

Audit Summary Report

IN PHASE 3													
PCM Link 80846	Road/Location A282, Thurrock										Area 5		
PCM predictions of NO₂ concentrations (µg/m³)													
Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PCM Modelled NO ₂ concentration (µg/m ³)	37	34	32	31	29	28	27	26	25	24	23	23	22
HE Indicative Modelled NO ₂ Concentration (µg/m ³)	72	68	64	60	56	53	50	48	45	43	42	41	40
Qualifying Feature													
Satellite imagery indicates Public Access within 15m of the PCM link.													
Air Quality Monitoring?													
Yes													
Is the Air Quality Monitoring within 10m, to support Phase 3 decision?													
No													
<p>Air quality monitoring has been undertaken by the local authority at one location along the PCM link. NO₂ concentrations were monitored above the annual mean NO₂ concentration of 40µg/m³ in recent years, although not in a location considered representative of relevant receptors.</p> <p>The indicative modelling completed at Phase 2 identified that there were potential exceedances of the limit values along this PCM link, and consequently mitigation measures were developed.</p> <p>The more recent verified air quality modelling completed for the Phase 3 assessment has concluded that there are exceedances of the limit values up to and including year 2030. Therefore, mitigation measures have been reviewed as part of the Phase 3 assessment.</p>													
Mitigation required?													
Yes													
Possible Mitigation Options													

KEY:	✘ - Not possible	✓ - Possible	? - More research required
Option	Feasible to bring compliance forward?	Summary	
Source – reducing emissions from the SRN			
Electric vans	✘	<p>Research completed for Highways England indicates that it would only be possible to bring forward a maximum of 250 electric vans over the next few years in any one location. To achieve this would require the creation of a specialist centre.</p> <p>Based on the observed speed of 50mph along this PCM link, it has been calculated that 250 electric vans would equate to an NO₂ reduction of approximately 0.2µg/m³ along this link. As such, the implementation of this measure would not achieve an earlier compliance date.</p>	
Traffic Management	✘	<p>A panel of specialists from the air quality team have reviewed regional traffic management options for the 86 PCM links. The panel concluded there are no possible traffic management solutions for this PCM link.</p>	
Speed Management of 60mph	✘ ¹	<p>The existing speed limit along the A282 is 50mph. Therefore, speed management would not be appropriate for this link.</p>	
Bus Retrofit	✘ ²	<p>A review of this PCM link using satellite imagery has not identified any bus stops along the route. As such, it is assumed that there is minimal bus usage along this road which will result in no discernible reduction in NO_x emissions and therefore, this measure is not being progressed.</p>	
HGV Retrofit	✘	<p>A review of traffic data for this PCM link has identified approximately 19,600 HGVs travelling along this link. Theoretically, a HGV retrofit scheme could reduce annual mean NO₂ concentrations by 3.2µg/m³. However, no accredited retrofit system is currently available for HGVs nor is it known the mechanism for delivery. As such, it is anticipated that this measure would require a Government led scheme for delivery and Highways England is not able to progress this measure at this time.</p>	
Pathway – preventing the emissions reaching receptors			
9.5m high barrier	✘	<p>Emerging evidence based on from air quality monitoring research undertaken by Highways England indicates a 2 – 5µg/m³ reduction in annual mean NO₂ concentrations behind a 9.5m overhanging barrier.</p> <p>A review of this SRN PCM link indicates a narrow verge between the SRN and the qualifying feature and therefore, it would not be possible to build a barrier in this location due to physical constraints.</p>	
Tunnels / canopies, Bypass	?	<p>The current programme to build a tunnel, canopy or bypass is estimated to be at least between 5 – 10 years. As the verified air quality modelling now shows exceedances of the limit values along this PCM link up to and including the year 2030, further work will be required to assess whether a</p>	

		tunnel, canopy or bypass could be a viable option.
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Receptor – dealing with concentrations at the affected receptors

Any other local measures ³	<p style="text-align: center;">✓</p> <p style="text-align: center;">x</p>	<p>Public Access</p> <p>A cycleway has been identified within 15m of the PCM link. A feasibility study was commissioned and work is still ongoing to establish whether the cycle rendezvous point, which is accessed from the cycle lane parallel to the A282 and required for taking cyclists across the Queen Elizabeth Bridge, can be re-signed. This would then direct cyclists onto other local routes and allow for the possible closure of the existing cycle lane on the A282.</p> <p>Low Friction Road Surfacing</p> <p>Highways England has recently undertaken research looking into the difference in measured exhaust emissions for a range of vehicles driven on a section of road with the low friction road surface and hot rolled asphalt. The outcomes of the research concluded there was no statistically significant difference in measured NOx emissions between the two road surfaces. Therefore, the empirical evidence does not support this as a measure to achieve compliance in the shortest possible timescales.</p>
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Summary

This audit report has identified:

- Air quality monitoring has identified exceedances at one location along the PCM link, although not in a location considered representative of relevant receptors.
- HE verified modelling indicates that there are exceedances of the Limit Value up until the year 2030, therefore the PCM Link has been taken forward for the developed mitigation measures to be implemented.
- A possible, alternative cycle route has been identified as a complementary measure and a feasibility study commissioned to determine whether this alternative route is viable to allow for the closure of this cycleway.

Recommendation

The verified air quality modelling completed for the Phase 3 assessment has concluded that there are exceedances of the limit values along PCM link 80846 up and including year 2030.

In completing the assessment for this SRN PCM link, Highways England has considered a range of measures to support compliance in the shortest possible timeframe. These measures have included; speed management measures, however the speed limit along this link was already 50mph and no further reduction would improve air quality; traffic management measures, however detailed investigations have concluded no viable measures would improve air quality; and a 9.5m high barrier, although it is not considered possible to build a barrier at this location due to physical constraints.

A feasibility study has also been commissioned to determine whether the redirection of cyclists onto an alternative cycle route could be recommended as a complementary measure, to allow for the closure of the cycleway.

A feasibility study into the re-routing a cycle rendezvous point to enable the closure of the cycle path is

currently being considered.

Supporting Activities

- Additional air quality monitoring has been identified for this link as part of the SRN PCM link evaluation strategy.

JAQU Comments

¹ Legal requirement to make a Temporary Traffic Regulation Order

² Requires JAQU to deliver

³ Subject to legal consideration of proposed local options