	
	mean	LB 95% CI	mean	LB 95% CI	mean	LB 95% CI	mean	LB 95% CI	mean	LB 95% CI	mean	LB 95% CI
The aesthetic value of the cinema venue (the attractiveness of the cinema interiors and exteriors to you)	£3.42	£2.34	£4.06	£3.33	£6.14	£5.28	£4.36	£3.15	£2.88	£2.12	£3.05	£2.37
The spiritual value of the cinema venue (if the cinema has a spiritual connection to you and others)	£2.04	£1.19	£2.72	£2.18	£4.80	£3.99	£1.90	£1.16	£1.84	£1.37	£1.31	£0.84
The social value of the cinema venue as a location where people are able to connect with others in the community	£3.92	£2.94	£4.47	£3.78	£5.48	£4.72	£4.21	£3.25	£3.25	£2.65	£3.66	£2.62
The historical value of the cinema as part of the history of the area	£1.41	£0.98	£2.98	£2.43	£4.89	£4.07	£2.46	£1.66	£2.04	£1.62	£2.84	£2.08
The symbolic value of the cinema venue as something which means something to me and others	£1.71	£1.16	£2.81	£2.24	£3.63	£2.95	£1.38	£0.98	£1.60	£1.28	£1.56	£1.08
The authenticity value of the cinema venue as a real, original and unique venue	£1.45	£1.01	£2.57	£2.02	£3.62	£3.01	£1.97	£1.22	£2.01	£1.63	£2.17	£1.77
The value of the cinema as a place that makes people happier	£2.56	£1.97	£3.78	£3.14	£3.36	£2.85	£2.83	£2.19	£2.58	£2.11	£2.63	£2.05
The value of the cinema's programming (the choice and range of films that it puts on)	£2.03	£1.40	£2.60	£2.08	£2.94	£2.49	£2.11	£1.58	£2.74	£2.12	£4.15	£3.07
Other	£0.45	£0.20	£0.98	£0.60	£1.73	£1.36	£0.44	£0.15	£0.54	£0.31	£0.29	£0.11

Note: LB= Lower bound 95% confidence interval around the mean. Sample size 2, 126. Survey question: We would like you to think about how important or unimportant each of the following elements of the cinema venue and its services are to you, and to think about how you would allocate your [WTP] equally or differently across each of these elements if you were given the choice? If one of the elements is not important to you, please enter 0.

## 12.9 Willingness-to-Pay motivations

### 12.9.1 Reasons given for willingness to support study cinema

**Table 12.14: Reasons given for Willingness-to-Pay to support the continued existence of the cinema venue, by cinema group**

	'Cold spot' group	'Social hub' group	'Diverse programming' group	Total sample
I use my local cinema and value the services, activities and programmes it provides	18%	14%	22%	18%
My willingness-to-pay is not just for using the cinema, but also an expression of my support for all cinemas in my local area	16%	13%	15%	15%
My willingness-to-pay is not just for using the cinema, but also an expression of my support for the town centre/high street in my local area	16%	13%	13%	14%
I want to support my local cinema even though I don't use it much	7%	10%	16%	11%
I agreed to pay mostly because it seemed the right thing to do	9%	12%	6%	9%
I think that cinemas are important for others in my community	13%	8%	6%	9%
I like to use the cinema's cafe, bar or restaurant	7%	11%	8%	9%
The cinema's community projects and local support services are important to me	6%	10%	5%	7%
The cinema contributes to pride in place in the local area	6%	7%	7%	7%
Other	1%	1%	2%	1%
Don't know/ Rather not say	1%	1%	0%	1%

Note: table may not sum due to rounding. A site-specific breakdown can be found below in Table 12.15. Sample size 2,126.  
 Survey question: What is the main reason why you would be prepared to pay an annual donation to support [CINEMA VENUE]?  
 You can only select one reason.

**Table 12.15: Reasons given for Willingness-to-Pay to support the continued existence of the cinema venue, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total
I use my local cinema and value the services, activities and programmes it provides	20%	16%	10%	21%	20%	26%	18%
My willingness-to-pay is not just for using the cinema, but also an expression of my support for all cinemas in my local area	16%	16%	12%	15%	12%	20%	15%
My willingness-to-pay is not just for using the cinema, but also an expression of my support for the town centre/high street in my local area	16%	16%	13%	14%	16%	9%	14%
I want to support my local cinema even though I don't use it much	9%	6%	11%	9%	16%	17%	11%
I agreed to pay mostly because it seemed the right thing to do	9%	10%	14%	10%	6%	6%	9%
I think that cinemas are important for others in my community	15%	11%	7%	9%	7%	3%	9%
I like to use the cinema's cafe, bar or restaurant	3%	9%	11%	10%	9%	7%	9%
The cinema's community projects and local support services are important to me	6%	7%	12%	6%	6%	4%	7%
The cinema contributes to pride in place in the local area	5%	7%	9%	4%	7%	6%	7%
Other	0%	1%	1%	0%	1%	2%	1%
Don't know/ Rather not say	1%	1%	1%	1%	0%	0%	1%

Note: Table may not sum due to rounding. Sample size 2,126. Survey question: What is the main reason why you would be prepared to pay an annual donation to support [CINEMA VENUE]? You can only select one reason.

## 12.9.2 Reasons given for not being willing to pay to support study cinema

**Table 12.16: Reasons given for not being willing to pay to support the existence of the cinema venue, by cinema group**

	'Cold spot' group	'Social hub' group	'Diverse programming' group	Total sample
I cannot afford to pay any donations at this time	38%	39%	41%	39%
I have more important things to spend my money on	15%	23%	19%	18%
I can go elsewhere for the services, activities and programmes that my local cinema provides	18%	9%	11%	14%
Cinema users should pay for these services, activities and programmes	7%	10%	10%	9%
I think the funds could be found from existing cinema revenues, by cutting back elsewhere	6%	4%	3%	5%
Others such as Central Government and/or corporate sponsors should pay for the cinema's services, activities and programmes	6%	3%	3%	4%
I don't use my local cinema	3%	4%	3%	3%
I think that the services, activities and programmes provided by my local cinema are wasteful/irrelevant/don't meet local needs	1%	3%	0%	1%
Other	4%	3%	8%	5%
Don't know/ Rather not say	1%	3%	1%	2%

Note: Table may not sum due to rounding. The table directly below presents these results by cinema venue. Sample size 2,126.  
Survey question: What is the main reason why you would not be prepared to pay an annual donation to support [CINEMA VENUE]? You can only select one reason.

**Table 12.17: Reasons given for not being willing to pay to support the existence of the cinema venue, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total
I cannot afford to pay any donations at this time	38%	38%	38%	40%	31%	50%	39%
I have more important things to spend my money on	17%	11%	25%	21%	20%	18%	18%
I can go elsewhere for the services, activities and programmes that my local cinema provides	20%	16%	7%	10%	12%	11%	14%

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehous e, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehous e, Edinburgh	Total
<b>Cinema users should pay for these services, activities and programmes</b>	7%	8%	5%	12%	14%	6%	<b>9%</b>
<b>I think the funds could be found from existing cinema revenues, by cutting back elsewhere</b>	5%	8%	4%	4%	6%	0%	<b>5%</b>
<b>Others such as Central Government and/or corporate sponsors should pay for the cinema's services, activities and programmes</b>	4%	8%	4%	3%	3%	3%	<b>4%</b>
<b>I don't use my local cinema</b>	4%	3%	7%	2%	5%	2%	<b>3%</b>
<b>I think that the services, activities and programmes provided by my local cinema are wasteful/irrelevant/don't meet local needs</b>	2%	0%	2%	3%	1%	0%	<b>1%</b>
<b>Other</b>	3%	6%	5%	2%	7%	10%	<b>5%</b>
<b>Don't know/ Rather not say</b>	1%	2%	2%	3%	2%	1%	<b>2%</b>

*Note: Table may not sum due to rounding. Sample size 2126. Survey question: What is the main reason why you would not be prepared to pay an annual donation to support [CINEMA VENUE]? You can only select one reason.*



## 12.10 Social infrastructure

**Table 12.18: Cinema venue in question contributes to the local sense of pride in the community, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total
<b>Yes</b>	40%	66%	80%	56%	71%	63%	<b>63%</b>
<b>No</b>	37%	18%	12%	26%	19%	20%	<b>22%</b>
<b>Don't know/ Rather not say</b>	23%	15%	9%	17%	11%	18%	<b>15%</b>
<b>Sample Size</b>	386	380	383	293	382	302	<b>2126</b>

Sample size 2,126. Survey question: Do you think that [CINEMA VENUE] contributes to your sense of pride in the area where you live? (this can be thought of as a sense of connection to the community you live in).

**Table 12.19: Activities undertaken as part of a wider trip (only asked to those who indicated they were likely to visit other places during a trip to the cinema)**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total
<b>Go shopping</b>	73%	53%	53%	44%	56%	33%	<b>53%</b>
<b>Go to a bar or pub</b>	28%	46%	56%	53%	53%	49%	<b>47%</b>
<b>Go for food/coffee refreshments inside the cinema</b>	56%	49%	58%	53%	51%	49%	<b>53%</b>
<b>Go for food/coffee refreshments at a different venue</b>	61%	58%	55%	52%	51%	54%	<b>55%</b>
<b>Visit the high street</b>	20%	30%	48%	29%	44%	27%	<b>33%</b>
<b>Visit a local park</b>	15%	32%	36%	20%	20%	17%	<b>24%</b>
<b>Visit a museum or other cultural site</b>	9%	21%	30%	15%	15%	16%	<b>18%</b>
<b>Visit a historic building or other heritage site</b>	8%	20%	32%	13%	14%	9%	<b>16%</b>
<b>Other</b>	1%	8%	6%	6%	3%	2%	<b>4%</b>
<b>None of the above</b>	3%	2%	1%	2%	1%	7%	<b>2%</b>
<b>Don't know/ Rather not say</b>	0%	0%	0%	1%	0%	0%	<b>0%</b>

Note: Respondents could select more than one option. Sample size 2,071 (asked only those who answered Yes to previous question "On a typical visit to [CINEMA VENUE] how likely are you to visit other places on the same trip? (e.g., other destinations such as shops, parks, or high streets around the cinema). Survey question: What would you usually do as part of your wider trip? Please select all that apply.

## 12.11 Social groups that the cinema venue does not cater for

**Table 12.20: Social groups that respondents perceive the cinema venues cater for, by cinema group**

	'Cold Spot' group	'Social Hub' group	'Diverse Programming' group	Total
Lower income groups	51%	31%	37%	40%
Higher income groups	47%	57%	51%	51%
Black, Asian and minority ethnic groups	39%	35%	39%	38%
Ethnically white groups	42%	42%	43%	42%
Native English speakers	46%	43%	51%	47%
Non-native English speakers	30%	28%	43%	34%
Younger people	59%	50%	57%	55%
Older people	50%	46%	58%	52%
Families/parents and babies	52%	40%	49%	47%
LGBTQ+ communities	37%	39%	46%	41%
University-educated	39%	42%	54%	45%
Non-university educated	37%	32%	37%	36%
Urban communities	45%	46%	50%	47%
Rural communities	32%	22%	25%	26%
People with a disability or living with a long-term handicap	39%	26%	35%	33%
Other	2%	1%	4%	3%
None of the above	2%	1%	1%	2%
Don't know/Rather not say	13%	8%	11%	11%

Note: Respondents can select more than one option. Total sample 2,126. Survey question: Which groups do you think that [CINEMA VENUE] caters for, if any? Please select all that apply.

**Table 12.21: Social groups that respondents perceive the cinema venues cater for, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total
Lower income groups	54%	47%	37%	23%	41%	32%	40%
Higher income groups	49%	45%	49%	66%	53%	49%	51%
Black, Asian and minority ethnic groups	43%	35%	38%	30%	42%	37%	38%
Ethnically white groups	44%	39%	47%	36%	45%	40%	42%
Native English speakers	46%	46%	45%	40%	50%	51%	46%
Non-native English speakers	33%	28%	32%	24%	41%	45%	34%
Younger people	61%	57%	49%	51%	58%	56%	55%
Older people	51%	49%	45%	48%	58%	60%	52%
Families/parents and babies	55%	49%	44%	35%	50%	48%	47%
LGBTQ+ communities	39%	35%	38%	40%	50%	42%	41%
University-educated	40%	39%	42%	43%	53%	55%	45%
Non-university educated	41%	34%	33%	30%	38%	36%	35%
Urban communities	49%	42%	50%	42%	49%	53%	47%
Rural communities	35%	29%	21%	23%	30%	18%	26%
People with a disability or living with a long-term handicap	41%	36%	24%	28%	38%	32%	33%
Other	2%	3%	1%	2%	3%	5%	3%
None of the above	2%	3%	1%	1%	2%	1%	2%
Don't know/ Rather not say	15%	11%	7%	9%	10%	13%	11%

Note: Respondents can select more than one option. Total sample 2,126. Survey question: Which groups do you think that [CINEMA VENUE] caters for, if any? Please select all that apply.

**Table 12.22: Social groups that respondents perceive the cinema venues do not cater for, by cinema group**

	'Cold spot' group	'Social hub' group	'Diverse programming' group	Total sample
Lower income groups	11%	22%	13%	15%
Higher income groups	6%	11%	4%	7%
Black, Asian and minority ethnic groups	7%	9%	6%	7%
Ethnically white groups	4%	9%	4%	6%
Native English speakers	3%	10%	4%	6%
Non-native English speakers	10%	10%	7%	9%
Younger people	5%	11%	6%	8%
Older people	7%	8%	5%	6%
Families/parents and babies	4%	9%	4%	6%

	'Cold spot' group	'Social hub' group	'Diverse programming' group	Total sample
<b>LGBTQ+ communities</b>	7%	9%	6%	<b>7%</b>
<b>University-educated</b>	4%	6%	3%	<b>5%</b>
<b>Non-university educated</b>	3%	8%	5%	<b>5%</b>
<b>Urban communities</b>	3%	8%	4%	<b>5%</b>
<b>Rural communities</b>	8%	13%	13%	<b>11%</b>
<b>People with a disability or living with a long-term handicap</b>	4%	4%	3%	<b>4%</b>
<b>Other</b>	1%	0%	1%	<b>1%</b>
<b>None of the above</b>	50%	36%	47%	<b>45%</b>
<b>Don't know/Rather not say</b>	17%	14%	18%	<b>16%</b>

Note: Respondents could select more than one option.

For 'cold spot' group n=766; for 'social hub' group n=676; for 'diverse programming' group n=684; for total sample n= 2,126.

Survey question: Which groups do you think that [CINEMA VENUE] ignore, if any? Please select all that apply.

**Table 12.23: Social groups that respondents perceive the cinema venue does not cater for, by cinema venue**

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh	Total
<b>Lower income groups</b>	12%	9%	18%	28%	16%	10%	<b>15%</b>
<b>Higher income groups</b>	5%	7%	14%	5%	7%	1%	<b>7%</b>
<b>Black, Asian and minority ethnic groups</b>	5%	10%	13%	5%	8%	3%	<b>7%</b>
<b>Ethnically white groups</b>	3%	5%	13%	4%	7%	2%	<b>6%</b>
<b>Native English speakers</b>	2%	5%	13%	6%	6%	1%	<b>6%</b>
<b>Non-native English speakers</b>	10%	9%	13%	5%	9%	4%	<b>9%</b>
<b>Younger people</b>	4%	7%	15%	7%	9%	3%	<b>8%</b>
<b>Older people</b>	6%	7%	11%	5%	6%	2%	<b>6%</b>
<b>Families/parents and babies</b>	4%	4%	10%	6%	6%	2%	<b>6%</b>
<b>LGBTQ+ communities</b>	6%	7%	12%	5%	8%	3%	<b>7%</b>
<b>University-educated</b>	3%	5%	9%	2%	5%	0%	<b>5%</b>
<b>Non-university educated</b>	3%	4%	9%	5%	8%	2%	<b>5%</b>
<b>Urban communities</b>	3%	4%	10%	4%	6%	1%	<b>5%</b>
<b>Rural communities</b>	8%	8%	15%	11%	13%	14%	<b>11%</b>

	Vue, Glasgow Fort	Light Cinema, New Brighton	Ritzy Picturehouse , Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse , Edinburgh	Total
People with a disability or living with a long-term handicap	3%	4%	4%	5%	5%	2%	4%
Other	1%	1%	0%	1%	1%	1%	1%
None of the above	49%	50%	35%	38%	46%	49%	45%
Don't know/ Rather not say	20%	15%	12%	16%	15%	23%	16%

Note: respondents could select more than one option. Total sample 2,126. Survey question: Which groups do you think that [CINEMA VENUE] ignores, if any? Please select all that apply.

## 12.12 Transfer testing regression outputs

The two tables below show the regression output used for the value function transfer; where estimated, coefficients can be combined with 'study sites' characteristics to provide an estimate of the average WTP per cinema user for the study site. 'Social hub' cinemas were found to have a higher WTP (when holding all other factors, including income, constant) during the sensitivity testing, and so is included in the value function transfer to provide the analyst the option of this increased value within their valuation.

**Table 12.24: Value function transfer test regression model, by cinema venue**

	Vue Glasgow, Fort	Light Cinema, New Brighton	Ritzy Picturehouse, Brixton	Everyman, Cardiff	Broadway, Nottingham	Cameo Picturehouse, Edinburgh
Log of household income	17.965***	11.974***	17.672***	17.748***	19.687***	20.113***
Distance	0.020***	0.006	0.015***	0.011***	0.013***	0.016***
'Social hub' cinema group	-60.270***	-84.735***	-7.263	-60.229***	-51.106***	-49.165**
'Social hub' cinema group * Log of household income	14.090***	19.940***	1.668	15.123***	12.301***	11.906***
Constant	-68.094***	-41.457***	-67.293***	-67.187***	-76.233***	-78.644***
Adjusted R <sup>2</sup>	0.136	0.140	0.0729	0.148	0.141	0.140
Observations	1,535	1,516	1,501	1,622	1,523	1,608

Note: \*p-value < 0.1, \*\* p-value < 0.05, \*\*\* p-value < 0.01. OLS regression is estimated with heteroskedastic robust standard errors. Regression samples may be smaller than the total group due to missing observations in control variables where respondents were not forced to answer.

Table 12.25: Regression output for value function transfer

	Coefficient	p-value
Log of household income	17.6956***	0.0000
Distance	0.0136***	0.0001
'Social hub' cinema group	-60.1633***	0.0008
'Social hub' cinema group * Log of household income	14.2983***	0.0002
Constant	-67.2601***	0.0000
Adjusted R-Squared	1,861	
Observations	0.131	

Note: \*p-value < 0.1, \*\* p-value < 0.05, \*\*\* p-value < 0.01. OLS regression is estimated with heteroskedastic robust standard errors. Regression samples may be smaller than the total group due to missing observations in control variables where respondents were not forced to answer.

# 13 Appendix 6: Literature Review

## 13.1 Valuation of cinemas using a Stated Preference approach

Stated Preference surveys can be used to elicit monetary values for non-market goods by directly asking individuals about their Willingness-to-Pay (WTP) or Willingness-to-Accept (WTA) a particular change<sup>107</sup>. Respondents are presented with a hypothetical market that describes in detail the proposed change they are asked to value (e.g., fund-raising to support the continued existence of one's local cinema), using baseline conditions (the current situation) as a reference point<sup>108</sup>.

DCMS commissioned a Rapid Evidence Assessment (REA) of cultural value studies from 2000-2019, published in 2021, to provide a balanced systematic assessment of what is known about a policy issue and what gaps may remain, to determine what valuations have been conducted in the international academic and grey literature over the past 20 years<sup>109</sup>. The REA was also designed to help direct ongoing research in the cultural sector and inform the DCMS Cultural Heritage Capital (CHC) programme to guide future studies that employed economic approaches for monetary valuation of culture and heritage assets. The REA results are presented within an Evidence Bank of economic values that includes valuation details, such as estimated monetary values for assets, a grading of the quality of each study, the article details, and an overview of each valuation method used.

However, literature specific to the non-market valuation of cinemas is still in its infancy. A literature review of the existing research into attributing monetary values to cultural, social and heritage benefits of cinemas was therefore undertaken. This Study will contribute towards a better understanding of the economic and cultural benefits that are associated with UK cinema venues. There have been no previous studies of the non-market value of cinema venues in the UK, but there are international examples which can inform the current Study, presented below.

Lee (2016) explores income and distance-decay effects on Willingness-to-Pay for the construction of a cinema site in South Korea, estimated through Stated Preference.<sup>110</sup> 704 respondents were asked their WTP in exchange for constructing a cinema site. Respondents were presented random WTP values and asked in principle if they would be willing to pay, using increases in income tax over the next five years as the payment vehicle. Overall, 42% of respondents would be willing to pay; the Willingness-to-Pay decreased as the randomly assigned payment value increased. The average WTP across the 704 respondents was 872 KRW: £0.62 in 2021 prices (£0.72 in 2023 prices).<sup>111</sup> It should be noted that this Study did not seek to elicit WTP values from users and non-users, instead it pooled users and non-users together, which is not the recommended approach for Business Case aggregation or cost-benefit analysis (since users and non-users will hold significantly different WTP values, and will also represent different portions of the population, which should be added up distinctly for greater sensitivity in the aggregate). As such, this value is not directly comparable to other DCMS CHC cultural value studies which makes the distinction between user and non-user groups.

<sup>107</sup> I. Bateman *et al.*, *Economic Valuation with Stated Preference Techniques: A Manual* (Cheltenham, UK: Edward Elgar, 2002).

<sup>108</sup> Robert Cameron Mitchell and Richard T. Carson, *Using Surveys to Value Public Goods: The Contingent Valuation Method* (Washington DC: Resources for the Future, 1989).

<sup>109</sup> Lawton *et al.*, 'DCMS Rapid Evidence Assessment: Culture and Heritage Valuation Studies - Technical Report', 2021.

<sup>110</sup> Jongyeon Lee, 'Income and Distance-Decay Effects on Willingness to Pay Estimated by the Contingent Valuation Method', *Journal of Environmental Planning and Management* 59, no. 11 (2016): 1957–81.

<sup>111</sup> A comparatively low value compared to other cultural assets (all uprated to 2023 prices), e.g., Libraries have a mean user WTP of £12.25; Historic cities exhibit a mean user WTP of £11.93; and Cathedrals have a mean user WTP of £4.65.

Wisniewska *et al.* (2020) estimated the use values of museums, theatres and cinemas in Warsaw, Poland based on the observed individual attendances and their costs.<sup>112</sup> Using a two-stage budgeting model<sup>113</sup>, the change in consumer surplus that is related to the loss of access to cinemas, museums and theatres is estimated. Wisniewska *et al.* estimate that cinemas generate an annual consumer surplus of €149 (£132 in 2021 prices). This suggests that the average Warsaw citizen would be willing to pay €149 per year for access to cinemas in Warsaw, on top of travel and ticket costs. This is higher than the estimated consumer surplus associated with theatres and museums: €50 (£45 in 2021 prices) and €63 (£56 in 2021 prices) respectively. Wisniewska *et al.* further explore the welfare loss of closing an individual cinema site, which is estimated to make individuals €0.41 (£0.36 in 2021 prices) worse off per year; the lower values are likely due to the availability of close substitutes. Wisniewska *et al.* proceed to aggregate the individual consumer surplus estimate for cinema over the entire adult population of Warsaw. They estimate that total social welfare value gained from the use of cinema is €216m (£192m in 2021 prices). It should be noted, however, that Wisniewska *et al.* aggregate across the entire adult population of Warsaw, rather than the users of cinema, and so have over-estimated the aggregated use value associated with cinema in Warsaw.

Closely related to cultural value of cinemas, Begin *et al.* (2009) investigates the Willingness-to-Pay to support local feature film production through the use of Stated Preference in both France and Quebec, Canada. However, it is worth noting that this is related more to film production, and in that way to programming, rather than to preserving individual cinema venues; there may nevertheless be instructive lessons to be taken from this Study. Two payment vehicles were used: for the French sample, an additional tax on tickets was used, which effectively raised the ticket price; for the Canadian sample, an increase in income tax was used to directly fund the film industry. It should be noted that Begin *et al.* (2009) only explores the non-market values of users. Respondents were asked whether they agree in principle with handing over taxpayer dollars to the film industry. In France, 84% of respondents agreed, compared to 91% of the Canadian respondents. In Canada, the average increase in ticket price a respondent would be willing to pay was \$1.25 (£1.00 in 2021 prices), compared to an average ticket price of \$8 (£6 in 2021 prices). In France, the average increase in ticket price a respondent was willing to pay was \$1.01 (£0.81 in 2021 prices), representing a doubling in ticket price. Respondents from Canada would be willing to pay an additional \$13.83 (£11.05 in 2021 prices), compared to respondents in France who would be willing to pay an additional \$8.23 (£6.58 in 2021 prices).

A key challenge in this cinema venue Study is that cinema users already (partially) express their preferences through the market, through cinema tickets, cinema memberships, and spend in ancillary facilities. A similar research problem to elicit the 'surplus' non-market value that users of another 'quasi-public' good (in this case, theatres) over and above what they already pay was addressed previously in the Arts Council England benefit transfer study of regional theatres and galleries.<sup>114</sup> A survey was designed for each of the four theatres (Birmingham Repertory Theatre, Leeds Playhouse, Manchester Royal Exchange Theatre, and Theatre Royal Plymouth) to collect visitor WTP to keep the theatre in the city (elicited as an increase in annual taxes). The survey proposed a hypothetical scenario where the theatre would move to another city and asked respondents for the maximum increase to their taxes (local or national dependent on the respondents' location) they would be prepared to pay to keep the theatre in the city. Across the four regional theatres, Willingness-to-Pay an increase in taxes to maintain the theatre in its city was £13.10 per household per year on average, with a lower bound of £11.08. An

<sup>112</sup> Aleksandra Wiśniewska, Wiktor Budziński, and Mikołaj Czajkowski, 'An Economic Valuation of Access to Cultural Institutions: Museums, Theatres, and Cinemas', *Journal of Cultural Economics* 44, no. 4 (1 December 2020): 563–87, <https://doi.org/10.1007/s10824-020-09375-3>

<sup>113</sup> In a two-staged budgeting model, an individual first decides how many visits to make to a given type of cultural institution; they then decide on how to allocate these trips across the available institutions.

<sup>114</sup> Lawton *et al.*, 'Regional Galleries and Theatres Benefit Transfer Report'.



annual tax was applied in the theatres study, which is a compulsory payment mechanism, which is found in the literature to reduce hypothetical bias compared to voluntary donations, as a voluntary payment mechanism can lead to higher levels of hypothetical bias than compulsory payment vehicles like taxes, and that hypothetical bias can lead to an overstatement of value.

To conclude, there are no previous studies of the non-market value of cinema venues in the UK, and only one relevant Stated Preference study in the international literature, undertaken by Lee (2016). Lee's (2016) study differs in a number of key ways to this Study, including:

- Lee's (2016) study relates to the construction of a new cinema site in South Korea, rather than WTP for the loss of a cinema venue, as in the current Study.
- Lee (2016) uses a compulsory tax vehicle, asked at the household level, rather than an annual donation at the individual level, which makes it more difficult to aggregate based on visitor numbers (since people typically visit at an individual, rather than household level).
- Lee (2016) also combined users and non-users which is not recommended, and again presents additional difficulties in aggregation.

As a result, Lee's (2016) study is not directly comparable to this Study and demonstrates the need for a robust valuation study of the value of existing cinema venues. However, methodologically, previous experience can be drawn from studies of other 'quasi-public' goods in the UK, specifically the ACE regional theatres benefit transfer study, albeit with differences around the need for individual-level aggregation per visitor (requiring individual rather than household level payments) and the variability in the types of cinemas across the country (compared to the more homogeneous and smaller sample frame of regional 'producing' theatres in the theatres study).

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