

## Appendix J - Trends in Highway Reactive Maintenance Defects Identified

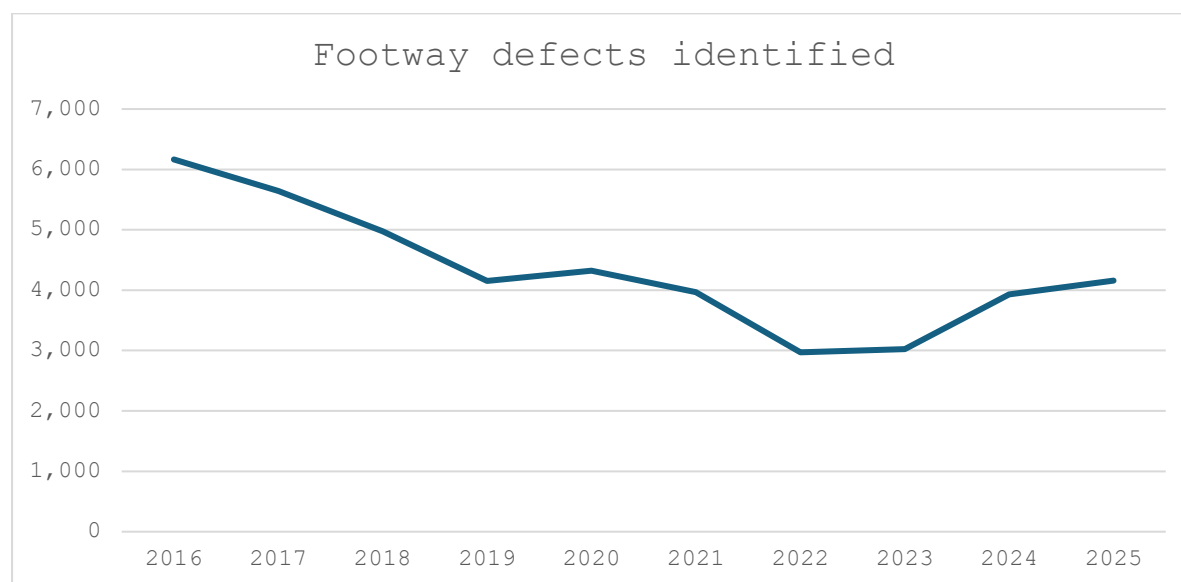
### 1. Footways - The Data

The data from the Symology Insight asset management system shows the number of highway defects identified by category between 2016 and the first quarter of 2026. Focusing on Kerbs, Footway & Paved Areas (footway defects), there are several clear long-term trends.

| Year           | Footway identified defects |
|----------------|----------------------------|
| 2016           | 6,165                      |
| 2017           | 5,644                      |
| 2018           | 4,977                      |
| 2019           | 4,151                      |
| 2020           | 4,323                      |
| 2021           | 3,969                      |
| 2022           | 2,971                      |
| 2023           | 3,026                      |
| 2024           | 3,930                      |
| 2025           | 4,160                      |
| 2026 (Jan–Mar) | 1,261                      |

*Figures derived from the monthly totals contained within the dataset.*

### 2. Footways - Overall trend



The data demonstrates three distinct phases.

- **2016–2019: Significant reduction**

Footway defects fell from approximately 6,200 defects in 2016 to around 4,150 in 2019, representing a reduction of around 33%. This suggests that the condition of the footway network was improving during this

period, most likely reflecting increased investment in reconstruction and preventative maintenance.

- **2020–2023: Lowest recorded levels**

Following a small increase in 2020, the number of identified defects continued to fall, reaching a low of approximately 3,000 defects in 2022 and 2023—around 50% lower than 2016. This coincides with the period when Brent invested heavily in borough-wide footway renewal programmes.

- **2024–2025: Increase in defects**

Since 2023 there has been a noticeable increase:

- 2024 increased by approximately 30% compared with 2023.
- 2025 increased by a further 6%, reaching around 4,160 defects.

Although this is a significant increase compared with recent years, defect levels remain well below those recorded between 2016 and 2018.

### 3. Footways- Seasonal Trend

There is a consistent seasonal trend throughout the dataset.

- **Higher numbers** of defects are generally identified during: January to March and October to December
- **Lower numbers** are generally recorded during late spring and summer (May to August)

This reflects both the deterioration of pavements following winter weather and increased inspection activity after adverse weather events.

### 4. Comparison with carriageway defects

An interesting feature of the dataset is that footway defects consistently exceed carriageway defects. For example:

| Year | Footway | Carriageway |
|------|---------|-------------|
| 2016 | 6,165   | 3,926       |
| 2020 | 4,323   | 2,189       |
| 2023 | 3,026   | 2,130       |
| 2025 | 4,160   | 2,172       |

Footway defects typically account for 55–65% of all highway safety defects, demonstrating that footways remain the largest reactive maintenance workload.

### 5. Footways - Possible reasons for the recent increase

The increase since 2024 is likely to be due to a combination of factors rather than a single cause:

- Ageing footway assets reaching the end of their service life.
- Increased deterioration following wetter winters.
- Improved inspection and defect recording.
- Higher public reporting levels.
- The natural decline in the benefits delivered by earlier large-scale reconstruction programmes completed between 2019 and 2023.

## 6. Footways - Commentary

Between 2016 and 2023 the number of identified footway defects reduced by approximately 50%, indicating that sustained capital investment in footway reconstruction was having a positive effect on network condition.

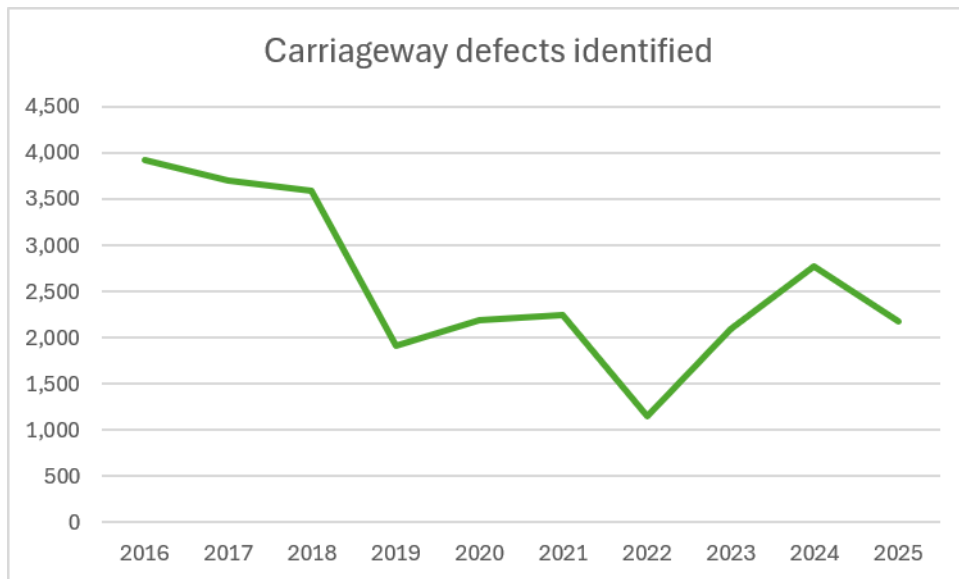
Since 2024 there has been an increase in identified defects, although levels remain substantially below those recorded at the beginning of the period. The recent increase is likely to reflect a combination of ageing infrastructure, adverse weather conditions and increased reporting, reinforcing the need to maintain investment in planned preventative maintenance to avoid further deterioration.

## 7. Carriageways - The Data

Based on the dataset from Symology Insight, Road Pavements represents carriageway defects identified during inspections and customer reports. The trend over the period 2016–2025 (plus Q1 2026) is shown below.

| Year           | Carriageway identified defects |
|----------------|--------------------------------|
| 2016           | 3,926                          |
| 2017           | 3,703                          |
| 2018           | 3,594                          |
| 2019           | 1,917                          |
| 2020           | 2,189                          |
| 2021           | 2,247                          |
| 2022           | 1,145                          |
| 2023           | 2,095                          |
| 2024           | 2,769                          |
| 2025           | 2,172                          |
| 2026 (Jan–Mar) | 871                            |

*Figures derived from the monthly Road Pavements totals contained within the dataset.*



## 8. Carriageways- Overall trend

The carriageway defect data demonstrates four distinct phases.

- **2016–2018: Gradual improvement**

Between 2016 and 2018 the number of identified carriageway defects fell modestly from approximately 3,930 to 3,590 defects, representing an 8% reduction. During this period the carriageway network remained relatively stable despite ageing infrastructure.

- **2019–2022: Significant improvement**

A substantial reduction occurred between 2018 and 2022, with identified defects falling from approximately 3,600 to just 1,145, a reduction of around 68%. This coincides with Brent's increased investment in planned carriageway resurfacing and preventative maintenance, together with programmes such as injection patching, which addressed defects before they deteriorated into safety defects requiring reactive repair.

- **2023–2024: Increase in defects**

Following the historic low recorded in 2022, carriageway defects increased significantly:

- 2023: 2,095 defects (+83% compared with 2022)
- 2024: 2,769 defects (+32% compared with 2023)

The increase is likely to reflect a combination of severe winter weather, ageing road surfaces and the gradual deterioration of roads previously treated several years earlier.

- **2025: Improvement**

During 2025 the number of identified carriageway defects reduced to approximately 2,170, representing a 22% reduction compared with 2024. This suggests that increased maintenance activity during 2024 and 2025 has begun to stabilise carriageway condition.

## 9. Carriageways - Seasonal pattern

The data shows a pronounced seasonal effect.

- Higher numbers of carriageway defects are consistently identified during: January to March and Late autumn and early winter
- Lower numbers generally occur during Summer months (June to September)

This reflects the well-established impact of freeze-thaw cycles, heavy rainfall and increased traffic loading during winter, all of which accelerate pothole formation and carriageway deterioration.

## 10. Comparison with footway defects

Throughout the period, carriageway defects remained consistently lower than footway defects.

| Year | Footway defects | Carriageway defects |
|------|-----------------|---------------------|
| 2016 | 6,165           | 3,926               |
| 2019 | 4,151           | 1,917               |
| 2022 | 2,971           | 1,145               |
| 2025 | 4,160           | 2,172               |

Carriageway defects generally account for **30–40% of all highway safety defects**, whereas footways account for the majority. However, carriageway defects often require more resource-intensive repairs and have greater implications for road safety, network resilience and third-party liability.

## 11. Carriageways Possible reasons for the recent increase

The increase in carriageway defects since 2023 is likely to reflect several factors:

- Successive wet winters accelerating pothole formation.
- Increasing age of carriageway assets as previous resurfacing programmes reach the end of their design life.
- Increased traffic loading, particularly from buses and heavy goods vehicles.
- The reduction in preventative treatment opportunities during periods of constrained funding.
- Improved defect reporting by members of the public.

The reduction seen during 2025 suggests that recent investment in resurfacing, patching and preventative maintenance is beginning to mitigate these pressures.

## 12. Commentary

The number of identified carriageway defects reduced significantly between 2016 and 2022, indicating that sustained investment in resurfacing and preventative maintenance had a positive impact on network condition.

Following an increase during 2023 and 2024, largely attributable to adverse weather and the ageing road network, defect levels reduced again during 2025.

Although carriageway defects remain above the historic low recorded in 2022, they remain substantially below those experienced at the start of the reporting period.

Continued investment in preventative maintenance and timely resurfacing will be essential to maintain this improvement and reduce the long-term cost of reactive repairs.

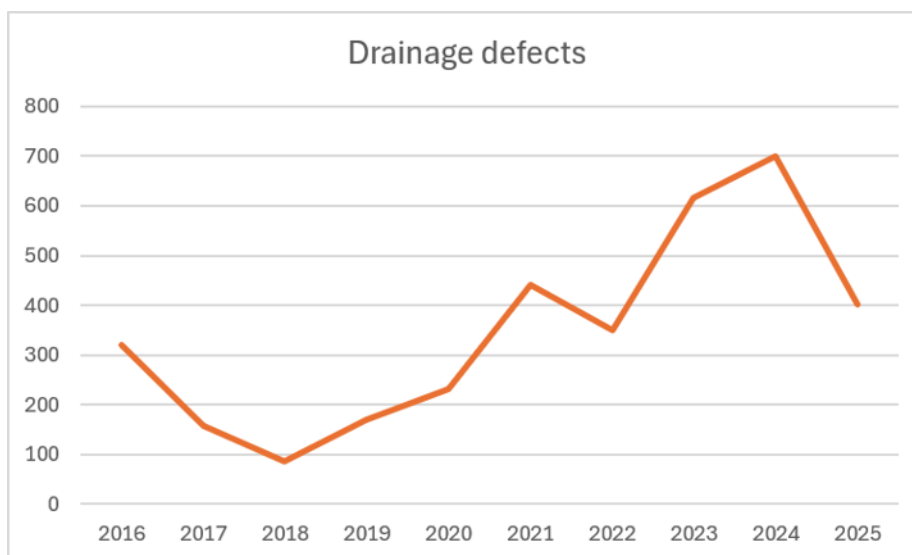
### 13. Remaining Categories of Defects

The remaining categories are relatively small individually, but they provide a useful picture of how the Council's highway asset management priorities have changed over the last decade.

### 14. Drainage Defects

**Trend** - Drainage defects show the opposite trend to footways and carriageways. Defects identified increased steadily throughout the period.

| Year      | Drainage defects |
|-----------|------------------|
| 2016      | 319              |
| 2017      | 158              |
| 2018      | 87               |
| 2019      | 169              |
| 2020      | 231              |
| 2021      | 441              |
| 2022      | 350              |
| 2023      | 617              |
| 2024      | 699              |
| 2025      | 402              |
| 2026 (Q1) | 164              |



**Analysis** - Drainage defects reduced significantly between 2016 and 2018 before increasing year-on-year from 2019 onwards. The peak in 2023–2024 coincides with several exceptionally wet periods across London and increasing public awareness of flooding issues. The increase is likely to reflect:

- more intense rainfall events associated with climate change;
- ageing highway drainage infrastructure;
- greater emphasis on identifying blocked gullies and drainage defects;
- increased customer reporting during flooding events.

Although defects reduced during 2025, drainage remains one of the fastest-growing maintenance disciplines and is likely to remain an increasing demand on revenue budgets.

## 15. Road Markings

**Trend** - Road marking defects have increased substantially over the reporting period.

| Year      | Approximate trend                       |
|-----------|-----------------------------------------|
| 2016–2019 | Very low (typically under 100 annually) |
| 2020–2022 | Gradual increase                        |
| 2023–2025 | Significant increase                    |

**Analysis** Road marking defects have increased steadily over recent years, particularly from 2022 onwards. This is likely to reflect:

- increased emphasis on active travel schemes;
- additional parking and traffic management measures;
- ageing thermoplastic markings requiring renewal;
- improved inspection recording.

Although representing a relatively small proportion of all defects, road markings are safety critical and contribute directly to compliance with the Traffic Signs Regulations and General Directions (TSRGD).

## 16. Road Restraint Systems (Guard Rails)

**Trend** - Guard rail defects have remained remarkably consistent throughout the period.

Annual totals generally fluctuate between **120 and 380 defects**, with no clear long-term upward or downward trend.

**Analysis** -The relatively stable trend suggests:

- the borough's restraint systems are generally in good condition;
- replacement programmes have kept pace with deterioration;
- defects are largely isolated impact damage rather than network-wide deterioration.

Most defects are likely to arise from vehicle collisions rather than asset ageing.

## 17. Street Furniture

**Trend** - Street furniture defects have increased steadily over the decade. Annual totals have broadly doubled compared with the earlier years.

**Analysis** - The increase reflects:

- growth in the number of highway assets (bollards, cycle infrastructure, seating, etc.);
- increasing age of existing infrastructure;
- greater inspection coverage;
- more customer reporting.

Although individually low-cost, these defects can generate significant customer enquiries because they are highly visible.

## 18. Traffic Signs

**Trend**- Traffic sign defects remain consistently low. Annual totals generally remain below 100 defects despite some increase during 2024–2025.

**Analysis** -The relatively stable numbers suggest that the borough's traffic sign asset remains in good condition. Recent increases are likely to reflect:

- replacement of older signs to improve compliance;
- storm damage;
- increased inspections following new schemes.

Overall this category represents a very small proportion of the highway maintenance workload.

## 19. Fencing and Earthworks

**Trend** -Both categories remain extremely low throughout the reporting period.

Defects occur only sporadically, usually associated with:

- collision damage;
- isolated structural failures;
- vegetation issues;
- severe weather events.

**Analysis** -These categories account for less than 1% of all identified highway defects and are managed on a reactive basis rather than through planned programmes.

## 20. Overall Asset Management Summary

The data demonstrates a clear shift in the profile of highway maintenance demands over the last decade.

- **Footway defects** remain the largest category, although they reduced substantially following significant investment before increasing modestly in recent years.
- **Carriageway defects** reduced significantly following resurfacing and preventative maintenance programmes and remain below historic levels despite recent increases.
- **Drainage defects** have become an increasingly significant maintenance pressure, reflecting wetter weather patterns and ageing drainage assets.
- **Street furniture and road marking defects** have increased gradually as the highway asset base has expanded and inspection regimes have matured.
- **Traffic signs, guard rails, fencing and earthworks** continue to represent relatively small and stable elements of the reactive maintenance workload.

## 21. Commentary

The ten-year trend demonstrates that sustained investment in planned maintenance has successfully reduced the number of structural footway and carriageway defects compared with historic levels.

However, maintenance demand is increasingly shifting towards drainage infrastructure, highway furniture and ancillary assets.

This reflects the changing nature of the highway network, the impacts of climate change and ageing infrastructure, and highlights the importance of maintaining a balanced asset management strategy that combines structural renewal with adequate revenue funding for reactive maintenance and inspection activities.