

## Audit Summary Report

										<b>IN PHASE 3</b>	
<b>PCM Link</b>	77743	<b>Road/Location</b>	A69, Tyneside							<b>Area</b>	14
<b>PCM Link modelled NO<sub>2</sub> concentrations (µg/m<sup>3</sup>)</b>											
Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
PCM Modelled NO <sub>2</sub> Concentration (µg/m <sup>3</sup> )	39	38	36	34	32	30	28	26	25	24	
HE Verified Modelled NO <sub>2</sub> concentration (µg/m <sup>3</sup> )	<b>48</b>	<b>46</b>	<b>44</b>	<b>42</b>	39	37	34	32	31	29	
<b>Qualifying Feature</b>											
Satellite imagery indicates residential properties and public access within 15m of the PCM link.											
<b>Air Quality Monitoring?</b>											
Yes											
<b>Is the Air Quality Monitoring within 10m, to support phase 3 decision?</b>											
Yes											
<p>In August 2019, JAQU advised Highways England that based on the recent local authority modelling and assessment in support of the Government's National Air Quality Plan, the modelled annual mean NO<sub>2</sub> concentration alongside this PCM link was 40.7µg/m<sup>3</sup> in 2019.</p> <p>Air quality monitoring was undertaken at the nearest qualifying feature in 2019 (public footpath, 5m from the running lane). This monitoring data has been annualised to 2017 and projected forward to give modelled annual mean NO<sub>2</sub> concentrations each year up to 2026.</p> <p>Highways England's 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 2021. Therefore, mitigation measures have been reviewed as part of the Phase 3 assessment.</p>											
<b>Mitigation required?</b>											
Yes											
<b>Possible Mitigation Options</b>											
<b>KEY:</b>	✘ - Not possible	✔ - Possible	? - More research required								

Option	Feasible to bring compliance forward?	Summary
<b>Source – reducing emissions from the SRN</b>		
Electric vans	<b>x</b>	<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>The existing speed limit along this section of the A69 is 50mph; however, more detailed assessment is required to determine daily average vehicle numbers as this data is not currently available.</p> <p>It has been calculated that 250 electric vans would equate to an NO<sub>2</sub> reduction of between approximately 0.1µg/m<sup>3</sup> and 0.2µg/m<sup>3</sup> along this link. As such, the implementation of this measure would not achieve an earlier compliance date.</p>
Traffic Management	<b>✓</b>	A traffic management feasibility study will be commissioned in Summer 2020 to investigate whether local traffic measures could be introduced that support compliance with the limit values in the shortest timescales possible.
Speed Management of 60mph	<b>x<sup>1</sup></b>	The existing speed limit along the A69 is 50mph and consequently, a reduction in the speed limit would not provide any significant improvements in NO <sub>2</sub> concentrations along this link.
Bus Retrofit	<b>x<sup>2</sup></b>	A review of this PCM link using satellite imagery has identified bus stops along this road. Approximately 600 bus journeys, based on the bus timetable, have been identified along this link. Based on this number of buses, it has been calculated that bus retrofitting would lead to an approximately 0.1µg/m <sup>3</sup> reduction in annual mean NO <sub>2</sub> concentrations. As such, the implementation of this measure would not achieve an earlier compliance date.
HGV Retrofit	<b>x</b>	<p>A review of traffic data for this PCM link has identified approximately 2600 HGVs travelling along this link. Theoretically, a HGV retrofit scheme could reduce annual mean NO<sub>2</sub> concentrations by 0.4µg/m<sup>3</sup>.</p> <p>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>
<b>Pathway – preventing the emissions reaching receptors</b>		
9.5m overhanging barrier	<b>x</b>	Emerging evidence based on air quality monitoring research undertaken by Highways England indicates a 2 – 5µg/m <sup>3</sup> reduction in annual mean NO <sub>2</sub> concentrations behind a 9.5m overhanging barrier.

		This PCM link has been reviewed and it has been determined that based on the current PCM modelling, construction of the barrier would not deliver compliance in a shorter timescale.
Tunnels / canopies, Bypass	x	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.
<b>Receptor – dealing with concentrations at the affected receptors</b>		
Any other local measures <sup>3</sup>	<p>✓</p> <p>x</p> <p>?</p>	<p><b>Footpaths</b></p> <p>Footpaths are located within 15m along the length of this PCM link. A review of the footpaths has identified a potential alternative route for the footpath along the westbound carriageway, with a proposed Air Quality Walking Route slightly further back along The Ramparts and Avalon Drive. A feasibility study will be commissioned in Summer 2020 to determine whether the alternative route is viable.</p> <p><b>Low Friction Road Surfacing</b></p> <p>At this time there is no empirical evidence on the effects on NOx emissions and is not being assessed as a measure to support compliance in the shortest timescale possible.</p> <p><b>Mechanical Filtration</b></p> <p>Residential properties are located within 15m along the length of this PCM link. If there are no alternative mitigation measures that can be brought forward, we will look at the options around the use of portable mechanical filtration as a means to improve indoor air quality if following a review of the indicative modelled concentrations are demonstrated to be above the limit value.</p>
Summary		
<p>This audit report has identified:</p> <ul style="list-style-type: none"> <li>• In addition to the public access within 15m, there are also residential properties within 15m of the PCM link.</li> <li>• Air quality monitoring has identified exceedances at the nearest qualifying feature along the PCM link.</li> <li>• The recent Local Authority air quality report identified a modelled annual mean NO<sub>2</sub> concentration of 40.7µg/m<sup>3</sup> in 2019 alongside this PCM link.</li> <li>• HE verified modelling indicates that there are exceedances of the Limit Value up until the year 2021; therefore the PCM Link will be taken forward for the developed mitigation measures to be implemented.</li> <li>• A feasibility study will be commissioned in summer 2020 to determine the viability of potential local traffic management measures that could be implemented.</li> <li>• A possible Air Quality Walking Route has been identified and a feasibility study will be commissioned in summer 2020 to determine whether this alternative route is viable.</li> </ul>		
<b>Recommendation</b>		
Annualised air quality monitoring has identified exceedances at the nearest qualifying feature along the PCM		

link in 2017. The monitoring has been projected forward and this verified air quality modelling, completed for the Phase 3 assessment, has concluded that there are exceedances of the limit values along PCM link 77743 up until the year 2021. A feasibility study will therefore be commissioned to determine whether the introduction of any local traffic measures could be recommended to support compliance with the limit values in the shortest timescales possible.

**Supporting Activities**

Additional air quality monitoring to be commissioned.

**JAQU Comments**

<sup>1</sup> Requires legal input

<sup>2</sup> Requires JAQU to deliver

<sup>3</sup> Subject to legal consideration of proposed local options