

**Results of Feasibility Study into a Low Emission Zone in
Upper Stone Street**

Final Decision-Maker	Strategic Planning and Infrastructure Committee
Lead Head of Service	John Littlemore, Head of Housing and Communities
Lead Officer and Report Author	Dr Stuart Maxwell, Senior Scientific Officer
Classification	Public
Wards affected	High Street Ward although beneficial impact across the air quality management area.

Executive Summary

A consultant has been engaged to model the effects on air quality of a number of potential improvement measures, which could be tried in Upper Stone Street. The results of the modelling suggest that with no intervention, it would take until 2028 for pollution levels to fall sufficiently for compliance to be achieved. However, even the most effective intervention modelled only brought forward compliance by one year.

Whilst it has become clear from the results of Maidstone BC's ongoing air quality monitoring, that air quality in Upper Stone Street is significantly worse than in other areas of the Borough, there is nevertheless a clear downward trend in pollution levels, brought about by the introduction of Euro VI vehicles, and the increased uptake of electric and hybrid vehicles. This downward trend indicates that pollution levels will eventually become compliant with statutory air quality objectives. Only one of the measures modelled (scenario two) could be implemented by Maidstone BC by itself, but even that would be more effective if done in partnership with KCC. The others would need to be carried out in partnership with KCC, and funding from DEFRA would be required. The purpose of this report, therefore, is to seek agreement from members for the Director of Regeneration and Place to hold exploratory discussions with KCC about the viability of the options, and the possibility of applying to DEFRA for funding one or more of them.

Purpose of Report

Decision

This report makes the following recommendations to this Committee:

That:

1. The Strategic Planning and Infrastructure Committee endorse the findings of the report.
2. The Director of Regeneration and Place assess the level of support from Kent County Council to implement one or more of the measures outlined in the report.
3. A report be submitted to the Strategic Planning and Infrastructure Committee, outlining the outcome of discussions with Kent County Council, by January 2020.

Timetable

<i>Meeting</i>	<i>Date</i>
Committee (Strategic Planning and Infrastructure)	09 July 2019

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1. CROSS-CUTTING ISSUES AND IMPLICATIONS

Issue	Implications	Sign-off
<p>Impact on Corporate Priorities</p>	<p>The four Strategic Plan objectives are:</p> <ul style="list-style-type: none"> • Embracing Growth and Enabling Infrastructure • Safe, Clean and Green • Homes and Communities • A Thriving Place <p>We do not expect the recommendations will by themselves materially affect achievement of corporate priorities. However, they will support the Council's overall achievement of its aims as set out in section 3 [preferred alternative]. This is because continuing to further this action of the Low Emissions Strategy will enable the council to fulfil its objective of being Safe, Clean and Green. While with without the support of KCC in implementing the measures they cannot be implemented this is next step in moving the project forwards to a point where a material improvement in air quality will be achieved.</p>	<p>John Littlemore, Head of Housing and Community Services</p>
<p>Cross Cutting Objectives</p>	<p>The four cross-cutting objectives are:</p> <ul style="list-style-type: none"> • Heritage is Respected • Health Inequalities are Addressed and Reduced • Deprivation and Social Mobility is Improved • Biodiversity and Environmental Sustainability is respected <p>The report recommendation supports the achievement of addressing health inequalities by seeking to improve the air quality of this living in the affected areas who have worse air quality than other residents.</p>	<p>John Littlemore, Head of Housing and Community Services</p>

Risk Management	Already covered in the risk section 5 of the report.	John Littlemore, Head of Housing and Community Services
Financial	The proposals set out in the recommendation are all within already approved budgetary headings and so need no new funding for implementation.	Finance Officer
Staffing	We will deliver the recommendations with our current staffing.	John Littlemore, Head of Housing and Community Services
Legal	<p>Accepting the recommendations will partly fulfil the Council's duties under Part IV of the Environment Act 1995</p> <ul style="list-style-type: none"> • S82(1) of the Environment Act 1995 requires the Borough Council to review air quality from time to time • S82(2) requires an assessment of air quality standards and objectives such as that at Appendix 2 • S83(3) requires the Borough Council to identify parts of the Borough where standards or objectives are not likely to be achieved within the relevant period • S86(2) provides that the County Council may make recommendations to the Borough Council in relation to any particular air quality review, any particular assessment under s82 above, or the preparation of any particular action plan or revision of an action plan • S86(3) provides that where the Borough Council is making an action plan the County Council must submit proposals to the Borough Council for the use of County Council powers • S86(6) provides that the Borough Council may refer the matter to the Secretary of State if the County Council does not comply 	Senior Lawyer - Planning

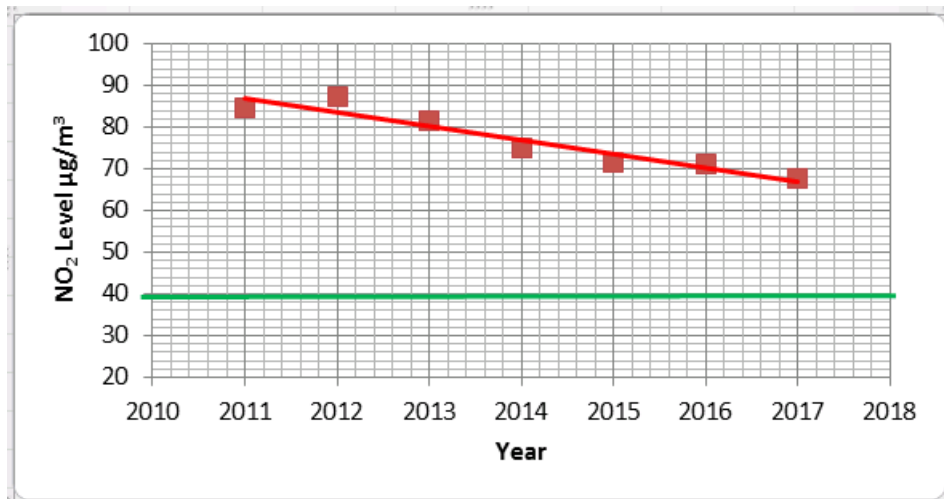
Privacy and Data Protection	There are no data protection issues, no personal data will be gathered only the opinion of KCC on the proposals made.	Policy and Information Team
Equalities	No impact identified as a result of the recommendations set out in this report.	Equalities and Corporate Policy Officer
Public Health	We recognise that the recommendations will potentially have a positive impact on population health or that of individuals.	Senior Public Health Officer
Crime and Disorder	There is no impact on crime and disorder.	John Littlemore, Head of Housing and Community Services
Procurement	There are no procurement issues in this recommendation.	Finance Officer

2. INTRODUCTION AND BACKGROUND

- 1.1 Maidstone has experienced exceedances of the annual mean air quality objective for nitrogen dioxide of $40\mu\text{g}\text{m}^{-3}$ for many years. This led to the declaration of an Air Quality Management Area (AQMA) in 2008 which encompassed the whole of the urban area of the town.
- 1.2 In more recent years, the introduction of Euro VI vehicles, electric vehicles, and hybrid vehicles has resulted in improvements to air quality across the majority of the Borough, which meant that in 2017, we were able to revoke the large AQMA, and declare a new smaller AQMA which focussed more precisely on the areas of exceedance of the above objective, namely, the carriageways of the major roads through the district.
- 1.3 Also in recent years, additional monitoring has shown that NO_2 levels in Upper Stone Street seemed to be significantly worse than other previously identified areas of exceedance of the air quality objectives, for example, the Wheatsheaf Junction. Furthermore, levels were sufficiently high to suggest that air quality objectives other than the annual mean objective for NO_2 may be being exceeded.
- 1.4 As a result of these concerns, a continuous monitor was installed in Upper Stone Street in May 2018, to measure NO_2 , PM_{10} and $\text{PM}_{2.5}$. We now have a year's worth of data (May 2018 to May 2019) from the continuous monitor which indicates that there were no exceedances of other air quality objectives except NO_2 . However, for the purposes of compliance with the relevant legislation, air quality data must be reported over a calendar year, January to December. Therefore, although the indications are good, it will

be the end of 2019 before we know whether or not we will be reporting new exceedances to DEFRA.

- 1.5 High pollution levels in Upper Stone Street are caused by a number of different factors, primarily, the sheer volume of traffic, but also the fact that it's a one way street with two lanes of traffic, both going uphill, and conditions are often congested. Vehicle engines are having to work harder because of the uphill gradient, and tall buildings either side of a relatively narrow street lead to the so called 'street canyon' effect whereby pollution is less able to disperse easily.



The figure shows NO₂ levels monitored by diffusion tube at the Pilot public house, which is one of the locations for which we have the largest amount of historical data. From a peak level of 87.3 in 2012 levels have decreased to 67.5 in 2017. The green line shows the air quality objective for NO₂.

- 1.6 There is an inference from the historical data that, even without further action, the downward trend will continue until the objective is reached. A simple linear regression would suggest that this would happen in about 2025. Applying more sophisticated modelling, which was done as part of this project, suggests that 2028 is a more realistic date.
- 1.7 Despite the current high levels of NO₂ which we report annually to DEFRA, DEFRA do not appear to recognise Maidstone's air quality problem. DEFRA use a national air quality monitoring regime, which differs significantly from that used by Local Authorities. For example, DEFRA's guidance states that **'Air sampled at traffic sites must be representative of air quality for a street segment no less than 100 m length. Sampling probes shall be at least 25 m from the edge of major junctions and no more than 10 m from the kerbside.'** Based on their own monitoring and modelling, most of Kent, including Maidstone, is identified by DEFRA as 'not a national NO₂ priority area.'
- 1.8 In recent years, Maidstone has applied to DEFRA for funding for a number of projects to improve air quality. These applications have all been unsuccessful, despite, in at least some cases, scoring well in DEFRA's scoring system.

- 1.9 Against this background, consultants were engaged to consider ways to improve air quality in Upper Stone Street and to bring forward compliance with the air quality objectives. A long list of potential measures was produced, in part as the result of a stakeholder workshop, and three of these measures were then selected for more detailed examination, including air quality modelling. The three measures selected were

Scenario 1 – **Red route** – no stopping on Lower Stone Street, Palace Avenue and Upper Stone Street between 7.00am and 7.00pm

Scenario 2 – **Cleaner and more efficient vehicle usage** – working with freight operators to minimise the numbers of freight vehicle movements on Upper Stone Street and to ensure that their cleanest vehicles are used for these movements. Working with bus operators to improve fleet composition and ensure that the cleanest buses operate on Upper Stone Street

Scenario 3 – **Category B Clean Air Zone (CAZ)** – entry restrictions for buses, coaches, taxis, PHVs and HGVs.

Scenario 2 is the only one of the measures which could potentially be implemented by MBC alone, although it is thought that even this could be done more effectively with support from KCC. The CAZ categories are DEFRA's own definitions, and refer to the types of vehicle to which restrictions would apply. They range from Category A in which applies to buses, coaches, taxis and PHVs, to Category D, which applies to buses, coaches, taxis, PHVs, LGVs, HGVs, and cars. In the case of Category B, buses, coaches, HGVs, taxis and PHVs would be required to be Euro VI diesel, or Euro IV petrol, or would be charged to enter. This category was chosen, in order to achieve a positive effect on air quality whilst minimising impact on local residents.

- 1.10 Not unexpectedly, the report concludes that a Category B CAZ would be the most effective of the three scenarios modelled. However, whilst the results of the modelling show that all three scenarios would deliver significant air quality benefits in terms of reducing levels of NO₂, they also suggest that even the Category B CAZ, which would be in place by 2022, would only bring forward compliance with the objective by about 1 year, and the consultants suggest it would cost in the region of £5,000,000 to implement.
- 1.11 The consultants have expressed the view, based on their previous experience of similar work, that a Category D CAZ, where all vehicles would be charged if they don't meet the required Euro standards, would only bring forward compliance by approximately an additional 2 years.
- 1.12 Clearly, therefore, the air quality benefits derived from any measures implemented have to be balanced against the cost of implementation, and the inconvenience which they would cause to local residents.
- 1.13 The consultants' view is that there is a possibility that the DEFRA Joint Air Quality Unit would fund air quality mitigation measures in Maidstone if a sufficiently persuasive case were made to them. However, at present, DEFRA's view appears to be that there is no air quality problem in Maidstone. The risk is that if DEFRA were to formally recognise the air

quality problem in Upper Stone Street, they might impose a solution other than the one which either MBC or KCC would want, and which is likely to be far more draconian.

- 1.14 Maidstone BC recently wrote to the Chancellor of the Exchequer requesting funding to deal with Climate Change and an appeal to DEFRA for funding for air quality improvements could be similarly justified.
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3. AVAILABLE OPTIONS

- 3.1 Option 1: That on the basis of the downward trend in pollution levels, no additional measures to improve air quality are considered necessary. This would mean that compliance with all current air quality objectives would be achieved across Maidstone by 2028.
 - 3.2 Option 2: The Director of Regeneration and Place to explore with KCC the appetite to submit a joint application to DEFRA for grants in order to deliver the agreed outcomes from the feasibility study; and for the Head of Housing & Community Services to report back to the Committee by January 2020 with an update.
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4. PREFERRED OPTION AND REASONS FOR RECOMMENDATIONS

- 4.1 Option 2: The Director of Regeneration and Place to explore with KCC the appetite to submit a joint application to DEFRA for grants in order to deliver the agreed outcomes from the feasibility study; and for the Director of Regeneration and Place to report back to the Committee by January 2020 with an update.

Having come this far with the project, it seems logical to explore with KCC, what their views are regarding implementing one of the modelled measures.

If KCC are supportive of implementing any of the modelled measures, we will report back to members for their decision about applying to DEFRA to fund the measure(s)

5. RISK

- 5.1 Since the majority of the measures and certainly those with the most impact could be implemented without the support of KCC there is no risk in determining their level of support. Seeking this view and support would not commit MBC to take any further action at this time.
- 5.2 The risk of not approaching KCC for their support is that MBC would be open to criticism for not pursuing all available avenues to improve air quality on Upper Stone Street.
- 5.3 The risks associated with this proposal, including the risks of the council does not act as recommended, have been considered in line with the Council's Risk Management Framework. That consideration is shown within

this report at 5.1. We are satisfied that the risks associated are within the Councils risk appetite and will be managed as per the policy.

6. CONSULTATION RESULTS AND PREVIOUS COMMITTEE FEEDBACK

- 6.1 This project was developed through consultation with relevant stakeholders including MBC Councillors, at a workshop held on 8th February 2019.
 - 6.2 Funding for the project was agreed at a meeting of the Policy and Resources Committee
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7. NEXT STEPS: COMMUNICATION AND IMPLEMENTATION OF THE DECISION

- 7.1 The Director of Regeneration and Place will approach senior officers at KCC to ascertain their views, and will report back to Committee by January 2020.
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8. REPORT APPENDICES

The following documents are to be published with this report and form part of the report:

Appendix 1: Letter from MBC to Chancellor of Exchequer

Appendix 2: Maidstone Low Emission Zone Feasibility Study – consultant’s report
