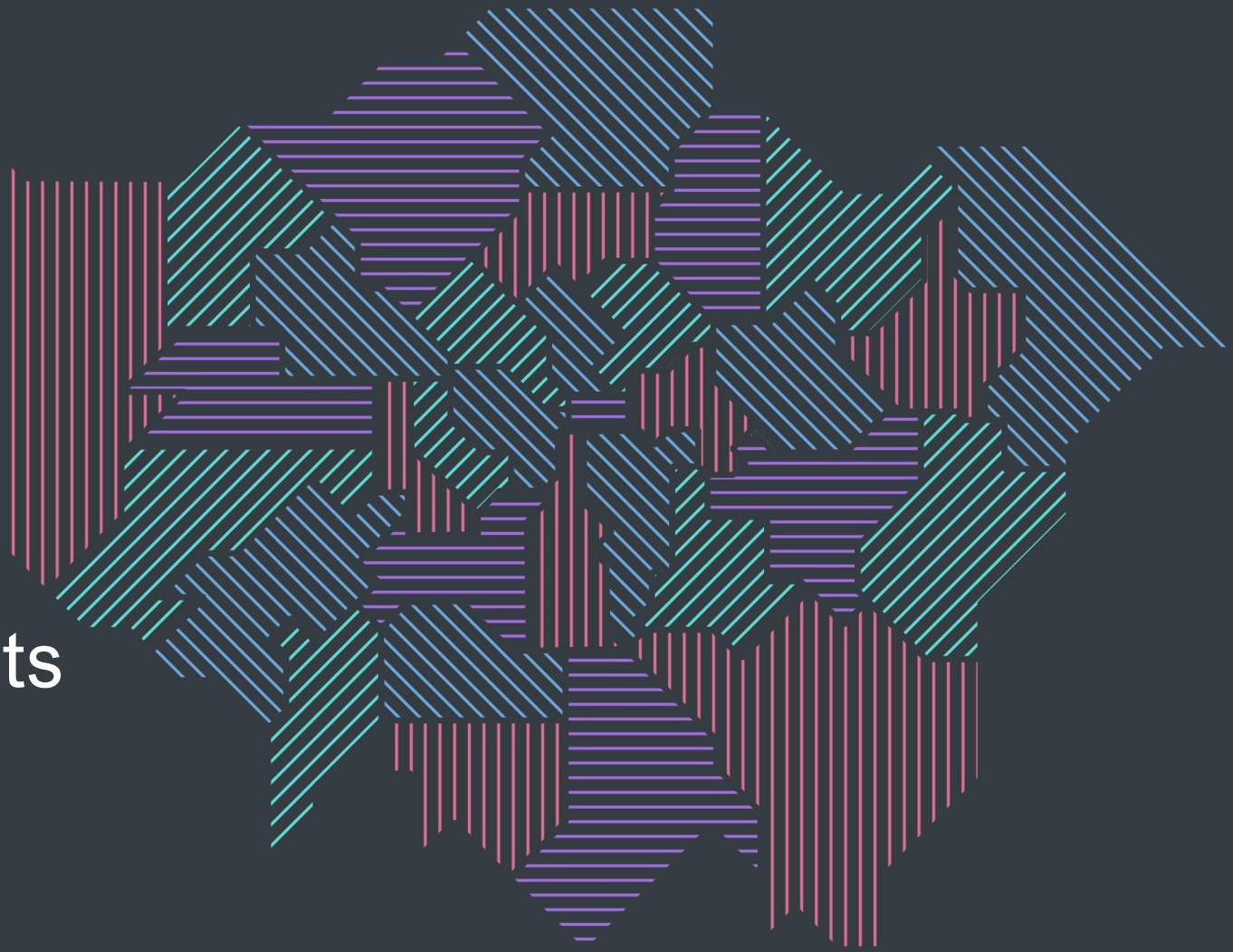
HIGH STREETS
DATA SERVICE



Low Traffic Neighbourhoods

Impact on local high streets

08 September 2023

CONTENTS

BRIEF

Do low-traffic neighbourhoods (LTNs) have any impact on retail and/or activity metrics of the nearby high streets?

Specifically:

1. Are new LTNs associated with reduced footfall and spend in their local high streets?

2. Do new LTNs change how much time people spend on the high street?

DATA SCOPE

LTN data were from the University of Westminster Active Travel Academy's LTN Dataset, which includes geographies and start dates of LTNs up to November 2022.

HSDS data sources included visitor footfall from BT, and card spend data from Mastercard, over the period of mid-2022 to mid-2023.

Given the time constraints of our own datasets, we identified three LTNs suitable for pre-/post-implementation comparison:

- **Bruce Grove LTN**, implemented 1 November 2022
- **Bowes Park/Bounds Green LTN,** implemented 15 August 2022
- **St. Ann's LTN**, implemented 22 August 2022

All three LTNs are located in the London Borough of Haringey.

METHOD

For each LTN, we identified the **five most popular high streets and business improvement districts (BIDs)** visited by people living in nearby areas that fell within the LTN's boundaries.

For each of these five retail areas, we used visitor footfall data and card-spend data to measure **five activity metrics** before and after implementation of the LTN:

- **visitor** (people counts)
- **worker** (people counts)
- **visitor dwell time** (average minutes)
- **visitor loyalty** (% return)
- **overall spend** (index value)

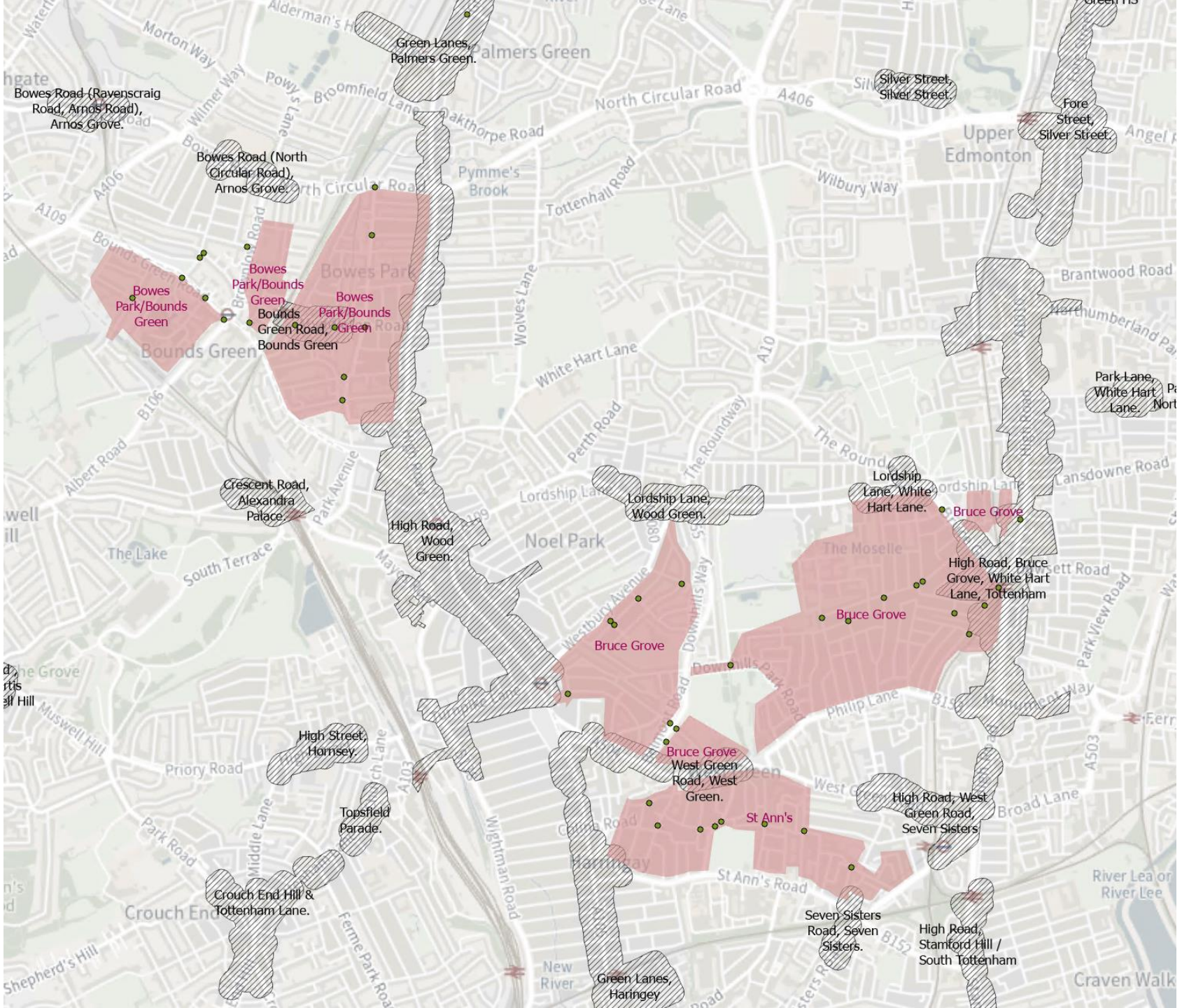
We then ran a statistical test to determine whether changes in these metrics were **genuinely due to the introduction of the LTN**, or due to drifts in the timeseries caused by other factors (e.g., seasonal changes, or borough- or city-wide trends in economic or movement behaviours).

MAPPING THE LTNS

Shown are the locations and boundaries of the three Haringey LTNs.

LTN boundaries are labelled in red, while individual traffic filters are shown as green dots.

The hashed areas show local nearby high streets.



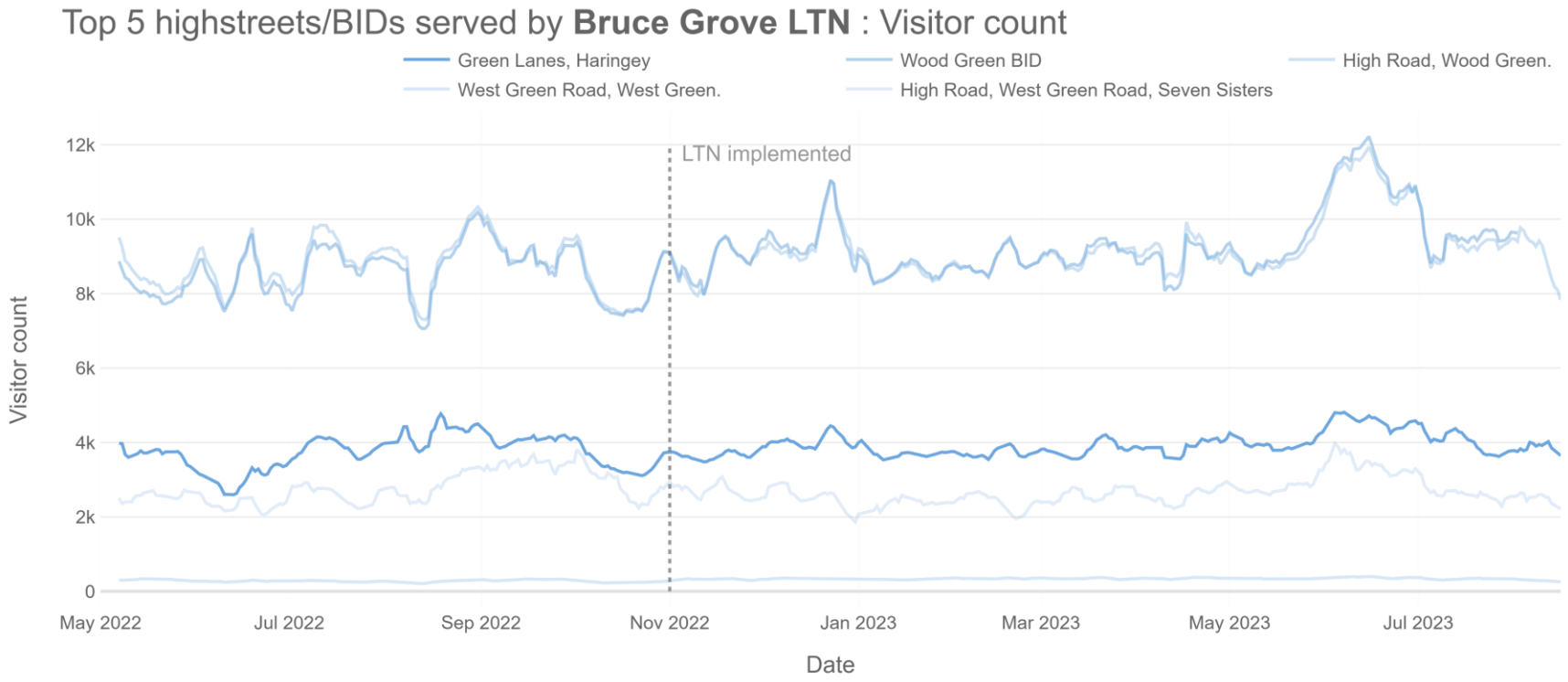
BRUCE GROVE: VISITOR COUNT

Average visitor count over time for high streets and BIDs served by Bruce Grove LTN.

This counts the typical number of visitors in an area on a given day/time.

The LTN date of implementation is labelled.

While there is local variation throughout, visitor counts are fairly stable over time.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Colour represents popularity: darkest is the most popular high street/BID, while the lightest is the least popular.

Anonymised and aggregated data by BT.

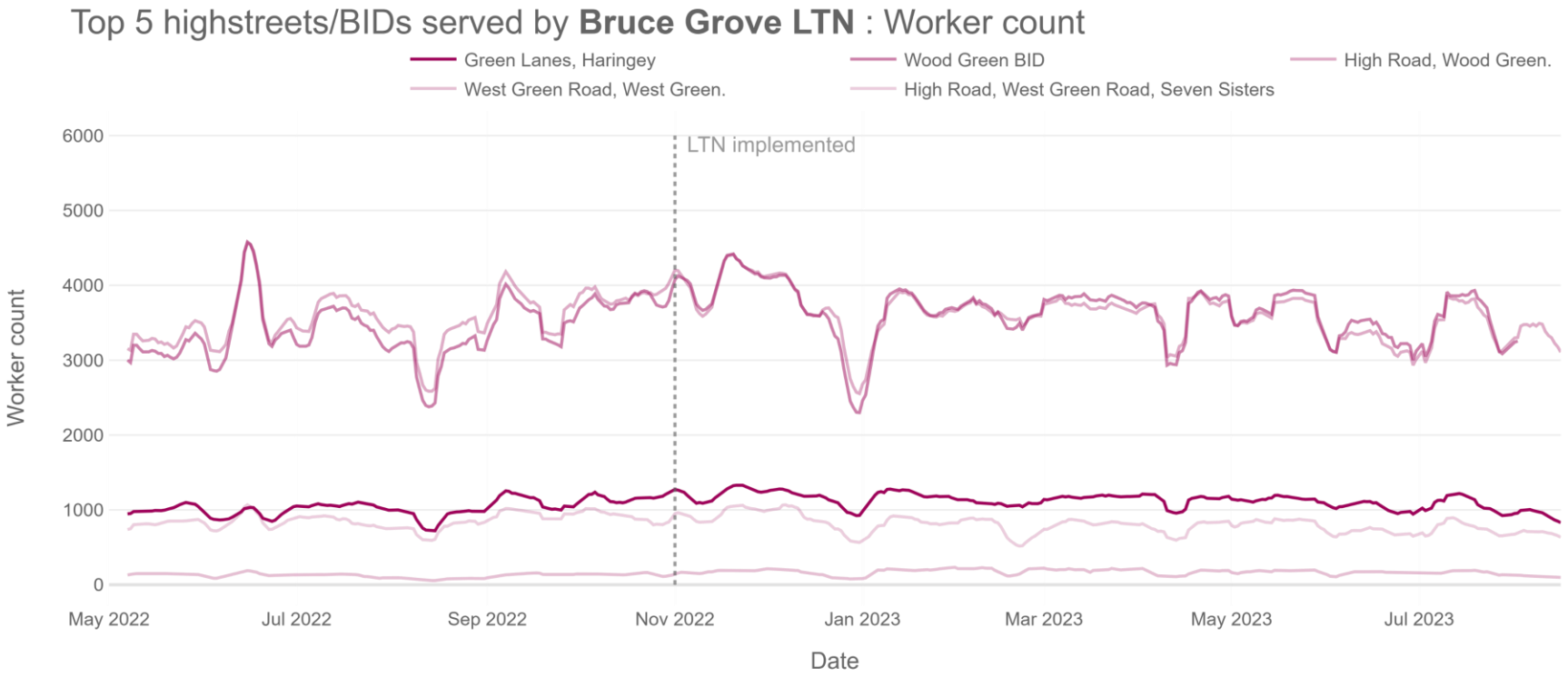
BRUCE GROVE: WORKER COUNT

Average worker count over time for high streets and BIDs served by Bruce Grove LTN.

This counts the typical number of workers in an area on a given day/time.

The LTN date of implementation is labelled.

While there is local variation throughout, worker counts are fairly stable over time.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Colour represents popularity: darkest is the most popular high street/BID, while the lightest is the least popular.

Anonymised and aggregated data by BT.

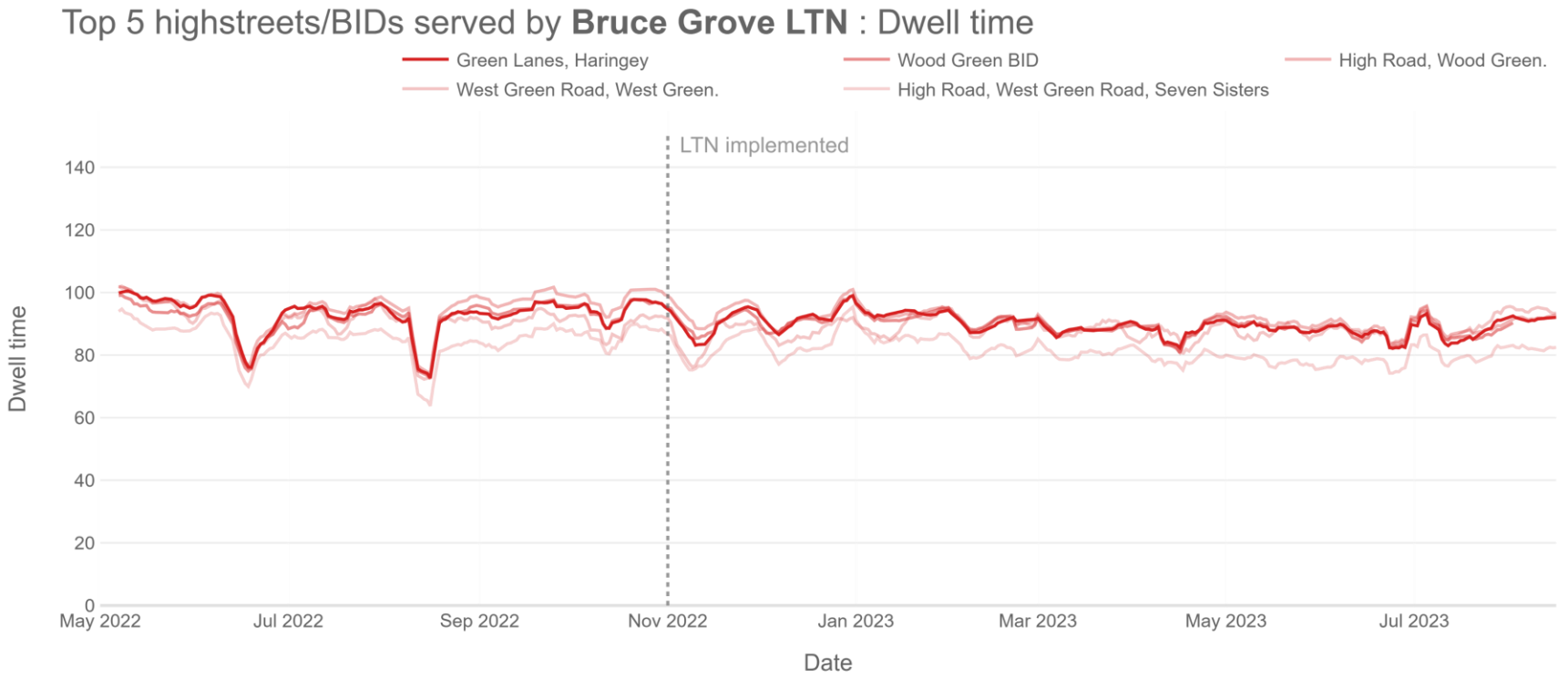
BRUCE GROVE: DWELL TIME

Average visitor dwell time, in minutes, for high streets and BIDs served by Bruce Grove LTN.

This shows how long visitors tend to dwell on a particular high street.

The LTN date of implementation is labelled.

These high streets happen to show a small downward drift over very long time scales.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Colour represents popularity: darkest is the most popular high street/BID, while the lightest is the least popular.

Anonymised and aggregated data by BT.

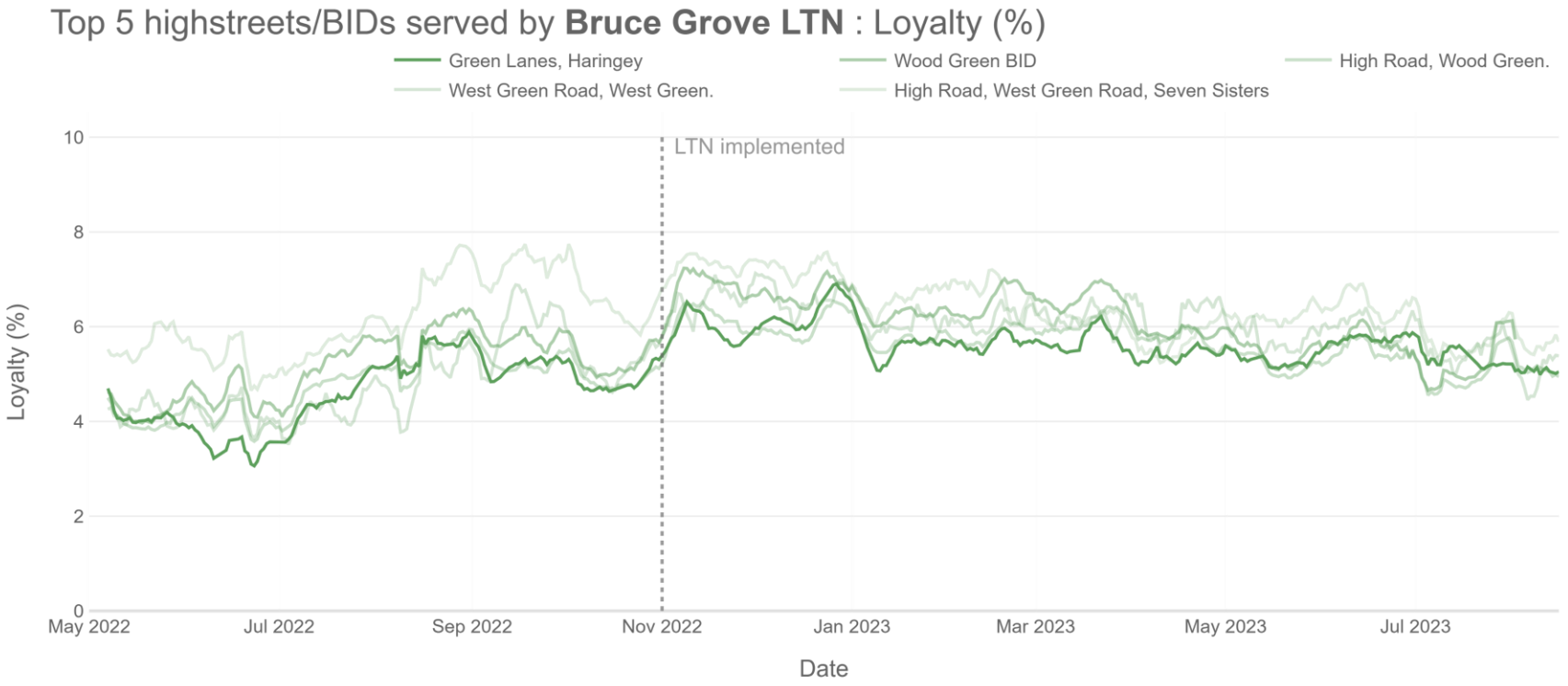
BRUCE GROVE: VISITOR LOYALTY

Average loyalty over time for high streets and BIDs served by Bruce Grove LTN.

Loyalty measures the % of visitors that return to the same area within three hours.

The LTN date of implementation is labelled.

These high streets happen to show both rises and falls over very long time scales.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Colour represents popularity: darkest is the most popular high street/BID, while the lightest is the least popular.

Anonymised and aggregated data by BT.

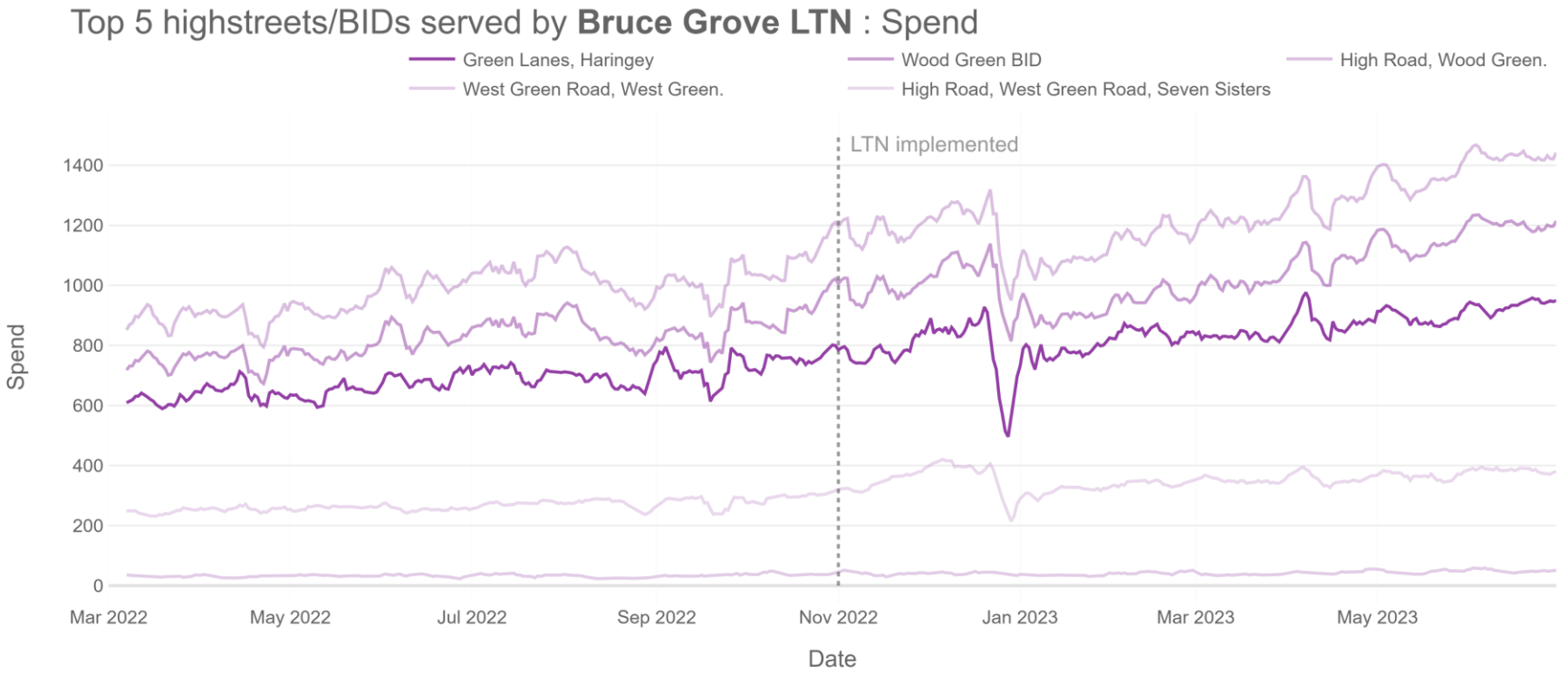
BRUCE GROVE: SPEND

Average total spend over time for high streets and BIDs served by Bruce Grove LTN.

This index measures transaction amounts on Mastercard-branded cards.

The LTN date of implementation is labelled.

These high streets show a fairly consistent rise in spend over very long time scales.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Colour represents popularity: darkest is the most popular high street/BID, while the lightest is the least popular.

Anonymised and aggregated data by Mastercard.

COMPUTING A CHANGE METRIC

After inspecting some example time series, we need to compare activity before the LTN was introduced, versus after.

We select a robust statistical test to determine whether any of the changes we observe are genuinely related to the LTN implementation.

For the five activity metrics, we compare the median over 40 days **before** the LTN was implemented and the median value over 40 days **after** implementation.

We can then compare these two numbers to see whether the value changed around the time the LTN was introduced.

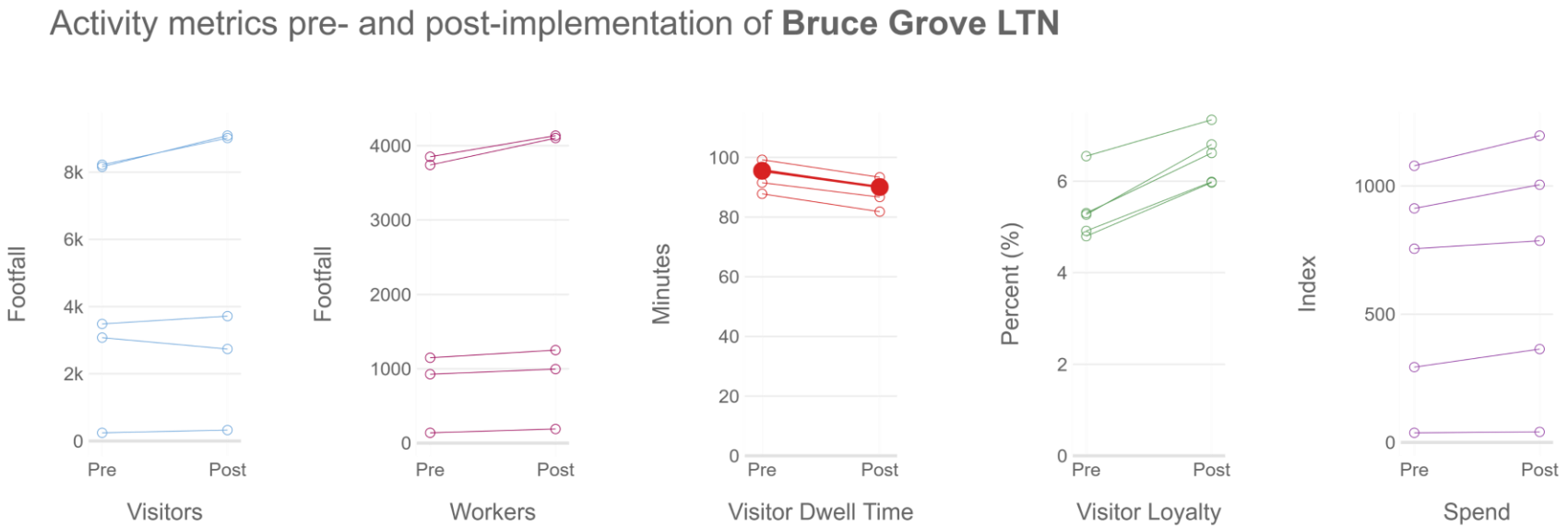
We apply statistical tests to see whether any change is genuinely due to the LTN introduction, or something else. If the test **passes**, we can be reasonably confident that the change is specific to the LTN introduction. If the test **fails**, we can be confident that the change is not specific to the introduction of the LTN.

BRUCE GROVE: METRICS

Each pair of points, connected by a line, links the pre- and post-implementation values for a single high street or BID served by Bruce Grove LTN.

Note that some high streets and BIDs show a positive change, a negative change, or no change at all.

Solid dot pairs represent high streets that pass the statistical test – **only one out of 25 for Bruce Grove.**



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Each panel shows the pre- and post-implementation values for a single activity metric.

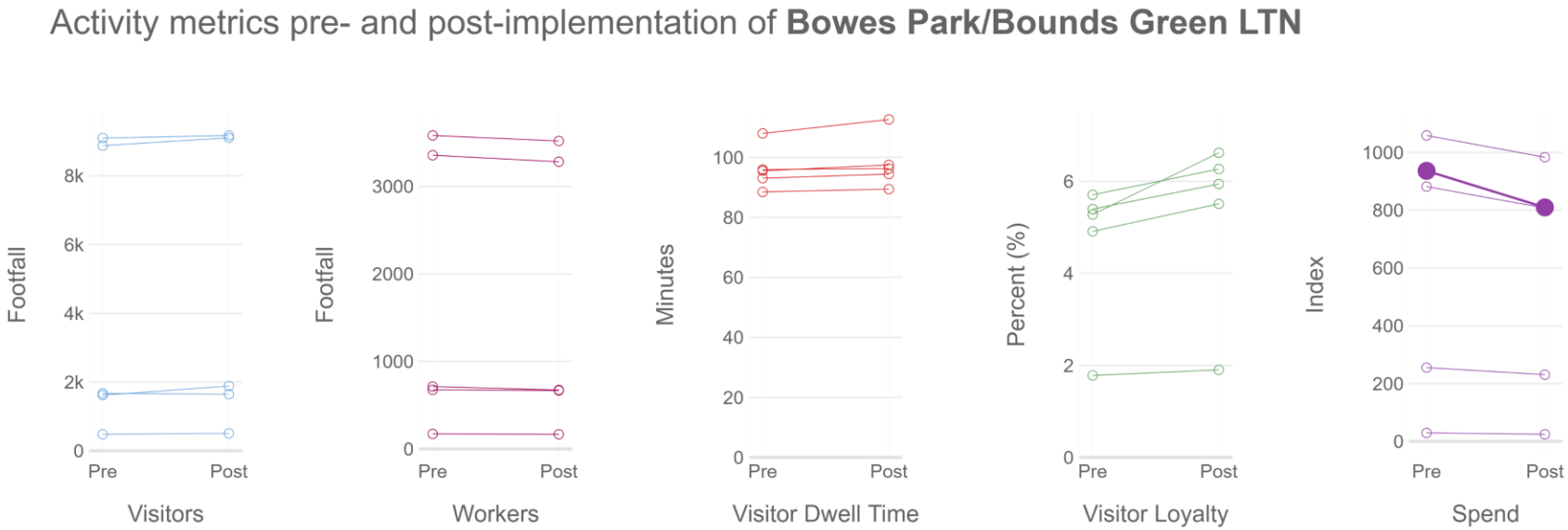
Anonymised and aggregated data by BT and Mastercard.

BOWES PARK: METRICS

Each pair of points, connected by a line, links the pre- and post-implementation values for a single high street or BID served by Bowes Park/Bounds Green LTN.

Note that some high streets and BIDs show a positive change, a negative change, or no change at all.

Solid dot pairs represent high streets that pass the statistical test – **only one out of 25 for Bowes Park.**



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Each panel shows the pre- and post-implementation values for a single activity metric.

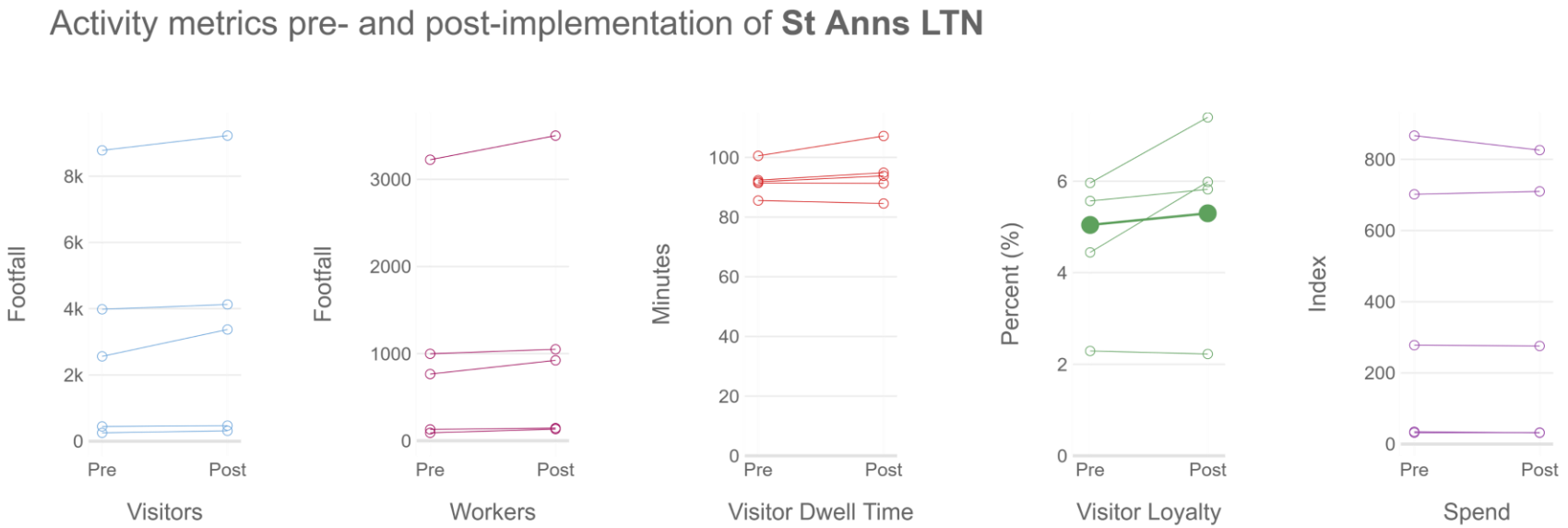
Anonymised and aggregated data by BT and Mastercard.

ST ANN'S: METRICS

Each pair of points, connected by a line, links the pre- and post-implementation values for a single high street or BID served by St. Ann's LTN.

Note that some high streets and BIDs show a positive change, a negative change, or no change at all.

Solid dot pairs represent high streets that pass the statistical test – **only one out of 25 for St. Ann's**.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTN. Each panel shows the pre- and post-implementation values for a single activity metric.

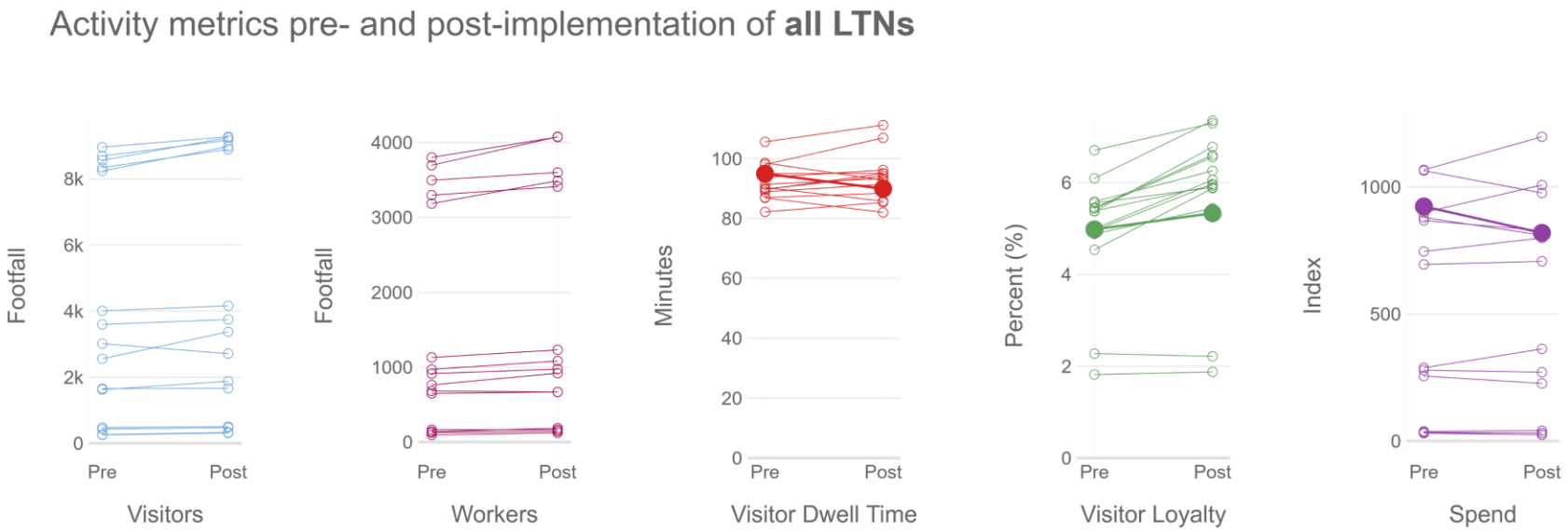
Anonymised and aggregated data by BT and Mastercard.

ALL METRICS

This chart shows the metrics for all LTNs combined together on the same plots.

Here, it is more evident how few high streets pass the statistical test – 3 out of 75, (which is about what we would expect by random chance).

We can thus be reasonably confident that there is no effect of LTNs on high street activity.



Each line on the chart represents one of the top five high streets or BIDs visited by those living within the LTNs. Each panel shows the pre- and post-implementation values for a single activity metric.

Anonymised and aggregated data by BT and Mastercard.

CONCLUSIONS

Do low-traffic neighbourhoods (LTNs) have any impact on retail and/or activity metrics of the nearby high streets?

We do not find strong evidence that implementation of an LTN causes a significant change to any of the activity metrics measured.

While the occasional high street showed a significant result, the overall effect is insufficient to support the hypothesis that LTNs (1) reduce or (2) change high street activity.

In other words, **introducing these LTNs had no effect on the activity of nearby retail areas.**