

# **CONGESTION CHARGE SCHEME**

## **POLLUTION AND VEHICLE MOVEMENT ANALYSIS**

By

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## 1. Introduction

The Oxfordshire County Council (OCC) is proposing to implement a congestion charge for vehicles entering Oxford by November 2025. To support this policy, the County Council commissioned Ricardo consultants to prepare a pollution and vehicle movement report. i.e. 'Oxford Traffic Filters Interim Scheme dated 13 June 2025.'

The report presented three options for comparison for the council i.e.

**Option 1: DMT1 – 2025** This option proposed '*Do the minimum with traffic filters scenario with full air quality dispersion modelling.*

**Option 2: DM-BR – 2025** This option proposed '*Do the minimum scenario that includes Botley Road closure but does not include traffic filters.*

**Option 3: DS – RUC1 -2025** This option is the county's preferred option, implementing a £5 congestion charge.

It was noted that, in Cllr Gant (Cabinet Member for Transport Management) has stated over time that; -

- 'Our transport model is designed to assess the broad impact of impacts of transport interventions'. Forecasts for individual roads should be treated with caution.
- The transport model used for traffic filters is a strategic model designed to assess broad impacts of transport interventions.....last updated in 2023. We do not expect the model to forecast flows to within 100% accuracy.
- 'The temporary congestion charge is proposed as an urgent measure'.

The report does not offer any recommendations; it simply states that certain roads will experience an increase in pollution levels, while others will witness a reduction. Nevertheless, the report acknowledges several limitations, including:

- The report is a reasonable approximation in the change in road NO<sub>x</sub> that is directly proportional to the change in Annual Average Daily Traffic (AADT) along modelled road links.
- The report does not consider the change in vehicle fleet numbers along the modelled roads.
- The report does not consider the change in congested vehicle speeds along the modelled road links.

The report identifies 39 'key' roads for modelling but does not include St Cross Road—a congestion charge / Traffic Filter ANPR camera site i.e. a key road or explain the basis on which the roads were chosen.

It was noted that the report is based on assumptions and calculations to simulate current pollution and traffic levels rather than use the measured and real 2024 data which is available.

The report also does not classify the type of vehicle mentioned in the report e.g. the number of cars requiring permits, cars for business use, buses, coaches, lorries or vans or how many may use the £5 congestion charge. No mention is made of the effect of the 100/25 Day Permits on traffic movements whether, or how they have been included in the calculations.

Although the council has implicitly directed the consultant to the preferred option in his briefing, there are no conclusions or recommendations, just a series of comments on the effects of the congestion charge. In view of the report lacking clarity and recommendations in the report, it was decided to test the accuracy of the options proposed with other data sources. i.e.

- The Oxford City Air Quality Annual Status Report (June 2025)
- Ricardo's The Oxford Source Apportionment Study (Feb 2025)
- The Oxfordshire County Council's traffic county website ;-
- Annual Average Daily Traffic Map - Oxfordshire.maps.arcgis.com

Note AADT masks the impact of congestion and pollution on major roads during peak hours, but it is generally accepted as a useful overall indicator.

This report does not consider Option 1 because it must make numerous assumptions regarding the impact of traffic filters. In contrast, Option 2 appears to reflect the current situation and can be directly compared with the congestion charge model - Option 3.

Cllr Gant has continually expressed a view that the overall effect of pollution and congestion should be considered rather than using individual road data to support a particular view. The analysis of the Ricardo report's data, outlined above, shows that an overall view of the congestion charge policy as proposed, is calculated at a mere 0.2µg/m<sup>3</sup> reduction. However, the Oxford City Air Quality 2024 data indicates that the overall city pollution levels are already similar to that which can be achieved by congestion charging. i.e.

| Ricardo Option 2 Data | Ricardo Option 3 Data | City Council Data     | Apportionment Study   |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 20.2µg/m <sup>3</sup> | 19.2µg/m <sup>3</sup> | 19.3µg/m <sup>3</sup> | 25.1µg/m <sup>3</sup> |

Whilst it is acknowledged that traffic measurements in the Ricardo reports have been for one way flow and an implicit caution by Cllr Gant that the County's traffic counts should be disregarded, the analysis of the vehicle movement highlights severe discrepancies in the data when the Ricardo report options are compared with the county council's own traffic count website. The Ricardo calculated AADT vehicle data is so far adrift of the real measured data that it should not even be considered as a part of the council's proposals.

It should be noted that many of the roads are already below the County Council's maximum pollution level target of 30µg/m<sup>3</sup> for 2025 and that several roads are already below the 2030 NO<sub>2</sub> µg/m<sup>3</sup> target for 2030 of 20µg/m<sup>3</sup>.

It is also believed to be both unethical and unreasonable for a council / councillors to promote congestion charging, only quoting reductions in pollution on certain roads, whilst knowing (or ignoring) that the gains are offset by the increases in other roads.

The only plausible reasons for introducing congestion charges until the traffic filters are operational are twofold:

1. A discrete evaluation to ascertain whether the traffic filters will effectively achieve the council's objectives of mitigating traffic congestion and pollution within, around, and across Oxford.
2. Income generation.

### 3.0 Pollution Data Analysis

The Ricardo Interim Report simply states that the greatest positive impact is in St Clements and the Abingdon Road with small benefits in the city centre and Marston Ferry Road, however, congestion charging will increase pollution on the Woodstock Road, and the Oxford Ring Road, with little changes elsewhere.

#### 3.1. Ricardo's Option 2 v Option 3

Appendix 1 compares the potential impact of a congestion charge policy (Option 3) with the current situation (Option 2). for all roads selected, an example of the range of values is shown below.

| Location            | Option 2 ( $\mu\text{g}/\text{m}^3$ ) | Option 3 ( $\mu\text{g}/\text{m}^3$ ) |
|---------------------|---------------------------------------|---------------------------------------|
| St Clements         | 40.1                                  | 28.5                                  |
| Hythe Bridge Street | 19.0                                  | 16.7                                  |
| Park End Street     | 17.1                                  | 15.7                                  |
| Eastern Bypass      | 31.6                                  | 33.1                                  |
| Southern Bypass     | 30.6                                  | 31.1                                  |
| Woodstock Road      | 17.4                                  | 18.1                                  |

The range of difference in  $\text{NO}_2$  for all the roads listed range are from a reduction of 33% in St Clements and an increase of 7% on the Woodstock Road. However, the overall calculation shows that the overall pollution reduction amounts to 5%, a mere  $1 \mu\text{g}/\text{m}^3$  difference between the two Ricardo options; Option 2 being  $20.2 \mu\text{g}/\text{m}^3$  and Option 3 is  $19.2 \mu\text{g}/\text{m}^3$ .

It should be noted that 85% of the roads already meet the Council's 2025 target of roads being less than  $30 \mu\text{g}/\text{m}^3$  whilst 64% of the roads selected already meet the 2030 target of  $20 \mu\text{g}/\text{m}^3$ . 6 roads are currently above the 2025 pollution criteria; this will reduce to 4 using congestion charging.

#### 2.2 Ricardo Option 2 v Oxford City Data

Appendix 2 compares the Ricardo Option 2 data with that measured by the Oxford City Council in the 'The Oxford City Air Quality Annual Status Report (June 2025)'. It is believed that Ricardo have attempted to determine 2025 data by calculation rather than undertake their evaluation using the available 2024 data.

It must be noted that the city council values should be lower in 2025 due to the increasing fleet of electric buses replacing their diesel equivalents and the increasing use of electric cars, vans and lorries that were known as the significant cause of pollution in the city.

Appendix 2 shows a wide disparity between both data sets i.e.

| Location                   | City Council Data ( $\mu\text{g}/\text{m}^3$ ) | Ricardo Option 2 Data ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|--|--|
| St Clements                | 34   | 40.1   |
| Thames Street              | 15   | 19.9   |
| Park End Street            | 19   | 15.7   |
| Marston Road (St Michaels) | 10   | 13.6   |
| Banbury Road               | 20   | 15.2   |
| Northern bypass            | 29   | 21.6   |
| Morrell Avenue             | 10   | 13.6   |

Appendix 2 also highlights the difference in values between the overall measured values of pollution and those calculated by the respective organisations. As a general view one would expect the City's measured values to be higher than those calculated, however the analysis shows that the range of differences between Option 2 and

the OCC data ranges between +56% (Wolvercote Meadows) and – 31% (JR Hospital) with an overall discrepancy of +5% which is beyond the normally accepted range of error of +/- 3%.

It should be noted that the Oxford City data indicates the number of roads over the 2025 pollution level target are currently 3, compared with the 6 listed for Option 2; 92% of roads are already within the 2025 maximum pollution level and 64% within 2030 target, therefore congestion charging cannot be justified on pollution grounds.

### 2.3 Ricardo Apportionment Study v Oxford City Data

Ricardo have also produced for the county council, the 'Oxford Source Apportionment Study (Feb 2025); which is believed to be an interim model designed to forecast 2025 pollution levels. Appendix 3 compares the values listed with the other options.

In principle, the Apportionment Study values should fall between those of the Oxford City measured values for 2024 and the Option 2 Values evaluated by Ricardo in their 'Oxford Traffic Filters Interim Scheme – Air Quality technical note dated 13 June 2025 report. However, from the table below it can be clearly seen that there is a very wide difference between the respective values that ranges from +56% to -31% for Wolvercote Meadows sites and the JR respectively. This discrepancy leads to the opinion that the modelling system is not effective and should not be relied on. The average error range is +8% well outside the normal +/- 3% accepted error range.

| Location                   | City Council<br>( $\mu\text{g}/\text{m}^3$ ) | Apportionment Study<br>( $\mu\text{g}/\text{m}^3$ ) | Ricardo Option2<br>( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------|--|---|---|
| St Clements                | 34   | 40.1  | 44.7  |
| Thames Street              | 15   | 19.9  | 21.0  |
| Park End Street            | 19   | 15.7  | 22.7  |
| Marston Road (St Michaels) | 10   | 13.6  | 16.7  |
| Banbury Road               | 20   | 15.2  | 16.9  |
| Northern bypass            | 29   | 21.6  | 26.1  |
| Morrell Avenue             | 12   | 13.6  | 16.1  |

The Apportionment method of calculation current pollution values for the various roads increases the number of roads  $>30(\mu\text{g}/\text{m}^3)$  from 6 to 12 and reduces the number of roads to 69% and 38% meeting the Oxfordshire County Council maximum pollution levels for 2025 and 2030 respectively when compared with Oxford City data.

### 3.1 Summary

A summary table of the overall data values, as suggested by Cllr Gant, is shown below which, in principle suggests that currently, the best Option is not to take any action at all, other than on an individual road basis where it is economically viable, as the overall value of this inaction leads to the lowest overall pollution value, which coincidentally is also below the county council's 2030 pollution target at present. It is suspected that the implementation of a congestion charge does not offer a value for money solution.

| Pollution Data Options | $>30\mu\text{g}/\text{m}^3$ | $<30(\mu\text{g}/\text{m}^3)$ | $<20(\mu\text{g}/\text{m}^3)$ |
|------------------------|-----------------------------|-------------------------------|-------------------------------|
| Oxford City            | 8%                          | 92%                           | 64%                           |
| Ricardo Option 2       | 15%                         | 85%                           | 64%                           |
| Ricardo Option 3       | 10%                         | 90%                           | 69%                           |
| Ricardo Apportionment  | 31%                         | 69%                           | 64%                           |

From the above it can clearly be seen that the best option is to use the Oxford City measured and real data rather than those produced in the Ricardo reports. As mentioned previously, the Oxford City data was measured in 2024 and is highly likely to publish lower pollution levels in their 2025 report due to the general increase in electric vehicles since the 2024 measurements were taken.

### 3. Vehicle Movements

The Ricardo report diagrams of traffic movements show increases in traffic around the ring roads, Marsh Lane, Woodstock Road, Banbury Road, Hollow Way, Morrell Avenue, Cowley Road, all of which are already subject to congestion. However, there are several limitations listed in the Ricardo Traffic Filter Interim Scheme report, primarily on the assumptions and how the vehicle calculations were made. There are no comments of the limitations of how many vehicles were permanently exempt, or those using the 100/25 permit passes or via the £5 charge.

Cllr Gant has qualified the report (Q&A Cabinet Meeting 4<sup>th</sup> July) by stating that the 'transport model' was based on 2023 data and modelled to reflect the closure of Botley Road. In addition, Cllr Gant has indicated that the flows in the report are in one direction only.

The Option 2 versus Option 3 analysis in Appendix 4 indicates a 5% reduction in traffic volumes with the introduction of the congestion charge. However, it is evident that Options 2 and 3 will significantly divert traffic onto the ring roads and into Oxford via the Banbury and Woodstock Roads. This diversion is primarily attributed to the absence of congestion charging ANPR cameras on these routes.

It was noted that some of the roads listed in the schedule appeared to be very low for both options outlined in the Ricardo report therefore a comparison was made with the County's traffic count data.

London Road, known to have a very high volume of traffic however the Ricardo report indicates for this site (Site DT16) 4,590 and 3,270 vehicles for Options 2 and Option 3 respectively; The Oxfordshire Council's traffic count for the road is 16,360! It would be interesting how the council can account for this disparity!

It was also noted that there are locations that do not seem relevant to vehicle movement e.g. location DT90 Rose Hill / Ashurst Way, which is not a main road into Oxford, has counts of 1,256 for Option 2 and 1,216 for Option 3. Ashurst Way will not be impacted by ANPR cameras located around the city, whereas Rose Hill itself, that will be impacted has a count of 14,250, but there is no mention of this road in the schedule. Appendix 5 provides a comparison between the values published in the Ricardo Report as Options 2 and 3 in conjunction with details from the council's traffic count website [Oxfordshire.maps.arcgis.com](https://www.oxfordshire.maps.arcgis.com).

As an example of other locations with questionable data are; -

| Location           | Ricardo Option 2 | Ricardo Option 3 | Oxfordshire Traffic Count |
|--------------------|------------------|------------------|---------------------------|
| Banbury Road       | 4,336            | 4,318            | 14,407                    |
| Northern By-Pass   | 15,461           | 15,695           | 37,152                    |
| Marston Ferry Road | 4,195            | 3,550            | 10,205                    |

Acknowledging the Cllr Gant statement on monitoring traffic flows are one side of a road only, therefore a total count should be approximately double or 100% of the Ricardo values; the actual overall difference is 165% i.e. a 65% discrepancy between a measured values and a calculated set. Appendix 5 shows the range of percentage difference for the roads listed and the difference ranging from 232% to 12%.

In view of the above, it believed that the vehicle data should not be used for the consultation from the scheme proposals.

## Appendix 1 – Comparison of Ricardo's Report Options 2 and 3

Data abstracted from Appendix 2 of Ricardo Report. Oxford Traffic Filters Interim Scheme.

| Site Ref      | Location  | Option 2<br>( $\mu\text{g}/\text{m}^3$ ) | Option 3<br>( $\mu\text{g}/\text{m}^3$ ) | Difference<br>O3 / O2 | %age<br>Difference<br>O3 / O2 |
|---------------|---|--|--|-----------------------|-------------------------------|
| DT55          | St Clements   | 40.1                                     | 28.5                                     | 12                    | -29%                          |
| DT45          | Worcester Street  | 29.8                                     | 23.6                                     | 6                     | -21%                          |
| DT85          | St Clements(3)  | 32.0                                     | 21.6                                     | 10                    | -33%                          |
| DT15          | London Road /BHF  | 22.1                                     | 19.0                                     | 3                     | -14%                          |
| DT3           | LP52 Abingdon Road  | 23.8                                     | 22.3                                     | 2                     | -6%                           |
| DT44          | Hythe Bridge Street   | 19.0                                     | 16.7                                     | 2                     | -12%                          |
| DT58          | Folly Bridge  | 21.5                                     | 19.6                                     | 2                     | -9%                           |
| DT59          | Thames Street   | 19.9                                     | 18.2                                     | 2                     | -9%                           |
| DT60          | New Butterwyke / Thames Street                                    | 18.8                                     | 17.3                                     | 2                     | -8%                           |
| TF31          | Brasenose Farm / Eastern Bypass                                   | 31.6                                     | 33.1                                     | -2                    | 5%                            |
| TF30          | 99 Oliver Road / Eastern bypass                                   | 25.5                                     | 27.0                                     | -2                    | 6%                            |
| DT83          | A44 Woodstock Road  | 26.1                                     | 27.6                                     | -2                    | 6%                            |
| TF6           | 306 Woodstock Road  | 17.3                                     | 18.5                                     | -1                    | 7%                            |
| DT56          | High Street   | 18.6                                     | 18.2                                     | 0                     | -2%                           |
| DT57          | Speedwell Street / St Aldates                                     | 18.3                                     | 17.8                                     | 1                     | -3%                           |
| TF15          | Park End Street (city centre)                                     | 17.1                                     | 15.7                                     | 1                     | -8%                           |
| DT43          | Park End Street   | 15.7                                     | 14.7                                     | 1                     | -6%                           |
| DT42          | New Road  | 13.2                                     | 13.2                                     | 0                     | 0%                            |
| DT40          | Queen Street  | 12.9                                     | 12.9                                     | 0                     | 0%                            |
| DT80          | Hollow Way  | 19.1                                     | 19.1                                     | 0                     | 0%                            |
| DT93          | Marston Ferry Road  | 14.5                                     | 13.8                                     | 1                     | -5%                           |
| TF24          | Marston Ferry Road/ Cherwell Drive                                | 14.4                                     | 13.7                                     | 1                     | -5%                           |
| TF37          | Wolvercote Meadows (2)  | 37.5                                     | 38.0                                     | -1                    | 1%                            |
| TF36          | Wolvercote Meadows (1)  | 31.2                                     | 31.6                                     | 0                     | 1%                            |
| TF35          | 67 Southern Bypass Road   | 30.6                                     | 31.1                                     | -1                    | 2%                            |
| TF27          | Northern By Pass - Phillips Tyres                                 | 21.6                                     | 21.8                                     | 0                     | 1%                            |
| DT17          | 23 Iffley Road / Stanley Road                                     | 21.6                                     | 20.2                                     | 1                     | -6%                           |
| TF25          | 39 Marsh Lane   | 18.3                                     | 18.6                                     | 0                     | 2%                            |
| TF8           | 191 Woodstock Road  | 17.4                                     | 18.1                                     | -1                    | 4%                            |
| TF7           | 339 Banbury Road  | 15.2                                     | 15.2                                     | 0                     | 0%                            |
| TF33          | 119 Barns Road  | 15.1                                     | 14.6                                     | 1                     | -3%                           |
| TF18          | 143 Morrell Avenue  | 14.2                                     | 14.0                                     | 0                     | -1%                           |
| TF10          | 99 Banbury Road   | 14.2                                     | 14.3                                     | 0                     | 1%                            |
| LT12          | Ruskin Hall   | 14.2                                     | 14.0                                     | 0                     | -1%                           |
| LT4           | 138- 146 Morrell Avenue   | 13.6                                     | 13.4                                     | 0                     | -1%                           |
| DT82          | Summertown Parade   | 13.4                                     | 13.3                                     | 0                     | -1%                           |
| TF20          | Marston Road / St Michaels Primary                                | 13.6                                     | 12.6                                     | 1                     | -7%                           |
| DT90          | Rose Hill / Ashurst Way   | 13.0                                     | 12.9                                     | 0                     | -1%                           |
| TF23          | JR Hospital   | 11.8                                     | 11.6                                     | 0                     | -2%                           |
| <b>Totals</b> |   | <b>788</b>                               | <b>747</b>                               | <b>40</b>             | <b>-5%</b>                    |
|               | <b>Average</b>  | <b>20.2</b>                              | <b>19.2</b>                              | <b>1.0</b>            |                               |
|               | Above legal limit of 40( $\mu\text{g}/\text{m}^3$ )               |  |  |                       |                               |
|               | Less than OCC 2025 Target of 30( $\mu\text{g}/\text{m}^3$ )       |  |  |                       |                               |
|               | Less than OCC 2030 Target of 20( $\mu\text{g}/\text{m}^3$ )       |  |  |                       |                               |
|               | Above OCC 2025 target of 30( $\mu\text{g}/\text{m}^3$ )           |  |  |                       |                               |
|               | Congestion Charge Camera sites NB St Cross Road site not included |  |  |                       |                               |

**Appendix 2 Comparison of Ricardo's Option 2 Pollution data with Oxford City Council data**

- This chart compares the data outlined in Appendix 2 of the Ricardo's Oxford City Air Quality Annual Status Report (June 2025) and the City Council's The Oxford City Air Quality Annual Status Report (June 2025)

| Chart 1 - COMPARISON OF RICARDO JUNE 25 DATA v CITY 2024 AQSR DATA REPORT<br>PUBLISHED JUNE 25 |                                    |   |                     |                |                 |
|--|------------------------------------|---|---------------------|----------------|-----------------|
| Site Ref   | Location                           | OCC<br>DATA<br>2024                                       | RICARDO<br>OPTION 2 | Difference     | %age            |
| DT55   | St Clements                        | 34  | 40.1                | (6.10)         | 18%             |
| DT45   | Worcester Street                   | 25  | 29.8                | (4.80)         | 19%             |
| DT85   | St Clements(3)                     | 25  | 32.0                | (7.00)         | 28%             |
| DT18   | London Road /BHF (Roundway)        | 19  | 22.1                | (3.10)         | 16%             |
| DT3  | LP52 Abingdon Road                 | 23  | 23.8                | (0.80)         | 3%              |
| DT44   | Hythe Bridge Street                | 18  | 19.0                | (1.00)         | 6%              |
| DT58   | Folly Bridge                       | 20  | 21.5                | (1.50)         | 8%              |
| DT59   | Thames Street                      | 15  | 19.9                | (4.90)         | 33%             |
| DT60   | New Butterwyke / Thames Street     | 17  | 18.8                | (1.80)         | 11%             |
| TF31   | Brasenose Farm / Eastern Bypass    | 32  | 31.6                | 0.40           | -1%             |
| TF30   | 99 Oliver Road / Eastern bypass    | 24  | 25.5                | (1.50)         | 6%              |
| DT83   | A44 Woodstock Road                 | 28  | 26.1                | 1.90           | -7%             |
| TF6  | 306 Woodstock Road                 | 13  | 17.3                | (4.30)         | 33%             |
| DT56   | High Street                        | 25  | 18.6                | 6.40           | -26%            |
| DT57   | Speedwell Street / St Aldates      | 21  | 18.3                | 2.70           | -13%            |
| TF15   | Park End Street                    | 21  | 17.1                | 3.90           | -19%            |
| DT43   | Park End Street                    | 19  | 15.7                | 3.30           | -17%            |
| DT42   | New Road                           | 16  | 13.2                | 2.80           | -18%            |
| DT40   | Queen Street                       | 17  | 12.9                | 4.10           | -24%            |
| DT80   | Hollow Way                         | 29  | 19.1                | 9.90           | -34%            |
| DT93   | Marston Ferry Road                 | 10  | 14.5                | (4.50)         | 45%             |
| TF24   | Marston Ferry Road/ Cherwell Drive | 11  | 14.4                | (3.40)         | 31%             |
| TF37   | Wolvercote Meadows (2)             | 24  | 37.5                | (13.50)        | 56%             |
| TF36   | Wolvercote Meadows (1)             | 31  | 31.2                | (0.20)         | 1%              |
| TF35   | 67 Southern Bypass Road            | NL  | NL                  | NL             | NL - Not listed |
| TF27   | Northern By Pass - Phillips Tyres  | 29  | 21.6                | 7.40           | -26%            |
| DT17   | 23 Iffley Road / Stanley Road      | NL  | NL                  | NL             | NL - Not listed |
| TF25   | 39 Marsh Lane                      | 13  | 18.3                | (5.30)         | 41%             |
| TF8  | 191 Woodstock Road                 | 16  | 17.4                | (1.40)         | 9%              |
| TF7  | 339 Banbury Road                   | 20  | 15.2                | 4.80           | -24%            |
| TF33   | 119 Barns Road                     | 13  | 15.1                | (2.10)         | 16%             |
| TF18   | 143 Morrell Avenue                 | 12  | 14.2                | (2.20)         | 18%             |
| TF10   | 99 Banbury Road                    | 16  | 14.2                | 1.80           | -11%            |
| LT12   | Ruskin Hall                        | NL  | NL                  | NL             | NL - Not listed |
| LT4  | 138- 146 Morrell Avenue            | 10  | 13.6                | (3.60)         | 36%             |
| DT82   | Summertown Parade                  | 16  | 13.4                | 2.60           | -16%            |
| TF20   | Marston Road / St Michaels Primary | 10  | 13.6                | (3.60)         | 36%             |
| DT90   | Rose Hill / Ashurst Way            | 14  | 13.0                | 1.00           | -7%             |
| TF23   | JR Hospital                        | 17  | 11.8                | 5.20           | -31%            |
| <b>TOTALS</b>  |                                    | <b>703</b>  | <b>721.4</b>        | <b>(18.40)</b> |                 |
| <b>AVERAGE</b>   |                                    | <b>19.5</b>   | <b>20.0</b>         |                | <b>5%</b>       |
|  |                                    |   |                     |                |                 |
|  |                                    | Less than OCC 2025 Target of 30( $\mu$ g/m <sup>3</sup> ) |                     |                |                 |
|  |                                    | Less than OCC 2030 Target of 20( $\mu$ g/m <sup>3</sup> ) |                     |                |                 |
|  |                                    | Above OCC 2025 target of 30( $\mu$ g/m <sup>3</sup> )     |                     |                |                 |





**Appendix 3 – Comparison of values outlined in the three reports considered**

The data outlined in the chart below is derived from the following considered in the

- Oxford Traffic Filters Interim Scheme – Air Quality technical note (13 June 2025)
- The Oxford City Air Quality Annual Status Report (June 2025)
- The Oxford Source Apportionment Study (Feb 2025)

| Location Identifier | Address                            | 2024 OCC Data     | Modelled NO <sub>2</sub> | Option 2          | Age difference from measured OCC data |           |
|---------------------|------------------------------------|-------------------|--------------------------|-------------------|---------------------------------------|-----------|
|                     |                                    | µg/m <sup>3</sup> | µg/m <sup>3</sup>        | µg/m <sup>3</sup> | Modelled NO <sub>2</sub>              | Option 2  |
| DT55                | St Clements                        | 34                | 44.7                     | 40.1              | 31.5%                                 | 18%       |
| DT45                | Worcester Street                   | 25                | 36.8                     | 29.8              | 47.2%                                 | 19%       |
| DT85                | St Clements(3)                     | 25                | 36.9                     | 32.0              | 47.6%                                 | 28%       |
| DT18                | London Road /BHF                   | 19                | 19.9                     | 22.1              | 4.7%                                  | 16%       |
| DT3                 | LP52 Abingdon Road                 | 23                | 25.1                     | 23.8              | 9.1%                                  | 3%        |
| DT44                | Hythe Bridge Street                | 18                | 22.7                     | 19.0              | 26.1%                                 | 6%        |
| DT58                | Folly Bridge                       | 20                | 24.1                     | 21.5              | 20.5%                                 | 8%        |
| DT59                | Thames Street                      | 15                | 21.0                     | 19.9              | 40.0%                                 | 33%       |
| DT60                | New Butterwyke / Thames Street     | 17                | 20.3                     | 18.8              | 19.4%                                 | 11%       |
| TF31                | Brasenose Farm / Eastern Bypass    | 32                | 35.5                     | 31.6              | 10.9%                                 | -1%       |
| TF30                | 99 Oliver Road / Eastern bypass    | 24                | 30.0                     | 25.5              | 25.0%                                 | 6%        |
| DT83                | A44 Woodstock Road                 | 28                | 34.2                     | 26.1              | 22.1%                                 | -7%       |
| TF6                 | 306 Woodstock Road                 | 13                | 20.1                     | 17.3              | 54.6%                                 | 33%       |
| DT56                | High Street                        | 25                | 33.7                     | 18.6              | 34.8%                                 | -26%      |
| DT57                | Speedwell Street / St Aldates      | 21                | 35.4                     | 18.3              | 68.6%                                 | -13%      |
| TF15                | Park End Street                    | 18                | 27.7                     | 17.1              | 53.9%                                 | -5%       |
| DT43                | Park End Street                    | 19                | 22.7                     | 15.7              | 19.5%                                 | -17%      |
| DT42                | New Road                           | 16                | 19.4                     | 13.2              | 21.3%                                 | -18%      |
| DT40                | Queen Street                       | 17                | 17.9                     | 12.9              | 5.3%                                  | -24%      |
| DT80                | Hollow Way                         | 29                | 22.9                     | 19.1              | -21.0%                                | -34%      |
| DT93                | Marston Ferry Road                 | 10                | 17.6                     | 14.5              | 76.0%                                 | 45%       |
| TF24                | Marston Ferry Road/ Cherwell Drive | 11                | 16.5                     | 14.4              | 50.0%                                 | 31%       |
| TF37                | Wolvercote Meadows (2)             | 24                | 42.8                     | 37.5              | 78.3%                                 | 56%       |
| TF36                | Wolvercote Meadows (1)             | 20                | 37.2                     | 31.2              | 86.0%                                 | 56%       |
| TF35                | 67 Southern Bypass Road            | No Data           | 34.7                     | 30.6              | NCD                                   | NCD       |
| TF27                | Northern By Pass - Phillips Tyres  | 29                | 26.1                     | 21.6              | -10.0%                                | -26%      |
| TF17                | 23 Iffley Road / Stanley Road      | No Data           | 25                       | 21.6              | NCD                                   | NCD       |
| TF25                | 39 Marsh Lane                      | 13                | 22                       | 17.4              | 69.2%                                 | 34%       |
| TF8                 | 191 Woodstock Road                 | 16                | 20.5                     | 15.2              | 28.1%                                 | -5%       |
| TF7                 | 339 Banbury Road                   | 20                | 18.9                     | 15.1              | -5.5%                                 | -25%      |
| TF33                | 119 Barns Road                     | 13                | 18.2                     | 14.2              | 40.0%                                 | 9%        |
| TF18                | 143 Morrell Avenue                 | 12                | 16.1                     | 14.2              | 34.2%                                 | 18%       |
| TF10                | 99 Banbury Road                    | 16                | 16.9                     | 13.6              | 5.6%                                  | -15%      |
| LT12                | Ruskin Hall                        | No Data           | 15.9                     | 14.2              | NCD                                   | NCD       |
| LT4                 | 138- 146 Morrell Avenue            | 9                 | 16.1                     | 13.6              | 78.9%                                 | 51%       |
| DT82                | Summertown Parade                  | 16                | 16.2                     | 13.0              | 1.3%                                  | -19%      |
| TF20                | Marston Road / Michaels Primary    | 10                | 16.7                     | 11.8              | 67%                                   | 18%       |
| DT90                | Rose Hill / Ashurst Way            | 14                | 14.9                     | 11.8              | 6%                                    | -16%      |
| TF23                | JR Hospital                        | 17                | 16.5                     | 11.8              | -3%                                   | -31%      |
| <b>Averages</b>     |                                    | <b>19.3</b>       | <b>25.1</b>              | <b>20.4</b>       | <b>34%</b>                            | <b>8%</b> |

## Appendix 4 Comparison between Ricardo Options 2 and 3 Vehicle Movements

This Appendix summarises the difference between the Annual Average Daily Traffic movements for the 39 roads selected by Ricardo's Oxford Traffic Filter Interim Scheme - Appendix 2. It should be noted that the St Cross Road traffic filter / congestion charge location has not been selected for an unknown reason.

| Location Identifier | Address                            | 2024 OCC Data     | Modelled NO <sub>2</sub> | Option 2          | Age difference from measured OCC data |           |
|---------------------|------------------------------------|-------------------|--------------------------|-------------------|---------------------------------------|-----------|
|                     |                                    | µg/m <sup>3</sup> | µg/m <sup>3</sup>        | µg/m <sup>3</sup> | Modelled NO <sub>2</sub>              | Option 2  |
| DT55                | St Clements                        | 34                | 44.7                     | 40.1              | 31.5%                                 | 18%       |
| DT45                | Worcester Street                   | 25                | 36.8                     | 29.8              | 47.2%                                 | 19%       |
| DT85                | St Clements(3)                     | 25                | 36.9                     | 32.0              | 47.6%                                 | 28%       |
| DT18                | London Road /BHF                   | 19                | 19.9                     | 22.1              | 4.7%                                  | 16%       |
| DT3                 | LP52 Abingdon Road                 | 23                | 25.1                     | 23.8              | 9.1%                                  | 3%        |
| DT44                | Hythe Bridge Street                | 18                | 22.7                     | 19.0              | 26.1%                                 | 6%        |
| DT58                | Folly Bridge                       | 20                | 24.1                     | 21.5              | 20.5%                                 | 8%        |
| DT59                | Thames Street                      | 15                | 21.0                     | 19.9              | 40.0%                                 | 33%       |
| DT60                | New Butterwyke / Thames Street     | 17                | 20.3                     | 18.8              | 19.4%                                 | 11%       |
| TF31                | Brasenose Farm / Eastern Bypass    | 32                | 35.5                     | 31.6              | 10.9%                                 | -1%       |
| TF30                | 99 Oliver Road / Eastern bypass    | 24                | 30.0                     | 25.5              | 25.0%                                 | 6%        |
| DT83                | A44 Woodstock Road                 | 28                | 34.2                     | 26.1              | 22.1%                                 | -7%       |
| TF6                 | 306 Woodstock Road                 | 13                | 20.1                     | 17.3              | 54.6%                                 | 33%       |
| DT56                | High Street                        | 25                | 33.7                     | 18.6              | 34.8%                                 | -26%      |
| DT57                | Speedwell Street / St Aldates      | 21                | 35.4                     | 18.3              | 68.6%                                 | -13%      |
| TF15                | Park End Street                    | 18                | 27.7                     | 17.1              | 53.9%                                 | -5%       |
| DT43                | Park End Street                    | 19                | 22.7                     | 15.7              | 19.5%                                 | -17%      |
| DT42                | New Road                           | 16                | 19.4                     | 13.2              | 21.3%                                 | -18%      |
| DT40                | Queen Street                       | 17                | 17.9                     | 12.9              | 5.3%                                  | -24%      |
| DT80                | Hollow Way                         | 29                | 22.9                     | 19.1              | -21.0%                                | -34%      |
| DT93                | Marston Ferry Road                 | 10                | 17.6                     | 14.5              | 76.0%                                 | 45%       |
| TF24                | Marston Ferry Road/ Cherwell Drive | 11                | 16.5                     | 14.4              | 50.0%                                 | 31%       |
| TF37                | Wolvercote Meadows (2)             | 24                | 42.8                     | 37.5              | 78.3%                                 | 56%       |
| TF36                | Wolvercote Meadows (1)             | 20                | 37.2                     | 31.2              | 86.0%                                 | 56%       |
| TF35                | 67 Southern Bypass Road            | No Data           | 34.7                     | 30.6              | NCD                                   | NCD       |
| TF27                | Northern By Pass - Phillips Tyres  | 29                | 26.1                     | 21.6              | -10.0%                                | -26%      |
| TF17                | 23 Iffley Road / Stanley Road      | No Data           | 25                       | 21.6              | NCD                                   | NCD       |
| TF25                | 39 Marsh Lane                      | 13                | 22                       | 17.4              | 69.2%                                 | 34%       |
| TF8                 | 191 Woodstock Road                 | 16                | 20.5                     | 15.2              | 28.1%                                 | -5%       |
| TF7                 | 339 Banbury Road                   | 20                | 18.9                     | 15.1              | -5.5%                                 | -25%      |
| TF33                | 119 Barns Road                     | 13                | 18.2                     | 14.2              | 40.0%                                 | 9%        |
| TF18                | 143 Morrell Avenue                 | 12                | 16.1                     | 14.2              | 34.2%                                 | 18%       |
| TF10                | 99 Banbury Road                    | 16                | 16.9                     | 13.6              | 5.6%                                  | -15%      |
| LT12                | Ruskin Hall                        | No Data           | 15.9                     | 14.2              | NCD                                   | NCD       |
| LT4                 | 138- 146 Morrell Avenue            | 9                 | 16.1                     | 13.6              | 78.9%                                 | 51%       |
| DT82                | Summertown Parade                  | 16                | 16.2                     | 13.0              | 1.3%                                  | -19%      |
| TF20                | Marston Road / Michaels Primary    | 10                | 16.7                     | 11.8              | 67%                                   | 18%       |
| DT90                | Rose Hill / Ashurst Way            | 14                | 14.9                     | 11.8              | 6%                                    | -16%      |
| TF23                | JR Hospital                        | 17                | 16.5                     | 11.8              | -3%                                   | -31%      |
| <b>Averages</b>     |                                    | <b>19.3</b>       | <b>25.1</b>              | <b>20.4</b>       | <b>34%</b>                            | <b>8%</b> |

## Appendix 5 Comparison of Ricardo and County Vehicle Travel Data

This Appendix compares the vehicle travel data published in Ricardo's Oxford Traffic Filters Interim scheme with the vehicle data abstracted from the Oxfordshire's website. It should be noted that the data measuring points may not match exactly.

| Site Ref | Location                          | Ricardo Report Vehicle Nos' |          | Oxford County<br>arcgis.com Vehicle No's |        | Vehicle No Differences  |       |
|----------|-----------------------------------|-----------------------------|----------|--|--------|-------------------------|-------|
|          |                                   | Option 3                    | Option 2 | Site Ref No                              | 2024   | Yr '24 Diff With Option | %age  |
| DT55     | St Clements                       | 5,371                       | 9,487    | 751                                      | 14,677 | 5,190                   | 55%   |
| DT18     | London Road /BHF                  | 3,270                       | 4,560    | 510                                      | 16,360 | 11,800                  | 259%  |
| DT3      | LP52 Abingdon Road                | 8,369                       | 9,493    | 515                                      | 21,874 | 12,381                  | 130%  |
| DT44     | Hythe Bridge Street               | 2,832                       | 4,566    | 612                                      | 13,366 | 8,800                   | 193%  |
| DT58     | Folly Bridge                      | 6,154                       | 7,618    | 502                                      | 14,741 | 7,123                   | 94%   |
| DT59     | Thames Street                     | 5,891                       | 7,355    | 403                                      | 12,464 | 5,109                   | 69%   |
| TF31     | Brasenose Farm / Eastern Bypass   | 16,720                      | 15,318   | 513                                      | 17,086 | 1,768                   | 12%   |
| TF30     | 99 Oliver Road / Eastern bypass   | 19,341                      | 17,375   | 267                                      | 32,219 | 14,844                  | 85%   |
| DT83     | A44 Woodstock Road                | 11,558                      | 10,557   | 507                                      | 13,700 | 3,143                   | 30%   |
| TF6      | 306 Woodstock Road                | 8,365                       | 7,148    | 505                                      | 10,531 | 3,383                   | 47%   |
| DT56     | High Street                       | 2,937                       | 3,091    | 529                                      | 6,782  | 3,691                   | 119%  |
| DT57     | Speedwell Street / St Aldates     | 2,547                       | 2,742    | 528                                      | 6,376  | 3,634                   | 133%  |
| DT80     | Hollow Way                        | 5,138                       | 5,110    | 304                                      | 8,961  | 3,851                   | 75%   |
| DT93     | Marston Ferry Road                | 3,550                       | 4,195    | 318                                      | 10,205 | 6,010                   | 143%  |
| TF27     | Northern By Pass - Phillips Tyres | 15,695                      | 15,461   | 16                                       | 37,152 | 21,691                  | 140%  |
| DT17     | 23 Iffley Road / Stanley Road     | 7,381                       | 8,511    | 752                                      | 14,178 | 5,667                   | 67%   |
| TF25     | 39 Marsh Lane                     | 8,004                       | 7,652    | 509                                      | 16,521 | 8,869                   | 116%  |
| TF8      | 191 Woodstock Road                | 7,548                       | 6,852    | 505                                      | 10,531 | 3,679                   | 54%   |
| TF7      | 339 Banbury Road                  | 4,318                       | 4,336    | 508                                      | 14,407 | 10,071                  | 232%  |
| TF33     | 119 Barns Road                    | 2,972                       | 3,339    | 676                                      | 8,579  | 5,240                   | 157%  |
| TF18     | 143 Morrell Avenue                | 2,642                       | 2,829    | 527                                      | 5,038  | 2,209                   | 78%   |
| TF10     | 99 Banbury Road                   | 4,499                       | 4,310    | 506                                      | 12,529 | 8,219                   | 191%  |
| DT82     | Summertown Parade                 | 4,199                       | 4,199    | 506                                      | 12,529 | 8,330                   | 198%  |
| TF20     | Marston Road / Michaels Primary   | 2,706                       | 3,981    | 526                                      | 6,819  | 2,838                   | 71%   |
| DT90     | Rose Hill / Ashurst Way           | 1,216                       | 1,256    | 514                                      | 18,625 | 17,369                  | 1383% |
|          | <b>Averages</b>                   | 6,529                       | 6,854    |  | 14,250 | 7,396                   | 165%  |