

Audit Summary Report

									IN PHASE 4	
PCM Link	70206	Road/Location						M11, London Borough of Redbridge	Area	9
PCM predictions of NO₂ concentrations (µg/m³)										
Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	
PCM Modelled NO ₂ concentration (µg/m ³)	43	41	39	37	34	32	30	29	27	
HE Verified Modelled NO ₂ Concentration (µg/m ³)	56	53	50	47	44	42	40	38	36	
Qualifying Feature										
<p>Satellite imagery indicates Public Access within 15m of the PCM link.</p> <p>There are three PCM links in this locality, two on local authority roads and one on this section of the M11. Following a review of the location of the nearest public access point to PCM link 70206, the modelled receptor location has been moved from east of the M11, where it was previously located alongside the local authority road to the west of the M11, alongside the northbound carriageway.</p>										
Air Quality Monitoring?										
No										
Is the Air Quality Monitoring within 10m, to support Phase 3 decision?										
No										
<p>The indicative modelling completed at Phase 2 identified there were potential exceedances of the limit values along this PCM link, therefore it was recommended that further work be carried out in Phase 3 to confirm this 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 until the year 2025. 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 speed limit of 50mph along this PCM link, it has been calculated that 250 electric vans would equate to an NO₂ reduction of approximately 0.1µg/m³ along this link. As such, the implementation of this measure would not achieve an earlier compliance date.</p>		
Traffic Management	✓	<p>As part of the Phase 3 modelling, the modelled receptor location on this link was changed to better represent the qualifying feature. This verified modelling now shows exceedances along this PCM link up to the year 2025.</p> <p>A traffic management feasibility study has been commissioned to investigate whether local traffic measures could be introduced that support compliance with the limit values in the shortest timescales possible. Following a recent meeting with Transport for London to discuss potential traffic management solutions, Highways England has been advised that there are no viable traffic management measures.</p>		
Speed Management	✘ ¹	<p>The existing speed limit along the M11 is 50mph. Consequently, it would not be appropriate to consider speed management on this part of the network.</p>		
Bus Retrofit	✘ ²	<p>It has been agreed with JAQU that given the incredibly small number of bus journeys on the motorway network this mitigation will result in no discernible reduction in NO_x emissions along this link and therefore, this measure is not being progressed.</p>		
HGV Retrofit	✘	<p>A review of traffic data for this PCM link has identified approximately 4,700 HGVs travelling along this link. Theoretically, a HGV retrofit scheme could reduce annual mean NO₂ concentrations by 0.8µg/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 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>This PCM link has been reviewed and based on professional judgement it is not considered possible to build a barrier at this location because of the physical constraints.</p>
Tunnels / canopies, Bypass	✘	<p>The current programme to build a tunnel / canopy or a bypass is estimated to be at least between 5 – 10 years. This means that none of these measures could be delivered earlier than the reported compliance date set out in the PCM model.</p>
Receptor – dealing with concentrations at the affected receptors		
Any other local measures	✘	<p>Public Access</p> <p>Footpaths are located within 15m either side of this PCM link. A review of the existing footpaths has identified that there is no potential alternative route for footpath mitigation.</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 NO_x 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>
Summary		
<p>This audit report has identified:</p> <ul style="list-style-type: none"> • There is no existing air quality monitoring along the PCM link. • HE verified modelling indicates that there are exceedances of the Limit Value up until the year 2025, therefore the PCM Link has been taken forward for the developed mitigation measures to be implemented. • A feasibility study has been commissioned to determine the viability of potential local traffic management measures that could be implemented on this PCM link. Following a recent meeting with Transport for London, Highways England has been advised that there are no viable traffic management measures. 		
Recommendation		
<p>The verified air quality modelling completed for the Phase 3 assessment has concluded that there are exceedances of the limit values along PCM link 70206 up until the year 2025.</p>		

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; and traffic management measures, however Highways England has been advised that there are no viable traffic management measures for this locality. Also, it is not possible to build a 9.5m high barrier at this location due to physical constraints.

Following the completion of the feasibility study, it has been concluded there are no viable measures currently available to Highways England to help meet limit values in a shorter timescale than modelled. However, Highways England continue to investigate whether there are new or emerging ideas and / or technologies that could be considered, alongside any measures put forward by Government for the SRN.

Supporting Activities

Modelling on this link using the newly developed elevated roads tools in ADMS air quality model has identified that it may now be below limit values subject to agreement with JAQU and measures may no longer be required.

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