

Upper Stone Street Air Quality Update

Final Decision-Maker	Strategic Planning & Infrastructure Committee
Lead Head of Service	William Cornall, Director of Regeneration & Place
Lead Officer and Report Author	William Cornall, Director of Regeneration & Place
Classification	Public
Wards affected	High Street

Executive Summary

In July 2019, this Committee considered a feasibility study into the creation of a Low Emission Zone in Upper Stone Street. That report provided three different strategies that could be pursued to bring about air quality locations. This committee decided to pursue a Red Route in the locality, and this report provides an update in respect of achieving this ambition.

Purpose of Report

Decision

This report makes the following recommendations to this Committee:

That this Committee refer the following recommendations for implementation to the Maidstone Joint Transportation Board on 14th October 2020:

1. That Controls to restrict waiting, loading, and unloading in Upper Stone Street be extended by increasing the current restricted period to apply on all days Monday to Sunday Double Yellow Lines 'no waiting at any time'. The waiting restrictions should be supported by a loading restriction to protect the peak traffic periods on all days from 7am to 8pm. The impact should then be monitored for a period of 12-months post implementation and the findings presented to the JTB, and that if unsuccessful, the JTB then be asked to pursue the Red Route.
2. Contraventions can be monitored more closely through the KCC traffic control room, who will install an additional camera/s and will provide direct and real-time communication to the MBC parking enforcement agent. Enforcement officers will then be deployed rapidly to deal with any contravention observed through the issue of Penalty Charge Notices.

3. Incorporate some of the RSK recommendations for green infrastructure enhancements into a new scheme agreed with KCC involving the removal of one existing tree, and the planting of six new upright growing trees of native species, which are known to be especially beneficial for air quality
4. Explore one-way designations for some side streets to Upper Stone Street.

Timetable	
<i>Meeting</i>	<i>Date</i>
Strategic Planning & Infrastructure Committee	7 October 2020
Maidstone Joint Transportation Board	14 October 2020

Upper Stone Street Air Quality Update

1. CROSS-CUTTING ISSUES AND IMPLICATIONS

Issue	Implications	Sign-off
Impact on Corporate Priorities	<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 expect the recommendations will contribute to the Council achieving the Safe, Clean and Green objective.</p>	Director of Regeneration & Place
Cross Cutting Objectives	<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 recommendations support the achievement(s) of the "Biodiversity and Environmental Sustainability" cross cutting objectives by attempting to improve air quality in Upper Stone Street.</p>	Director of Regeneration & Place
Risk Management	<ul style="list-style-type: none"> • Refer to paragraph of the report. 	Director of Regeneration & Place
Financial	<p>The operational measures proposed in the recommendations are all within already approved budgetary headings and can be delivered within existing budgets. KCC has indicated that it has provision within its existing budgets to cover the cost of green infrastructure improvements as described in paragraphs 2.24 to 2.32</p>	Section 151 Officer & Finance Team

Staffing	<ul style="list-style-type: none"> We will deliver the recommendations with our current staffing. 	Director of Regeneration & Place
Legal	<ul style="list-style-type: none"> Statutory highways responsibility, including the making of Traffic Regulation Orders lies with the County Council. The Borough Council retains some enforcement powers under Traffic Management Act 2004. It will therefore require cooperation between the County and Borough Councils to implement the recommendations in the report. Any Traffic Regulation Order pursued will need to follow the statutory requirements and provisions in the Road Traffic Regulation Act 1984 as set out in the report. 	Cheryl parks, Mid Kent Legal Services (Planning)
Privacy and Data Protection	Accepting the recommendations will not increase the volume of personal data held by the Council.	Policy and Information Manager
Equalities	<ul style="list-style-type: none"> We recognise the recommendations may have varying impacts on different communities within the specified Maidstone areas. It is therefore recommended that equalities is considered as part of any consultation undertaken. 	Policy & Information Manager
Public Health	<ul style="list-style-type: none"> We recognise that the recommendations in this report may have a positive impact on population health or that of individuals however it is recognised that additional action will be required to further reduce the negative individual and population health impacts on residents to mitigate and reduce the high air pollution levels in Upper Stone Street. 	[Public Health Officer]
Crime and Disorder	<ul style="list-style-type: none"> The recommendation will not have an effect impact on Crime and Disorder. 	[Head of Service or Manager]
Procurement	<ul style="list-style-type: none"> On accepting the recommendations, the Council will then follow procurement exercises for any green infrastructure changes and additions that it may make 	[Head of Service & Section 151 Officer]

	in the locality. We will complete those exercises in line with financial procedure rules.	
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2. INTRODUCTION AND BACKGROUND

- 2.1 The highest air pollution levels in Maidstone are to be found in Upper Stone Street (USS). These high pollution levels are caused by a number of different factors; primarily, the sheer volume of traffic, but also the fact that it is 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.
- 2.2 There is a long-term downward trend in pollution levels however, both in USS and in Maidstone more generally, but nitrogen dioxide levels in USS remain stubbornly above the annual mean objective despite the downward trend. The previously estimated year of compliance remains unchanged at 2028.
- 2.3 The table below shows nitrogen dioxide data from all the monitoring sites in Upper Stone Street for both 2018 and 2019. The site Maid 124 is located at the back of the site that is currently operating as a car wash, so it does not relate directly to road traffic. The sites 128.1, 128.2, and 128.3 are triplicate tubes co-located with the automatic monitoring station, which is best practice. The abbreviation (a) means annualised result being DEFRA's approved way of estimating the annual mean nitrogen dioxide level from an incomplete year's data, which takes account of natural seasonal variations in NO₂ levels. The automatic monitoring station was commissioned in May of 2018.
- 2.4 Overall, the results show that in 2019, NO₂ levels decreased in 6 of the 7 monitoring locations in Upper Stone Street. The levels in 2019 range from 55.5 µgm⁻³ to 75.2 µgm⁻³ depending on location, against a compliance target of 40 µgm⁻³.

Site Number	Location	NO ₂ level µgm ⁻³ (2018)	NO ₂ level µgm ⁻³ (2019)
Maid 81	The Pilot pub, Maidstone, Kent	67.3	60.2
Maid 96	Lamppost KUBT 512 in bracket for "One Way" sign outside Lashings Sports Club	77.2	75.2
Maid 122	Loading sign to the right of the front of Papermakers PH	79.2	73.4
Maid 123	Loading sign on opposite side of Upper Stone St to site Maid 122	53.5	55.5
Maid 124	Fence pole at back of site for proposed development at 102 Upper Stone St (car wash site)	19.9	19.2

Maid 128.1	Air intake of automatic monitoring station	67.7 (a)	61.3
Maid 128.2	Air intake of automatic monitoring station	67.3 (a)	61.7
Maid 128.3	Air intake of automatic monitoring station	68.1 (a)	62.5
Automatic Monitoring Station	Grass verge outside former Jubilee Church building	70 (a)	68

2.5 To recap, in 2019, MBC engaged a consultant to review possible measures which could be introduced to improve air quality in USS. 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 – The introduction of a Red Route
- Scenario 2 – Cleaner and more efficient vehicle usage
- Scenario 3 – Category B Clean Air Zone

2.6 It was understood that none of these measures could be introduced without the support of Kent County Council (KCC). The results of the modelling indicated that with no additional intervention, air quality in USS would comply with all relevant objectives by 2028. None of the three interventions examined would have brought forward compliance by more than about one year.

2.7 In July 2019, members of this committee were asked which, if any, of these 3 measures they wished MBC officers to explore further with KCC. Members opted for the Red Route, but also asked officers to explore the potential benefits which could be derived from green planting (green infrastructure) in USS.

2.8 At the beginning of 2020, a working group was formed, comprising officers from both Maidstone Borough Council (MBC) and KCC. The group has met four times and the recommendations made in this report were developed by this group.

2.9 Furthermore, the officer group also explored whether there is a high level of traffic incidents in the locality that might be worsening the problem by increasing the stop / start of traffic. KCC provided the following incident log for USS for the 5-year period to March 2019.

Type of incident	No. of incidents, 5 years to 16th March 2020	Share of incidents	Incidents per week
Congestion	751	73.3%	2.89
Obstruction or Lane Closure	192	18.7%	0.74
Broken down vehicle	34	3.3%	0.13
Traffic signal fault	13	1.3%	0.05
Road safety campaign	7	0.7%	0.03
Broken down heavy lorry	6	0.6%	0.02
Flood	6	0.6%	0.02
Broken down bus	5	0.5%	0.02
Road closure	4	0.4%	0.02
Fire	3	0.3%	0.01
Other	2	0.2%	0.01
Bust water main	1	0.1%	0.00
Gas works	1	0.1%	0.00
	1025	100%	3.94

- 2.10 The table shows that there are on average 4 traffic incidents per week in USS, and the second most common cause is that of a lane obstruction / or closure. I.e. it could be concluded that greater stopping (parking / loading) restrictions in the form of a Red Route or similar could reduce the number of incidents.
- 2.11 KCC also undertook to produce an ongoing incident log for the current financial year, but this has been disrupted by the pandemic. Furthermore, once more normal business resumes, KCC have committed to installing a further traffic monitoring camera/s in the locality and provide real time incident alerts from their traffic control room to the MBC parking enforcement team, so as to enable them to attend incidents as speedily as possible.
- 2.12 As part of broader discussions with KCC, the possibility of an engagement programme with haulage companies was mooted, in terms of encouraging them to restrict their usage of the USS at certain times, particularly in terms of deliveries, but on balance it was considered that the array of such companies would be such that this would be unlikely to deliver an impact. However, KCC Freight Team officers will take forward discussions of this ilk

with some of the larger businesses based in the USS locality, in terms of their arrangements around deliveries.

- 2.13 **The creation of a Red Route at USS.** The opinion of KCC was sought on this matter, together with legal advice from Mid Kent Legal Services (MLS), and has informed the information provided below.
- 2.14 The term Red Route is a formal term used to define a specific type of statutory Clearway where the restrictions apply also to the verge and footway, not just to the main carriageway. The term Red Route is sometimes used to describe a road with a higher than average number of accident incidents but should not be confused with statutory Red Routes as described above.
- 2.15 Legislation sets out the signing and road marking requirements for Red Routes under The Traffic Signs Regulations and General Directions 2016 (TSRGD) and under Chapter 3 of the Traffic Signs Manual. Markings on the highway may only be placed as defined by the Traffic Regulation Order and in accordance with the TSRGD regulations. Traffic Regulation Orders can be imposed by virtue of the provisions of the Road Traffic Regulation Act 1984 and can be introduced to deal with issues relating to air quality. (*s1(1) Road Traffic Regulation Act 1984 and s87(1) Environment Act 1995*)
- 2.16 The Mayor of London (and TFL) have separate statutory powers not afforded to all local highway authorities; equally Traffic Regulation Order (TRO) provisions vary dependent on whether the authority is within or outside London.
- 2.17 Red Routes were first introduced on London highways in 1991 and have since been introduced in Metropolitan and Unitary Authorities outside London such as Nottingham and Coventry. It is probable that these schemes required DfT approval.
- 2.18 There do not appear to be any designated Red Routes in the county of Kent currently, although there are examples of Clearways, including in the Maidstone district.
- 2.19 The Agency Agreement and Operational Protocol sets out the Traffic Order Regulation (TRO) responsibilities for both District and County activity. Safety related TROs and the responsibility to maintain moving traffic is a County responsibility. District authorities are unable to make TROs in relation to Clearways or Red Routes.
- 2.20 In some district authorities, enforcement of parking and waiting restrictions is de-criminalised following the Traffic Management Act 2004 and local authority Civil Enforcement Officers have powers to issue penalty charge notices. This enforcement is undertaken in Maidstone by MBC's own Parking Team and Civil Enforcement Officers. Such enforcement provisions deal with the enforcement of TROs that have been imposed by the Highway Authority (KCC) to manage highway safety and traffic flow.
- 2.21 So, whilst KCC would appear able to create a Red Route, it would require Department for Transport (DfT) approval, but KCC could consider the

making of an Experimental TRO under powers derived from the same legislation as a standard TRO (RTRA 1984). KCC as the Highway Authority would need to make the order, however the experimental nature means that the order must cease to have effect after a maximum of 18 months. The imposition of an Experimental TRO allows for a period of data collection and monitoring of the effects of the restrictions, and to allow direct comparisons to be made with equivalent data sets collected before such an order was in place. At the end of the period of the Experimental TRO the Highway Authority must consider whether to continue the restrictions on a permanent basis by going through the relevant statutory procedures, or to end the restrictions. I.e. an Experimental TRO might be a useful option to allow the gathering of sufficient evidence for consideration of the future imposition of a permanent TRO, and in the instance that this was determined at a public inquiry, could prove persuasive to the determining inspector.

- 2.22 A Red Route TRO through either means (Experimental or not) would be a matter for KCC. However, a significant investment would be required by KCC for enforcement of a Red Route through approved devices / CCTV cameras / manpower. KCC would need to consider whether these costs could be recovered through penalty income given the relatively low level of incident rate recorded. I.e. due to the nature of the Red Route Clearway restrictions they are usually enforced using approved devices (cameras) which are expensive to operate effectively and so Red Route schemes would normally be used across a number of key locations within a city or County for greater efficiency.
- 2.23 Given the above, a Red Route may not necessarily be the most appropriate approach at the present time, particularly from a KCC perspective. Therefore, the **Available Options** section of this report explores whether the perceived benefits of a Red Route could be achieved through a different set of measures, inasmuch KCC strengthening the existing TRO's and the councils collaborating in terms of enforcement. For the avoidance of doubt, most of USS is currently single yellow line with a loading restriction.
- 2.24 **Green Infrastructure enhancements.** In Summer 2020, MBC engaged a specialist consultant (RSK) to consider the potential for a 'green infrastructure' scheme to reduce NO₂ levels in Upper Stone Street (see Appendix A). The consultant's report acknowledges that there is very limited space and scope for much green planting. The main area which could be utilised is the KCC owned grass verge outside the CareCo Mobility Showroom, on which the automatic air quality monitoring station is sited.
- 2.25 It is well known that some species of trees have a propensity to improve air pollution, whereas other species can worsen it. But it is also well recognised that trees can also worsen air pollution by virtue of their physical size and shape acting as a barrier to the dispersion of pollutants.
- 2.26 The consultant's report made three main recommendations:-

- That the three cherry trees currently present on the grass verge are worsening pollution and should be removed or relocated. The rationale for this is that NO₂ levels are known to be lower in summer months than in winter months, but this seasonal reduction in levels is less evident in the monitoring site immediately opposite the trees. This also happens to be the site which records the highest NO₂ levels in the County. The consultant argues that the normal seasonal reduction is offset by the tree canopy being much thicker and more extensive in the summer months when the trees are in full leaf. This exacerbates the street canyon and prevents pollution from dispersing.
- That a low hedge of Leyland Cypress or Lawson Cypress is planted along the front of the grass verge. Leyland Cypress is identified as one of the species which has a capacity to reduce air pollution, however, we note that it is a fast growing species, so the hedge would require regular maintenance in order to keep the height at an optimum level. Officers will also explore similar opportunities with other private sector landowners in the locality to include Halfords.
- The consultant also recommends that climbing plants such as ivy could be planted to create a green wall on the façade of the building used by Lashings Bar & Grill, if possible. Lashings is a private establishment so this would be dependent on the agreement of the proprietor and so is outside of the control of MBC. Officers will also explore similar opportunities with other private sector landowners in the locality to include Halfords.

- 2.27 The planting scheme for the grass verge has been discussed with KCC, and as a result of these discussions a modified scheme has been developed which offers a number of benefits over the scheme originally proposed by RSK.
- 2.28 The concern about the cherry trees preventing the dispersion of pollution will be addressed by the removal of the middle tree, leaving a wide gap between the two outer trees. The middle tree will be replaced with one of a different species which will be an upright growing species with no spreading canopy, so that the gap between the trees will be preserved. In addition, the replacement tree will be set further back from the road.
- 2.29 Five more trees will be planted on the grass verge, rather than the hedge recommended by RSK. This will make a total of six new trees, which will be two silver birch, two Scots pine and 2 field maple. These are all native species, and will be upright growing varieties which will not require maintenance to preserve the gaps between them. This is in contrast to the hedge proposed by RSK, which would be of a fast growing species requiring considerable maintenance.
- 2.30 Restricting the total number of new trees to six will allow the trees to be well spaced with good air circulation around them. Well spaced trees have been shown to increase air turbulence at roadsides which in itself encourages dispersion of pollution.

- 2.31 The new tree species are all contained in a list described by RSK as category one trees, i.e., trees which have the greatest capacity to improve air quality, and the choice of upright growing varieties means that there won't be large tree canopies which can potentially trap pollution.
- 2.32 The new trees will be planted prior to the removal of the middle cherry tree.
- 2.33 KCC already has provision within existing budgets to fund this scheme.
- 2.34 MBC officers will continue to explore with KCC, any opportunities for green planting on private land in Upper Stone Street.
- 2.35 **Other potential mitigations.** KCC could be encouraged to commission specialist survey data to assess the impact of vehicles slowing because of turns off and on to USS to and from its side streets. This data could facilitate the exploration of making some of the side streets one-way as it is likely these adjoining roads impact on traffic movements and slow the speed of vehicles. I.e. causing the rippling effect of start stop traffic as seen on some motorways prior to the introduction of smart speed limits, so creating a smooth traffic flow may stabilise traffic speed, improve congestion and positively impact on air quality.

3. AVAILABLE OPTIONS

- 3.1 In terms of the Red Route element, or alternatives, there are four options that can be considered as potential ways forward (N.B. the first option is what is currently in place):

Restriction	Days / Times	Extent of restriction	Method of enforcement	Dispensations	Boarding and alighting allowed	Penalty Charge
(Existing) (1) Single Yellow Line with Loading Restriction	No waiting Monday to Saturday 8am to 6.30pm No loading/unloading Monday to Saturday 8am to 6.30pm	Both sides of the road / Carriageway and Footway to the nearest property boundary	Civil Parking Enforcement Civil Enforcement Officers	None	Yes	£70 (code 02)
(2) Double Yellow Line with Loading Restriction	No waiting Monday to Sunday At all times Restricted loading/unloading Time set to manage peak demand (example 7am to 8pm)	Both sides of the road / Carriageway and Footway to the nearest property boundary	Civil Parking Enforcement Civil Enforcement Officers	None Local businesses loading/unloading outside peak times	Yes	£70 (code 02)
(3) Urban Clearway	No stopping Monday to Sunday At all times	Carriageway	Civil Parking Enforcement	Yes. Local businesses loading/unloadi	Yes	£70 (code 46)

			Approved device (camera)	ng outside peak times		
(4) Red Route (may require DfT approval)	No stopping Monday to Sunday At all times	Both sides of the road / Carriageway and Footway to the nearest property boundary	Civil Parking Enforcement Approved device (camera)	Yes. Local businesses loading/unloading outside peak times	Taxi's and Blue Badge Holders only	£70 (code 46)

3.2 In addition, one of the options above could be selected together with either one or both of the following:

- 3.3 (5) Implement the recommendations for green infrastructure enhancements agreed with KCC including removal of one cherry tree and replacement with six upright growing trees of native species on the grass verge
- 3.4 (6) Explore one-way designations for some side streets to USS.

4. PREFERRED OPTION AND REASONS FOR RECOMMENDATIONS

- 4.1 This Committee is recommended to refer the following recommendations for implementation to the MBC / KCC Joint Transportation Board on 14th October 2020:
- 4.2 That Controls to restrict waiting, loading, and unloading in Upper Stone Street be extended by increasing the current restricted period to apply on all days Monday to Sunday Double Yellow Lines 'no waiting at any time'. The waiting restrictions should be supported by a loading restriction to protect the peak traffic periods on all days from 7am to 8pm. The impact should then be monitored for a period of 12-months post implementation and the findings presented to the JTB, and that if unsuccessful, the JTB then be asked to pursue the Red Route.
- 4.3 Contraventions can be monitored more closely through the KCC traffic control room, who will install an additional camera/s and will provide direct and real-time communication to the MBC parking enforcement agent. Enforcement officers will then be deployed rapidly to deal with any contravention observed through the issue of Penalty Charge Notices.
- 4.4 Implement the recommendations for green infrastructure enhancements agreed with KCC including removal of one cherry tree and replacement with six upright growing trees of native species on the grass verge.
- 4.5 Explore one-way designations for some side streets to Upper Stone Street.
- 4.6 To summarise, at this stage it is felt that the perceived benefits of a Red Route could be achieved through the more straightforward means (of double yellow lines), which would be faster and more cost efficient too.

5. RISK

- 5.1 It is possible that the recommended approach of introducing double yellow lines will be an insufficient deterrent. However, if this is found to be the case after a 12-month observation period, the Red Route could then be implemented by way of an Experimental TRO.
- 5.2 It is possible that a more stringent regime will be unpopular with businesses in the locality, but they will be consulted on any proposed changes.
- 5.3 It is possible that changes will be unpopular with local residents too, but again, they will be consulted before any changes are made, and such views will need to be weighed against the ambition to accelerate air quality improvements in the locality.

6. CONSULTATION RESULTS AND PREVIOUS COMMITTEE FEEDBACK

- 6.1 As per the recommendations, KCC would be expected to undertake a consultation exercise for residents and businesses prior to the implementation of any changes.
- 6.2 The Chair and Vice Chair of this Committee as well as MBC Ward Councillors have been briefed as the recommendations have been developed.

7. NEXT STEPS: COMMUNICATION AND IMPLEMENTATION OF THE DECISION

- 7.1 For the recommendations in this report to be referred to the Joint Transportation Board on the 14th October 2020.

8. REPORT APPENDICES

- Appendix 1: Draft RSK Green Infrastructure Report

9. BACKGROUND PAPERS

None.