

Subject:	Rottingdean High St Air Quality Management Area traffic scheme		
Date of Meeting:	22 January 2019		
Report of:	Executive Director, Economy, Environment & Culture		
Contact Officer:	Name:	Matthew Thompson	Tel: 01273 290235
	Email:	matthew.thompson@brighton-hove.gov.uk	
Ward(s) affected:	Rottingdean Coastal		

FOR GENERAL RELEASE**1. PURPOSE OF REPORT AND POLICY CONTEXT**

- 1.1 The purpose of this report is to address air quality issues in the section of the High Street south of Park Street where the proximity of building frontages to the kerb mean nitrous oxide levels in excess of EU and UK legislation (and World Health Organisation Guidelines) present the greatest hazard to human health.
- 1.2 Rottingdean High St has been the subject of an Air Quality Management Area since 2013 due to levels of Nitrogen dioxide in excess of the 40 micrograms per cubic metre annual mean limit following local authority statutory duties under Part IV of the Environment Act 1995. The annual average limit applies where people are likely to breathe polluted air for the majority of the calendar year. It does not apply to transient exposure for a few hours or days.
- 1.3 All efficient combustion processes in air produce oxides of nitrogen (NO_x). Nitrogen dioxide (NO₂) and nitric oxide (NO) are both oxides of nitrogen and together are referred to as NO_x. In the case of Rottingdean High St, road transport is the main source of these emissions. For modern vehicles operating on the public highway, NO_x emissions can be mitigated with selective catalytic reduction on the vehicle exhausts. This technology is less effective in stop-start traffic, when engines idle and exhausts have lower temperatures. Road traffic emissions disperse less effectively in confined spaces such as street canyons.

2. RECOMMENDATIONS:

- 2.1 That the Committee grants permission for officers to advertise an experimental traffic order for a period of 18 months to allow a trial of temporary physical and other road traffic measures on Rottingdean High Street as listed in paragraph 3.2 of this report.

3. CONTEXT/ BACKGROUND INFORMATION

- 3.1 Rottingdean Parish Council and Brighton & Hove City Council have formed a joint action group in response to serious public concerns about air quality in Rottingdean High Street and have been meeting since 2017. The Project group,

including ward and parish councillors, have commissioned traffic modelling to consider various options and are now proposing an experimental trial on a temporary basis.

- 3.2 The trial will consist of three physical measures:
 - A temporary chicane outside 80-82 High Street (north of Park Street / south of the existing zebra crossing) with a give way to the north giving priority to northbound traffic including lining and signing.
 - A no stopping (yellow hatched) box on southbound lane from southern building line of Dene's Mews (No 66 High Street) to the southern boundary of 29 High Street (approximately 13.6m).
 - A ban on right turns out of West Street including signage.
- 3.3 The chicane is intended to ensure that northbound traffic is not impeded by any manoeuvres from southbound traffic, encouraging a free flow in the narrowest part of the High Street where the air quality is worst.
- 3.4 The yellow hatched box on the southbound lane is intended to prevent vehicles with idling engines from waiting in the same area or from impeding the movement of the occasional larger vehicles through the narrowest pinch point.
- 3.5 The ban on right turns out of West Street is intended to prevent vehicles blocking the northbound lane and making it necessary for vehicles turning on to the High Street from the A259 to wait with idling engines at the junction for a vehicle in the southbound High Street lane to allow the turning vehicle to join the lane.
- 3.6 A preliminary design for the scheme is attached (see Appendix 1). The project group will sign off the final detailed design prior to implementation.
- 3.7 The experimental order will run for a maximum of 18 months. During the 18 month period officers may adjust or suspend the scheme at any time. (See sections 5.1 and 5.2 for details on public consultation during the initial six months).
- 3.8 The scheme will also include the installation of gas sensitive air quality mesh or wireless technology alongside the existing conventional air quality monitoring tubes in the High Street. In the longer term, weekday traffic data south of Steyning Road will provide inputs to the dispersion model allowing an up to date detailed assessment of local air quality.
- 3.9 Signage at the Falmer exit from the A27 will be improved to deter HGV use of the B2123 to access Newhaven Port. Officers are negotiating designs with the relevant highway authorities, Highways England and East Sussex County Council.
- 3.10 Traffic monitoring will be undertaken within the first 12 months of the trial to mirror surveys undertaken on a 'neutral' (non-holiday, roadworks free) week in March 2018. Validation data from the Department for Transport Trafficmaster Satnav database will also be used. This will allow officers to accurately measure the impact on journey times through the area and manoeuvres in the wider area at key junctions.

4. ANALYSIS & CONSIDERATION OF ANY ALTERNATIVE OPTIONS

- 4.1 Traffic modelling using 'Vissim' software and air quality modelling using ADMS Software has been undertaken. Surveys were conducted over a 'neutral' seven day period in March 2018 to collect data to allow both models to simulate 2018 traffic conditions in the Rottingdean Village area and assess the impact of various proposed measures given those conditions.
- 4.2 Validation data derived from the Department for Transport Satnav database has been used to cross check traffic turning and count data collected in surveys. Satnav data reflects actual journey times through the entire length of the proposed trial area to ensure the model accurately reflects the real traffic conditions.
- 4.3 Traffic modelling tested the proposed location of the chicane north of Park Street and an alternative location south of Park Street. The model suggested the position north of Park Street would have minimal negative impacts on journey times, whereas the position to the south of this junction showed much greater negative impacts.
- 4.4 Traffic modelling also tested the length of the yellow box to prevent idling engines only in the narrowest part of the High Street and an additional proposed yellow box across the Park Street junction to protect turning manoeuvres. The results suggested there were considerable negative congestion impacts to the north of the area from the box on the Park Street junction, and that minimizing the length of the box to the south was desirable.
- 4.5 Modelling the air quality impact of the chicane north of Park St (using the same survey and validation data) predicted a slightly adverse impact around Vicarage Lane (though levels will still be well within acceptable standards). Levels were predicted to remain unchanged on The Green northbound and in general background levels further away from the High Street. A slight benefit in the southern High Street where levels are currently breached and a benefit to the A259 was predicted from this chicane position.
- 4.6 Modelling of a yellow box south of Park St predicted a slight Nitrogen Dioxide increase on The Green and by three points at Bazehill Rd (from 19-22 micrograms per cubic metre where the legal limit is 40). The model indicates that the roadside level at this location has less impact here because the building frontages are set further back from the kerb line than in the southern High Street. A yellow box was predicted by the model to deliver a slight air quality benefit for the lower High Street and further benefit for traffic flow and emissions on the A259.
- 4.7 The right turn ban out of Park Street was included in all the scenarios and has been retained to prevent drivers making this manoeuvre, blocking northbound flows at peak times through the narrowest part of the High Street.
- 4.8 Neither the traffic model nor the air quality model predict how much traffic will divert away from the trial area but a 'reassignment value' of around 10% of total current traffic diverting eastbound via Steyning Road has been assumed on top of the benefits predicted above. This suggests further air quality benefits are

possible for the lower High Street which will be assessed during the trial. Frontages on Steyning Road are further from the kerb than those on the lower High Street where traffic speeds are slower and emissions higher throughout the year including for AM and PM peaks and for inter-peak hours

- 4.9 A minimum 'bedding in' period of three months from the commencement of the trial is the minimum time frame likely to establish the accuracy of traffic diversion estimates and the benefit to air quality in the AQMA area. Colder temperatures often lead to the worst air quality (nitrogen dioxide) conditions so a prompt start in March 2019 is desirable to capture the conditions most crucial to predicting the success of the trial.

5. COMMUNITY ENGAGEMENT & CONSULTATION

- 5.1 Details of preliminary consultation and engagement with Parish and Ward councillors are described at 3.1.
- 5.2 Private addresses and businesses in the Rottingdean area will receive letters informing them of the trial one month prior to implementation, giving details of how to submit comments. Displays of the plans will be available for public inspection at the Whiteways Centre and Rottingdean Public Library.
- 5.3 Members of the public will be invited to submit objections during the first six months of the experimental Traffic regulation order. All objections will be reported back to the committee before the end of the 18 month period of the order.
- 5.4 Brighton & Hove Buses fully support this because of current issues with their services. They reminded officers that they have been lobbying for this measure for some time. To support the trial, they are offering to supply punctuality data to provide additional evidence to support the scheme.
- 5.5 The Big Lemon Bus Company has also welcomed the trial. Other bus companies operating in the city have declined to comment.
- 5.6 East Sussex Fire and Rescue have no objection to the trial and believe it will not impede their response to an incident in the area.
- 5.7 Sussex and Surrey Roads Police support the trial aims but have made it clear that they would not prioritise the area in terms of enforcement. They have been assured that the Experimental order allows officers to suspend the trial if there are safety concerns and that officers will do so immediately if advised to do so by the Police.

6. CONCLUSION

- 6.1 The AQMA in Rottingdean High St continues to record readings in breach of statutory limits and the council has a duty to act to reduce emissions in the area to make it conform to acceptable legal standards for ambient air quality.
- 6.2 Extensive modelling work has been carried out using industry standard software of various potential physical measures and the results suggest benefits are likely.

- 6.3 The point of the trial is to further test a selection of these measures in situ in actual traffic conditions.

7. FINANCIAL & OTHER IMPLICATIONS:

Financial Implications:

- 7.1 The estimated cost of the report recommendations of an experimental Traffic Regulation Order and temporary physical and other road traffic measures on Rottingdean High Street is £0.017m. This will be funded from the 2018/19 Local Transport Plan capital grant allocation. The cost of the capital works includes design, signage, implementation, monitoring and contingency costs.

Finance Officer Consulted: Gemma Jackson

Date: 10/01/19

Legal Implications:

- 7.2 Section 83 of the Environment Act 1995 imposes a duty on local authorities to designate air quality management areas (“AQMA”) where air quality standards or objectives are not being achieved or are not likely to be achieved within a prescribed period. The Air Quality (England) Regulations 2000 prescribe air quality objective levels. Once an area is designated as an AQMA the local authority must prepare a plan setting out how it will seek to improve air quality in the area (s84 of the 1995 Act).
- 7.3 Under s9 of the Road Traffic Regulation Act 1984 a traffic authority may make an experimental traffic regulation order (ETRO) for the purposes of carrying out an experimental scheme of traffic control. An ETRO can contain any provision that a permanent traffic order can contain, but an ETRO cannot continue in force for more than 18 months. While the ETRO is in force the effects of the traffic control can be monitored and assessed before the traffic authority decides whether or not to continue the ETRO on a permanent basis.

Lawyer Consulted: Name: Hilary Woodward

Date: 27/12/18

Equalities Implications:

- 7.4 Improved air quality will benefit vulnerable residents and road users

Sustainability Implications:

- 7.5 The aim of the measures is to reduce the negative impact of transport emissions within the southern section of the High Street.

SUPPORTING DOCUMENTATION

Appendices:

1. Plan of physical measures

Documents in Members’ Rooms

1. None

Background Documents

1. None