Audit Summary Report

									IN PHASE 3
PCM Link 99329			**Road/Location** A50, Stoke-on-Trent					**Area** 9	
PCM Link modelled NO_2 concentrations (µg/m^3)									
Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
PCM Modelled NO_2 concentration (µg/m^3)	**45**	**43**	40	38	35	33	32	30	29
NH Verified Modelled NO_2 Concentration (µg/m^3)	**55**	**52**	**49**	**46**	**43**	40	38	36	34
Qualifying Feature									
Satellite imagery indicates Public Access within 15m of the PCM link.									
Air Quality Monitoring?									
No									
Is the Air Quality Monitoring within 10m, to support Phase 3 decision?									
No									
Although the indicative modelling completed Phase 2 indicated there were likely no exceedances of the limit values along this link, it was recommended that further work be carried out in phase 3 to confirm this and consequently, mitigation measures were developed. This is due to no local monitoring data available to confirm validity of modelled predictions. 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 2023. Therefore, mitigation measures have been reviewed as part of the Phase 3 assessment.									
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 Towns and Cities Initiative (ETCI)	✘	Interim criteria (outlined below) have been established to determine whether the ETCI initiative could be successfully delivered at locations along the SRN. • Is there a limit value exceedance after 2026? • Are there more than 10,000 vans on this route? • Is the section of SRN in or close to an economic catchment area? Based on these criteria, it is possible that ETCI could be suitable for this SRN PCM link. However, this is not being progressed as public access closure is being investigated as a viable measure which would achieve compliance earlier than ETCI.
Traffic Management	✘	Possible traffic management options for this link were discussed in a workshop held during late 2018 into early 2019. The outcomes of the workshop indicated that there may be the possibility for local traffic management measures to help support improvements in air quality. A feasibility study was commissioned in Autumn 2019 to investigate in more detail whether the proposed local traffic measures would deliver changes in traffic that in turn would lead to improvements in air quality and support compliance with the limit values in the shortest timescales possible. However, following detailed investigations to support the feasibility study, it has been concluded that there are no viable local traffic management measure solutions that could be delivered for this SRN PCM link capable of improving air quality.
Speed Management	✘	The existing speed limit along the A50 is 50mph. Consequently, the introduction of a speed limit would not be appropriate along this PCM link.
Bus Retrofit	✘	A review of bus movements along this section of the A500 has identified 70 journeys are made per day along this PCM link. The Euro standard of the buses making these journeys are unknown. However, if they did require retrofitting, the 70 journeys per day would not support any measurable reduction in annual mean NO_2 concentrations along this PCM link. Indicative modelling suggests a bus retrofit could reduce annual mean NO_2 concentrations by 0.01µg/m^3 and therefore would not support delivery of compliance with the Air Quality Directive in the shortest timescale possible. Therefore, this measure is not being taken forward.
HGV Retrofit	✘	A review of traffic data for this PCM link has identified approximately 6,800 HGVs travelling along this link. Theoretically, a HGV retrofit scheme could reduce annual mean NO_2 concentrations by 1µg/m^3. 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 National Highways is not able to progress this measure at this time.
Local Authority Clean Air Zone (CAZ)	✗	City of Stoke-on-Trent Council are considering progressing a CAZ. However, it has been reported that the earliest start date for this would be late 2024. Therefore, this measure would not help to achieve compliance with the limit values any earlier for this PCM link.
Pathway – preventing the emissions reaching receptors		
9.5m high barrier	✗	Emerging evidence based on from air quality monitoring research undertaken by National Highways indicates a 2 – 5µg/m^3 reduction in annual mean NO_2 concentrations behind a 9.5m overhanging barrier. 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.
Tunnels / canopies, Bypass	✗	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.
Receptor – dealing with concentrations at the affected receptors		
Any other local measures	✗	**Public Access** A footpath has been identified within 15m of the PCM link. A review of the footpath has identified a potential alternative for the current footpath, with a proposed Air Quality Walking Route further away from the A50. A feasibility study indicated that this was not a viable option.
Summary		
This audit report has identified: • NH verified modelling indicates that there are exceedances of the limit value up until the year 2023. • A feasibility study was commissioned to determine the viability of potential local traffic management measures. Following detailed investigations to support the feasibility study, no viable local traffic management solutions for this PCM link have been identified with the potential to improve local air quality. • National Highways have reviewed all available mitigation measures and none were found to be viable on this PCM link, as described above.		
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 99329 up until the year 2023. In completing the assessment for this SRN PCM link, National Highways 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. **It has been concluded, there are no viable measures currently available to National Highways to help attain limit value compliance in a shorter timescale than modelled annual mean NO_2 concentrations for this SRN PCM link.**
Supporting Activities
Additional air quality monitoring has been identified for this link as part of the SRN PCM link evaluation strategy.
JAQU Comments