

# Appendix C: Attitudinal Survey: Difference-in-Differences Analysis

This is a technical note on the use of the difference-in-difference technique to understand the applicability of the technique in the HSHAZ policy context and to discern any relevant findings from the analysis.

*Glossary*

|                                  |  |
|----------------------------------|--|
| <b>DiD</b>                       | Difference-in-differences: a statistical technique used to evaluate the causal effect of a treatment, policy, or intervention by comparing changes over time between a group exposed to the intervention and a group that is not |
| <b>Historic England (HE)</b>     | Public body responsible for protecting and promoting England’s historic environment  |
| <b>HSHAZ</b>                     | High Street Heritage Action Zones, a program led by Historic England aimed at revitalizing high streets across England   |
| <b>Regression-based analysis</b> | A statistical method used to explain the relationship between one or more independent variables (predictors) and a dependent variable (outcome)  |

## Introduction

Historic England commissioned an attitudinal survey from Verian to support the collection of evidence on the impact of the HSHAZ programme. Gathered in two waves<sup>[1]</sup>, (i) prior to and (ii) post intervention. The survey was undertaken with residents living in the locality of HSHAZ zones and an identified comparator area that did not receive HSHAZ support. The survey included metrics relating to perceptions of/attitudes towards local heritage and high streets, along with dimensions of social capital, community cohesion and civic engagement.

The primary challenge in all ex-post quasi-experimental (QE) policy evaluations is causal identification – how can one assess the impact of an intervention. In most instances, QE approaches rely on the creation of a comparative framework through which one generates a counterfactual outcome (i.e. a what would have happened without the intervention, position). This counterfactual/what would have happened anyway position is then compared with outturns for areas that did get support to estimate impact. This framework requires that comparisons are made on as a ‘like-for-like’ basis as possible.

The application of QE has been dominated by Difference-in-Differences (DID) designs. These seek to match a treatment group (the area that got the support) with a control group (an area that did not get any support), monitor pre/post intervention trends in specified performance metrics for both and, if a set of assumptions are satisfied, use differential trend paths to assign policy impact.

The crucial assumption for this process to be valid is that of parallel trends. Average outcomes of treated and control units/groups must follow parallel paths prior to intervention. If that is the case then it can be argued that the post-treatment trend for the control group provides a counterfactual trend path for the treatment group, if they didn’t receive support from HSHAZ. The difference between the area not receiving support and the area receiving support therefore provides an estimate of policy impact.

In practice, robust parallel pre-treatment trends are rarely evident, introducing uncertainty into subsequent impact estimates. Without parallel trends, any treatment group/counterfactual differences post intervention may be related to factors other than the support received and estimates of the impact of the support are likely to be biased. Likewise, non-parallel trends may also point to the presence of unobserved confounding variables that are influencing treatment/control groups in different ways introducing additional bias.

This appendix undertakes a basic and data-limited difference-in-differences (DiD) review of key survey metrics relating to (i) changing perceptions of heritage high streets (ii) sustainability of commercial and cultural activity on/around high streets (iii) restoring and enhancing local historic character. These question areas most directly correspond with the objectives of the HSHAZ programme.

The traditional DiD process operates via a multi-period, regression-based structure in which issues such as the presence or otherwise of parallel trends can be assessed. The Verian survey provides four data points for each metric of interest – values for HSHAZ and comparator areas in Wave 1 and Wave 2 – effectively one observation for HSHAZ and a comparator group both prior to, and post, HSHAZ implementation.

This dataset precludes any regression-based analysis and places some fundamental limitations on the nature and interpretation of a proxy DiD framework. In essence, we are limited to reviewing pre/post (Wave1/Wave2) survey responses in HSHAZ areas against pre/post responses in the comparator group and contrasting relative change. This is DiD in its most raw, basic form, reliant on pre-existing selection of

the comparator group, the absence of any basis for assuming/validating parallel trends, low statistical power and large confidence intervals. It would therefore be unwise to assign any prominence to the outcomes in policy terms other than as a general indication of broad differences in survey responses.

The following tables report the outcomes of this analysis using a selection of metrics relating to perceptions of place and change, amenity and sustainability, attitude to heritage and local democracy experience.

Each table references the survey question of relevance, the basis of the scoring employed, both the HSHAZ and comparator score differences between waves, an indication of DiD performance (green for relative HSHAZ improvement and red for no HSHAZ improvement), a DiD scale measure (absolute DiD value relative to wave 1 HAZ/comparator difference) and an interpretation of outcomes. Relative improvement can be obtained in a number of ways which include (i) performing stronger than comparators when both show improvement (ii) performing less weak than comparators when both show decline (iii) performing stronger when comparators decline.

## High Street Perception

The series of survey questions examined related to respondents' perceptions of their high streets reference attitudes to the nature of local history, care and pride in the local high street, attractiveness as a place to spend time/meet friends and connectivity to the local environment (see Table B1). Survey questions are scored in the form of low scores for high agreement with the statement and high scores for low agreement with the statement<sup>[2]</sup>. HSHAZ scores are higher than comparators in all questions in both waves, signifying persistently lower levels of agreement regarding history and perceptions of place.

Scores mostly increase for both areas between waves (even lower agreement) but increase more in comparators than in HSHAZ areas in all cases. As such, HSHAZ agreement declines by less than that in comparators implying a relative improvement in the former. The DiD scale measure indicates that the size of difference is, in practice, small in all cases.

**Table B1: High Street Perception**

| Metric: Perception of Place                 | Score Regime               | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
|---|----------------------------|------------------|-----------------------|----------|-----------|---|
| History of Area is Interesting              | Agree (1)<br>Disagree (5)  | +0.044           | +0.069                |          | 0.01      | HSHAZ scores marginally higher than comparators in both waves (less agreement). Scores increase for both between waves (lower agreement) but less so for HSHAZ. <b>Relative Improvement</b> |
| Care about look of area                     | Agree (1)<br>Disagree (5)  | +0.026           | +0.087                |          | 0.04      | HSHAZ scores higher than comparators in both waves (less agreement). Scores increase for both between waves (lower agreement) but much less so for HSHAZ. <b>Relative Improvement</b>       |
| Pride in area                               | Agree (1)<br>Disagree (5)  | +0.049           | +0.193                |          | 0.06      | HSHAZ scores higher than comparators in both waves (less agreement). Scores increase for both between waves but much less so for HSHAZ. <b>Relative Improvement</b>                         |
| Good place to spend time                    | Agree (1)<br>Disagree (5)  | +0.053           | +0.118                |          | 0.03      | HSHAZ scores higher than comparators in both waves (less agreement). Scores increase for both between waves (lower agreement) but less so for HSHAZ. <b>Relative Improvement</b>            |
| Good place to meet friends                  | Agree (1)<br>Disagree (5)  | -0.010           | +0.032                |          | 0.02      | HSHAZ scores higher than comparators in both waves (less agreement). Scores reduce for HSHAZ and increase for comparators between waves. <b>Relative Improvement</b>                        |
| Feel Connected to area environment          | Agree (1)<br>Disagree (5)  | +0.021           | +0.112                |          | 0.04      | HSHAZ scores higher than comparators in both waves (less agreement). Scores increase for both between waves (lower agreement) but much less so for HSHAZ. <b>Relative Improvement</b>       |
| Metric: Area Change                         | Score Regime               | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
| Over last two years                         | Better (1)<br>Worse (4)    | +0.022           | +0.111                |          | 0.04      | HSHAZ scores higher than comparators in both waves (area relatively worse). Scores increase for both between waves (area worsens) but much less so for HSHAZ. <b>Relative Improvement</b>   |
| Satisfaction with local building appearance | Very (1)<br>Not at all (4) | -0.004           | +0.096                |          | 0.04      | HSHAZ scores higher than comparators in both waves (less satisfied). Scores reduce (improve) for HSHAZ and increase for comparators between waves. <b>Relative Improvement</b>              |

## High Street Change

Change is assessed through two questions querying the nature of change in high streets over the last two years and satisfaction with the appearance of local buildings. Responses are scored in terms of low scores for better change/higher satisfaction and vice versa (see Table A1).

Similar to perceptions, HSHAZ area scores are higher than comparators in both cases (worse/less satisfied) and in both waves. While the scores for change increase for both areas between waves, the comparator score increases much more substantially than that for HSHAZ areas, resulting in relative improvement for the latter. In the case of local building appearance, the HSHAZ score reduces marginally (improved satisfaction) in contrast to an increase in comparators, also implying relative improvement. The scaled DiD measure suggests differences are higher than for perception, though they remain small.

## Sustainability: Purpose of Visit

The survey questions ask for responses covering the 'post-covid' period as well as the 'last twelve months'. The series of survey responses selected for analysis include visiting shops, visiting places with children and visiting to access services (see Table B2). All scores relate to the proportion of the sample indicating a visit for the purpose specified and it is worth noting the scale of differential scores between 'post-Covid' and 'last 12-month' survey responses which may well reflect issues relating to Covid timelines:

- Visiting Shops:
  - **post-Covid:** HSHAZ area scores are lower than comparators in both waves, suggesting lower visit rates for the former. Scores decline between waves in both but by very marginally more for HSHAZ areas resulting in a no improvement DiD;
  - **last 12 months:** HSHAZ area scores are again lower than for comparators in both waves suggesting lower visit rates for the former. In contrast, scores increase between waves in both, but by more for comparator areas resulting in a no improvement DiD. The DiD scale measure is also notably higher indicating a greater scale of change than in other metrics;
- Visiting places with Children:
  - **post-Covid:** HSHAZ area scores are lower than for comparators in both waves (lower visit rates). Scores decline between waves in both but by less so for HSHAZ areas resulting in a relative improvement DiD;
  - **last 12 months:** HSHAZ scores are again lower than for comparators in both waves. Scores increase between waves in both, but by marginally more in comparator areas resulting in a no improvement DiD. The DiD scale measure is once again relatively high;
- Visiting to access services:
  - **post-Covid:** HSHAZ scores are lower than for comparators in both waves (lower visit rates). Scores decline between waves in both but by less so for HSHAZ areas resulting in a relative improvement DiD;
  - **last 12 months:** HSHAZ scores are again lower than for comparators in both waves. Scores increase significantly between waves in both but by more in HSHAZ areas resulting in a relative improvement DiD. The DiD scale measure is relatively high once more;

| Table B2: High Street Sustainability |              |                  |                       |          |           |   |
|--------------------------------------|--------------|------------------|-----------------------|----------|-----------|---|
| Metric: Visit Purpose                | Score Regime | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
| Visit Shops – Post Covid             | % response   | -0.056           | -0.054                |          | 0.03      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores decrease for both between waves (reduced visits) and more so for HSHAZ. <b>No Improvement</b>  |
| Visit Shops – Last 12 Months         | % response   | +0.088           | +0.111                |          | 0.30      | Wave 1 scores notably lower for more recent period with wave 2 scores more similar.<br>HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase for both between waves (more visits) but less so for HSHAZ. <b>No Improvement</b>                    |
| Visit with Children– Post Covid      | % response   | -0.018           | -0.038                |          | 0.51      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores decrease for both between waves but much less so for HSHAZ. <b>Relative Improvement</b>  |
| Visit with Children– Last 12 Months  | % response   | +0.095           | +0.100                |          | 0.26      | Wave 1 scores notably lower for more recent period with wave 2 scores more similar<br>HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase significantly for both between waves (more visits) but less so for HSHAZ. <b>No Improvement</b>       |
| Visit for Services – Post Covid      | % response   | -0.048           | -0.097                |          | 0.45      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores decrease for both between waves but less so for HSHAZ. <b>Relative Improvement</b>   |
| Visit for Services – Last 12 Months  | % response   | +0.151           | +0.141                |          | 0.16      | Wave 1 scores notably lower for more recent period with wave 2 scores more similar<br>HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase significantly for both between waves (more visits) and more so for HSHAZ. <b>Relative Improvement</b> |
| Metric: Amenity Visits               | Score Regime | HAZ Difference   | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
| Local Shops                          | % response   | -0.022           | +0.008                |          | 0.43      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores decrease marginally for HSHAZ areas and increase marginally for comparators between waves. <b>No Improvement</b>   |
| Restaurants/ Cares                   | % response   | +0.038           | +0.069                |          | 0.70      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase in both areas between waves by less so in HSHAZ areas. <b>No Improvement</b>  |
| Museums/Historic Places              | % response   | +0.003           | +0.015                |          | 4.00      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase in both areas between waves but by less so in HSHAZ areas. <b>No Improvement</b>  |

| Table B2: High Street Sustainability |              |                  |                       |          |           |  |
|--------------------------------------|--------------|------------------|-----------------------|----------|-----------|--|
| Metric: Visit Purpose                | Score Regime | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome  |
| Ancient Monuments                    | % response   | +0.014           | +0.006                |          | 1.00      | HSHAZ scores lower than comparators in wave 1(fewer visits) but broadly similar in wave 2. Scores increase in both areas between waves but more so in HSHAZ areas. <b>Relative Improvement</b> |
| Arts Activities                      | % response   | +0.011           | +0.007                |          | 0.21      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase in both areas between waves but more so in HSHAZ areas. <b>Relative Improvement</b>                          |
| Writing/Related Activities           | % response   | +0.016           | +0.014                |          | 0.29      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase in both areas between waves but more so in HSHAZ areas. <b>Relative Improvement</b>                          |
| Outdoor Events                       | % response   | +0.034           | +0.031                |          | 0.11      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase in both areas between waves but more so in HSHAZ areas. <b>Relative Improvement</b>                          |
| Crafts/Related                       | % response   | +0.006           | +0.007                |          | 0.09      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase in both areas between waves but marginally less so in HSHAZ areas. <b>No Improvement</b>                     |

### Sustainability: Amenity Visits

The Verian survey asks a series of questions in relation to visiting areas to access specific amenities. Here, we analysis amenities relating to local shops, restaurants/cafes, museums/historic places, ancient monuments, arts/writing/craft related activities and outdoor events. All scores relate to the proportion of the sample indicating a visit for the amenity specified (see Table B2).

Consistent with the previous question relating to shopping, there is no HSHAZ DiD improvement. HSHAZ scores are lower in both waves with a small decline between waves, which contrasts with a marginal improvement for comparators. Restaurants and cafes responses indicate lower HSHAZ scores in both waves and, despite an increase between waves, less of an increase than comparators with a no improvement DiD. Museums and historic places, along with craft/related amenities both replicate restaurants/cafes with the same overall pattern<sup>[3]</sup>. Ancient monument, arts/writing and outdoor events are all assigned a relative improvement DiD. All are accounted for by a greater relative increase in scores between waves than comparators.

### Sustainability: Visit Frequency

The last set of sustainability questions reviewed relate to visit frequency. As with visit purposes, the survey questions here ask for responses covering the 'post-covid' period and 'last twelve months'. The survey responses selected assess frequency in terms of daily, weekly, monthly and annual visits. All scores are percent of positive selection (see Table B2).

Daily and weekly visits are defined as relative improvements in both post-Covid and last 12-month responses. While HSHAZ scores are lower than comparators in both waves, they decline by less for both

the post-Covid daily/last 12 month weekly response category and increase more for both the daily last 12 months/post-Covid weekly response category. As previously, differential scale between the post-Covid and last 12 months samples complicate interpretation.

Less frequent visits are more generally assigned a no improvement classification with the exception of annual last 12-month responses where there is no difference in scores between waves. In contrast to higher frequency responses, HSHAZ scores tend to be higher in HSHAZ areas than for comparators with no improvement resulting from either improving by less/declining by more than comparators.

## Local Historic Character

Local character is assessed through assessment of local heritage knowledge of and attitudes towards the role/importance of historic buildings/features (Table B3). Survey responses are scaled on a low score for agreement with statements and a high score for disagreement.

It is interesting to note that knowledge of local heritage has a marginally higher score in HSHAZ areas than comparators suggesting lower local heritage knowledge. This does not improve between waves but both scores increase (even lower knowledge) and the HSHAZ area score increase is less strong. The same profile is evident in relation to the query regarding the uniqueness of buildings.

| Table B3: High Street Sustainability |              |                  |                       |          |           |   |
|--------------------------------------|--------------|------------------|-----------------------|----------|-----------|---|
| Metric: Visit Frequency              | Score Regime | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
| Daily – Post Covid                   | % response   | -0.014           | -0.033                |          | 0.42      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores decrease for both between waves (reduced visits) but less so for HSHAZ. <b>Relative Improvement</b>  |
| Daily – Last 12 Months               | % response   | +0.023           | +0.017                |          | 0.21      | Wave 1 scores higher for more recent period with wave 2 scores lower. HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase for both between waves (more visits) and more so for HSHAZ. <b>Relative Improvement</b>         |
| Weekly– Post Covid                   | % response   | +0.013           | +0.010                |          | 0.25      | HSHAZ scores lower than comparators in both waves (fewer visits). Scores increase for both between waves (more visits) and more so for HSHAZ. <b>Relative Improvement</b>   |
| Weekly– Last 12 Months               | % response   | -0.024           | -0.038                |          | 0.82      | Wave 1 scores higher for more recent period with wave 2 scores more similar. HSHAZ scores lower than comparators in both waves (fewer visits). Scores decrease for both between waves (fewer visits) but less so for HSHAZ. <b>Relative Improvement</b> |
| Monthly – Post Covid                 | % response   | -0.014           | +0.017                |          | 1.35      | HSHAZ scores higher than comparators wave 1 and lower in wave 2. Scores decrease for HSHAZ areas but increase for comparators. <b>No Improvement</b>  |



**Table B3: High Street Sustainability**

| Metric: Visit Frequency          | Score Regime | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
|----------------------------------|--------------|------------------|-----------------------|----------|-----------|---|
| Monthly – Last 12 Months         | % response   | -0.028           | -0.022                |          | 0.50      | Wave 1 scores higher for more recent period with wave 2 scores more similar. HSHAZ scores higher than comparators in both waves (more visits). Scores decrease for both between waves (fewer visits) but more so for HSHAZ. <b>No Improvement</b> |
| 1 or 2 per years– Post Covid     | % response   | +0.005           | +0.006                |          | 0.13      | HSHAZ scores higher than comparators across both waves. Scores increase for both areas between waves but marginally less so for HSHAZ areas. <b>No Improvement</b>  |
| 1 or 2 per year – Last 12 Months | % response   | -0.01            | -0.01                 |          | 0.00      | Wave 1 scores higher for more recent period with wave 2 scores more similar. HSHAZ scores higher than comparators in both waves (more visits). Scores decrease for both between waves (fewer visits) but by broadly same amount <b>No Change</b>  |

**Table B4 Local Historic Character & Democracy**

| Metric: Heritage Knowledge/Attitude | Score Regime              | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
|-------------------------------------|---------------------------|------------------|-----------------------|----------|-----------|---|
| Knowledge of Local Heritage         | A Lot (1)<br>Nothing (5)  | +0.005           | +0.016                |          | 0.09      | HSHAZ scores marginally higher than comparators in both waves (lower knowledge). Scores increase for both between waves (lower knowledge) but less so for HSHAZ. <b>Relative Improvement</b>        |
| Historic Building Attract Visitors  | Agree (1)<br>Disagree (5) | -0.054           | +0.007                |          | 0.90      | HSHAZ scores are marginally higher than comparators in both waves (less agreement). HSHAZ scores marginally decrease and comparators marginally increase between waves. <b>Relative Improvement</b> |
| Historic Buildings increase Pride   | Agree (1)<br>Disagree (5) | -0.049           | +0.013                |          | 0.69      | HSHAZ scores are higher than comparators in both waves (less agreement). HSHAZ scores marginally decrease and comparator scores marginally increase between waves. <b>Relative Improvement</b>      |
| Historic Buildings Well Maintained  | Agree (1)<br>Disagree (5) | 0.00             | +0.135                |          | 0.53      | HSHAZ scores higher than comparators in both waves (less agreement). HSHAZ Scores are unchanged and comparator scores increase between waves. <b>Relative Improvement</b>                           |

**Table B4 Local Historic Character & Democracy**

| Metric: Heritage Knowledge/Attitude                  | Score Regime              | HSHAZ Difference | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
|--|---------------------------|------------------|-----------------------|----------|-----------|---|
| Beautiful Buildings are Important                    | Agree (1)<br>Disagree (5) | -0.035           | -0.011                |          | 0.31      | HSHAZ scores higher than comparators in both waves (less agreement). Scores decline for both areas (more agreement) but more so for HSHAZ between waves. <b>Relative Improvement</b>              |
| Worth Saving Historic Features in Improving Places   | Agree (1)<br>Disagree (5) | +0.022           | +0.078                |          | 0.84      | HSHAZ scores higher than comparators in both waves (less agreement). Scores increase for both areas (lower agreement) but less so for HSHAZ between waves. <b>Relative Improvement</b>            |
| This area has some Unique Buildings                  | Agree (1)<br>Disagree (5) | +0.015           | +0.101                |          | 3.31      | HSHAZ scores higher than comparators in both waves (less agreement). Scores increase for both areas (lower agreement) but less so for HSHAZ between waves. <b>Relative Improvement</b>            |
| Metric: Local Democracy/Participation                | Score Regime              | HAZ Difference   | Comparator Difference | DiD Sign | DiD Scale | DiD Outcome   |
| Decision Makers listen to people like me             | Agree (1)<br>Disagree (5) | +0.012           | +0.047                |          | 2.69      | HSHAZ scores higher than comparators in wave 1 and lower in wave 2. Scores increase for both areas (lower agreement) but less so for HSHAZ between waves. <b>Relative Improvement</b>             |
| Attendance at any planning meeting in last 12 months | % response                | +0.012           | -0.006                |          | 0.95      | HSHAZ scores lower than comparators in both waves (lower attendance). Scores increase marginally for HSHAZ areas and reduce marginally for comparators between waves. <b>Relative Improvement</b> |

HSHAZ area scores for historic buildings questions are again all higher than comparators in both waves (less agreement as to positive benefits) but there is some improvement (i.e. negative sign) between waves which contrasts with less extensive improvement or higher scores in comparators resulting in relative improvement outcomes.

More generally, the query about the worth of saving historic features reveals higher HSHAZ area scores (less agreement) than comparators, with both scores increasing between waves. Relative improvement is assigned due to links to the fact that the rise in HSHAZ scores is lower than that in comparators.

### Local Democracy/Participation

Two survey questions are examined here relating to views on whether decision makers tend to listen to the perspectives of those responding (low score for agreement with statements and a high score for disagreement) and actual attendance at planning meetings in previous 12 months (% positive response)

In terms of decision makers, Table B4 indicates that HSHAZ scores are higher than comparators (less agreement) in wave 1 and lower in wave 2 (more agreement). Scores in both areas increase between waves but to a lesser extent in HSHAZ areas. HSHAZ attendance at planning meetings is lower than

comparators in both waves with marginal positive/negative change for HAZ/comparators between waves resulting in a relative improvement designation.

## Overview

This review assesses (pre/post) change in HSHAZ Areas vs Comparator area scores through a number of metrics selected from Verian's attitudinal survey. It adopts a very basic difference in differences approach in reviewing changing perceptions of heritage high streets, sustainability of commercial and cultural activity on/around high streets and restoring/enhancing local historic character.

A total of 39 metrics are assessed, of which 28 (72%) are deemed to indicate relative improvement in HSHAZ scores relative to comparators between survey waves. Relative improvement can be obtained in a number of ways which include (i) performing stronger than comparators when both show improvement (ii) performing less weak than comparators when both show decline (iii) performing stronger when comparators decline.

Of the 28 relative improvements, 8 reflect performing stronger than comparators when both show improvement, 13 reflect performing less weak than comparators when both show decline between waves and 7 perform stronger when comparators show decline.

More generally, it is noticeable that HSHAZ areas typically show weaker scores in terms of local historic knowledge, pride in/care of areas, change in/satisfaction with areas, valuing historic buildings and frequent activities relating to shopping and do so, in many cases, across both survey waves. Close to half of the improvement defined stems from less extensive decline than comparators which might feasibly, making some assertions about sample comparability, be related to HSHAZ activity. Likewise, a similar case might be made in relation to the 29% of improvement in metrics where HSHAZ areas perform more strongly than comparators and both improve overall. The primary challenge to such assertions is the absence of controls for different character combinations within samples.

<sup>[1]</sup> April/June 2021 and April/June 2024.

<sup>[2]</sup> Scores are calculated using the weight structures supplied by Verian.

<sup>[3]</sup> The sizeable DiD scale measure results from a relatively large DiD change between waves contrasting with a small HSHAZ/Comparator difference in wave 1.