

Subject:	Rottingdean High St AQMA Trial extension		
Date of Meeting:	16 March 2021		
Report of:	Executive Director Economy, Environment & Culture		
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Ward(s) affected:	Rottingdean Coastal		

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

- 1.1 The purpose of this report is to provide an update on the trial of the air quality improvement scheme implemented in October 2019 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 most of the calendar year.

2. RECOMMENDATIONS:

- 2.1 That the committee notes the sealing of TRO-30-2019 making a right turn ban from the eastern end of West St, Rottingdean a permanent feature.
- 2.2 That the committee agrees a further period of up to 18 months from 24 April 2021 in order to continue to monitor and assess the air quality impacts on the lower High Street.
- 2.3 That the committee agrees to the development of a further proposal for a left turn ban from Park Road onto Rottingdean High Street before the expiry of the extended 18-month monitoring period.

3. CONTEXT/ BACKGROUND INFORMATION

- 3.1 Rottingdean Parish Council and Brighton & Hove City Council formed a joint action group in 2017 in response to serious public concerns about air quality in the lower section of Rottingdean High Street. The Project group, including ward and parish councillors, commissioned traffic modelling to consider various options and proposed an experimental trial on a temporary basis. The modelling was used to finalise the design, which came into operation on 25 October 2019.

- 3.2 The scheme consisted of the following measures
- a chicane/planter in the southbound lane of the High St north of the Park Rd junction to restrict the flow of southbound traffic and give priority to northbound traffic,
 - a hatched yellow box to prevent queuing southbound traffic stopping in the area south of Dene's Mews
 - a no right turn out of West St eastbound into Rottingdean High Street (ETRO-30-2019).
- 3.3 Hot 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
- 3.4 Diffusion tube monitoring has provided 'before' and 'after' data for roadside NO₂ emissions in the High St. Initial results during the coldest weather Oct 19 to Feb 20 are promising. The impact of the pandemic on traffic levels in April and May was dominant, but levels then bounced back above 2019 levels (but not as high as 2018) for a few weeks late summer. Overall a small benefit from the scheme has been shown so far.
- 3.5 A six-month period for comments on the ETRO ran until April 24 2020. 80 submissions with multiple comments were received. These included 23 comments in support, 39 voicing concerns about congestion, 12 about safety concerns and 12 about the yellow hatching. A full analysis of the comments is set out in section 5 and Appendix 3 of this report.

4. ANALYSIS & CONSIDERATION OF ANY ALTERNATIVE OPTIONS

- 4.1 Provisional results suggest UK NO₂ standards were not exceeded in AQMA 2 (Rottingdean) in 2020. The area was compliant in 2019 and the improvement trend continued during 2020. The last time readings were within 10% of the air quality standard was 2018. However, officers would need to see three typical years showing compliant readings – 20% of the standard before AQMA could be revoked, and 2020 was not a typical year.
- 4.2 On the east side of the High Street the monitoring suggests there was no winter peak in NO₂ early-2020. Records suggest lower pollution compared to 2018 & 2019.
- 4.3 Relatively high NO₂ in July & August 2020 is likely to have been influenced by the end of travel restrictions and the release of pent up demand for vehicle journeys and the combination of local traffic with increased visitor numbers.
- 4.4 Vehicle queues where engines are left idling tend to be on the east side of the road. The diffusion tube monitor on the west side of High Street is closer to vehicle launches, where a winter peak in ambient NO₂ is usually recorded. Ambient temperature influences NO_x exhausts especially during accelerations.

As expected, low NO₂ was recorded during lockdown. Higher NO₂ was recorded from July-September 2020, but this was still lower than the 2018 level.

- 4.5 Overall, the first quarter of 2020 (before the impact of the pandemic) showed a significant drop (approx. 10 micrograms) in NO₂ on same period in 2019. There are other factors which influence this, but this period shows a positive change and indicates a small benefit has probably resulted.
- 4.6 The 2020 traffic data for RHS indicates southbound vehicle numbers (south of Steyning Road) are relatively unchanged and are near to capacity, while the number of vehicles travelling northbound varies and can be greater than 60% of two-way 24-hour flow.
- 4.7 The deterrence effect created by the chicane is debatable. Southbound traffic (which will include a percentage of ultralow emission vehicles) may be diverting up Steyning Rd to avoid the chicane and to access the A259 from Newlands Rd or Chailey Ave
- 4.8 The Automatic traffic counter on Chailey Ave was not activated in October 2019, meaning that total vehicle numbers can't be confirmed. Officers therefore propose to relocate this counter to Steyning Rd to capture all diverting traffic to clarify the diversion impact of the chicane. Further analysis of the data since the interventions began is necessary and additional data once the current lockdown eases will aid this.
- 4.9 Additional 'real time' monitors (from which data can be remotely accessed) have been installed which monitor NO_x, PM₁₀ and PM_{2.5}. An online live feed was never published due to contractual issues, though the data is available. Officers propose to activate this feed under the auspices of an independent AQ partner for quality assurance purposes to keep residents informed.
- 4.10 Ambient particulate levels (PM_{10s}) are not high enough to declare an AQMA, and there is no statutory duty to declare for PM_{2.5}. These particulates have been shown to be harmful to human health. However, the experimental sensors paid for by the project do provide data for both ambient NO₂ and particles. The calibrated NO₂ readings from these sensors has been broadly consistent with monthly diffusion tube data.
- 4.11 Vehicles emit oxides of nitrogen. Diesel cars and vans registered 2011-2015 are euro-5 emission standard. Although euro-5 standards provide diesel particulate traps that mitigate most combustion PM_{2.5}, these vehicles are still the main source of nitrogen dioxide in RHS.
- 4.12 Petrol vehicles since 2006 (euro 4 and above) have a three-way catalyst that mitigates most particles & oxides of nitrogen. Petrol vehicles contribute <3% to roadside NO₂. This means raw total traffic counts are not the strongest variable to influence NO₂ recorded outside roadside houses. Electric mode and auto-engine shut off when stationary help reduce average emissions rates across the fleet.
- 4.13 Daily access to real-time data via a dedicated web page has not made available for public access as proposed . Officers have been talking to the Council's

monitoring contractors about streaming this data. Due to the pandemic, there was a delay to the work to confirm it was possible. This has now been confirmed, but the frequency of data uploads will not meet the daily target aspired to. Some adjustments to the contract for this service may be necessary and funding will need to be identified

- 4.14 Parish and Ward Councillors support a continuation of the measures but have also requested that signage and road markings on the no right turn ban out of West St is enhanced, and lining refreshed on the Park Rd junction and yellow hatching.

5 COMMUNITY ENGAGEMENT & CONSULTATION

- 5.1 ETRO-30-2019 concerned the right turn ban out of West St and did not include the chicane/ planter or yellow hatching, neither of which measures are subject to traffic regulation orders.
- 5.2 There were no objections to the right turn ban out of West St, though one person stated they would like to see more enforcement. This is a matter for Sussex Police and the council has no camera enforcement powers.
- 5.3 80 residents commented on the ETRO during the initial six-month objection period offering multiple comments. (See Appendix 3). 23 comments supported the scheme.
- 5.4 39 comments complained the chicane caused congestion further north on the High St and in Vicarage Lane/ The Green. The scheme had projected this outcome and the congestion which has resulted is within predicted tolerances. Emissions disperse more readily north of the chicane where frontages are further from the kerb and less high, meaning that health outcomes for AQMA area are improved overall.
- 5.5 12 ETRO comments questioned the position and length of the yellow hatching. The hatching is not part of the ETRO but its impact on AQ was modelled during the project scoping phase. This indicated an optimum length which was installed. Officers have observed the hatched area working well on numerous locations to stop southbound vehicles with idling engines waiting in the narrowest part of the High Street.
- 5.6 Six further comments expressed concern about traffic turning left out of Park Rd coming close to pedestrians on a narrow pavement. Ward and Parish councillors have received anecdotal evidence of near misses but there have been no recorded collisions
- 5.7 Six comments suggested the chicane caused an accident in January 2020. This was not the conclusion of the police investigation, but this claim (along with congestion) was also the subject of a 694-signature petition noted by the Chair at the 23 June 20 ETS.
- 5.8 The petition calling for the removal of the planter/ chicane was brought to the 23 June 2020 Environment, Transport & Sustainability Committee. (See appendix 1).

- 5.9 The 23 June 2020 ETS committee agreed to note the petition. The chair's response set out the air quality aims of the trial, the findings of a police investigation into a collision in January 2020 which did not agree that the planter/chicane was a contributory factor, and the need to allow the arrangements to continue to allow further time to assess their air quality impacts.
- 5.10 The Council's Accident Investigation Officer has observed the poor visibility at the Park Road junction south of the Chicane but notes there is no evidence to show this has caused collisions and suggests that the limited visibility may be encouraging more caution from drivers making this turn. For this reason, no immediate amendment to the junction is proposed.
- 5.11 Parish and Ward Councillors have also expressed concern about the left turn out of Park Rd. They noted the safety concerns and complaints about additional congestion expressed by residents. Given the amount of local concern over safety, the project group believe a left turn ban may be something residents would welcome as a sensible compromise and would like to consult on this point before the scheme reaches any final air quality conclusions.

6. CONCLUSION

- 6.1 The ETRO currently expires 24 April 2021 and the permanent order will be sealed on 10 March 2021
- 6.2 A further extension of up to 18 months of the other measures in the trial to 24 October 2022 is necessary to provide conclusive data on the success of the trial in improving air quality in the lower Rottingdean High Street. If the pandemic starts to abate this year, this should ensure a data set of 12 months data in normal traffic conditions can be collected from late Summer 2021.
- 6.3 A consultation on adding a left turn ban out of the eastern end Park Rd will be run in 2022 before the end of the trial extension once traffic levels return to normal levels as the pandemic eases. The measure would then be implemented using a normal TRO amendment which residents would be able to comment on.

7. FINANCIAL & OTHER IMPLICATIONS:

Financial Implications:

- 7.1 Any costs associated with monitoring and assessing air quality impacts over the next 18 months, and the development of further development for a left turn ban from Park Road onto Rottingdean High Street will be met from Local Transport Plan resources.

Finance Officer Consulted: James Hengeveld

Date: 04/03/2021

Legal Implications:

- 7.2 The Council regulates traffic by means of orders made under the Road Traffic Regulation Act 1984. These orders include experimental orders which can only stay in force for a maximum of 18 months while the effects of the traffic restrictions are monitored and assessed (and changes made if necessary) before

the Council decides whether or not to continue the experimental order on a permanent basis.

As detailed in this report local authorities have a statutory responsibility for improving the air quality in their area. The recommendations in this report will help in demonstrating that the Council is meeting that responsibility.

Lawyer Consulted: Stephanie Stammers

Date: 3 March 2021

Equalities Implications:

- 7.3 Engagement with a wide range of residents has been built into the process from the start and will continue to take place. The information obtained through this engagement will be used to ensure that the recommended actions meet the needs of the local population.

SUPPORTING DOCUMENTATION

Appendices:

1. 23 June 2020 Minutes Extract - Petition on Rottingdean High St AQMA project
2. Preliminary AQ results presentation
3. ETRO comments report.

Background Documents

1. Rottingdean High St Air Quality Management Area traffic scheme Report to the Environment, Transport & Sustainability Committee 22 January 2019 (Agenda Item 58).