

Tritax Symmetry (Hinckley) Limited

HINCKLEY NATIONAL RAIL FREIGHT INTERCHANGE

The Hinckley National Rail Freight Interchange Development Consent Order

Project reference TR050007

Environmental Statement Volume 1: Main Statement

Appendix 5 - ES Chapter 9 Air Quality Addendum

Document reference: 6.4.2

Revision: 01

December 2024

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
Regulation 14

INTRODUCTION

- 9.1. This ES Addendum has been produced to provide an update to the Air Quality ES Chapter prepared in November 2022 [APP-118] and the Air Quality ES Addendum prepared in September 2023 [AS-023] (both hereafter referred to as 'ES') to support the outline planning application for Hinckley National Rail Freight Interchange (TR050007).
- 9.2. Following submission of the Development Consent Order (DCO), and receipt of the Examining Authority's Report and the Secretary of State's letter dated 10th September 2024, the Applicant has provided a design for an Enhanced Scheme of improvements within the village of Sapcote.
- 9.3. The purpose of this ES Addendum is to report on the assessment of the potential additional effects arising from the Sapcote Enhanced Scheme. A comparison has been undertaken with the previous assessment undertaken in November 2022, and consideration has also been given to the Air Quality ES Addendum, Appendix 6.4.1 Air Quality PM Sensitivity Assessment prepared in September 2023 to understand whether there are any material differences that require further consideration. This addendum should therefore be read in conjunction with the previous ES Chapter (Chapter 9 Air Quality 6.1.9 Revision 04) [APP-118] and the Air Quality ES Addendum (Appendix 6.4.1 Air Quality PM Sensitivity Assessment Revision 01) [AS-023].
- 9.4. This addendum identifies any new or altered significant effects which could arise from that presented in the original ES. Where the assessment has not changed it is referenced as such within this addendum.

METHODOLOGY AND DATA SOURCES

Consultation

- 9.5. The Applicant has consulted with BDC, HBBC and LCC in respect of the proposals for the Sapcote Enhanced Scheme including the air quality impact and no comments and/or concerns were raised in relation to air quality

Assessment methodology

Construction phase dust assessment

- 9.6. There are no changes to the construction phase dust assessment methodology and the text within the ES remains valid.

Construction phase road traffic emissions

- 9.7. There are no changes to the construction phase road traffic emissions assessment

methodology and the text within the ES remains valid.

Operational phase road traffic emissions assessment

9.8. For the purposes of this ES Addendum, the following scenarios were modelled:

- Scenario 1: 2026 Opening Year, without HNRFI;
- Scenario 2: 2026 Opening Year, with HNRFI;
- Scenario 3: 2036 Completion Year, without HNRFI; and
- Scenario 4: 2036 Completion Year, with HNRFI.

9.9. There are no changes to the operational phase road traffic emissions assessment as compared to those presented in the ES, apart from those detailed below:

- The potential impact of the Sapcote Enhanced Scheme on queueing as a result of carriageway narrowings, carriageway markings and warning signage to move HGVs to the middle of the carriageway, ensuring that they are away from the footway and will give way to each other, has been considered. Vehicle queueing has been modelled along the length of the B4669 between Stanton Lane and Coventry Road. To provide a robust approach, it has been assumed in Scenario 2 and Scenario 4 that a constant queue, of 10mph, is present 24 hours a day, 365 days a year, for all vehicles, and not just HGVs. It is considered that this is a robust approach, as a queue of this length will not be present constantly for all vehicles and the average speed throughout the day is not likely to be as low as 10mph. In addition, the assessment also considered areas where the carriageway is being widened to allow large vehicles to pass each other and to introduce a new bus stop layby.
- The latest version, at the time of writing, of Defra's Emission Factor Toolkit (v12.1) has been utilised in the assessment of the Sapcote Enhanced Scheme.

Rail emissions

9.10. There are no changes to the rail emissions assessment methodology and the text within the ES remains valid.

Operational phase back-up CHP emissions

9.11. There are no changes to the operational phase back-up CHP emissions methodology.

Sensitivity of receptors

9.12. There are no changes to the identification and sensitivity of receptors and the text within the ES remains valid. To allow for consistency and comparison to the ES, the same receptors in Sapcote have been modelled, i.e. R12-R18. These receptors are considered to be representative, and as such, the sensitivity of the receptors have not changed.

Assessment criteria, characterisation of impact and significance criteria

Assessment criteria - construction phase dust assessment

9.13. There are no changes to the assessment criteria of the construction phase dust assessment and the text within the ES remains valid.

Assessment criteria - construction and operational phase road traffic emissions assessment and back-up CHP emissions assessment

9.14. There are no changes to the assessment criteria of the construction and operational phase road traffic emissions assessment and back-up CHP emissions assessment and the text within the ES remains valid.

Significance criteria - construction phase dust assessment

9.15. There are no changes to the significance criteria of the construction phase dust assessment and the text within the ES remains valid.

Significance criteria - construction and operational phase road traffic emissions assessment and back-up CHP emissions assessment

9.16. There are no changes to the significance criteria of the construction and operational phase road traffic emissions assessment and back-up CHP emissions assessment and the text within the ES remains valid.

Limitations and assumptions

9.17. In addition to the limitations and assumptions reported within the ES, the following assumptions have also been made.

9.18. The 2026 Opening Year was utilised in the assessment as this is the earliest year in which certain elements of the Main HNRFI Site may become operational. Whilst this is the earliest year that some operations may commence on the Main HNRFI Site, the whole Main HNRFI Site will not be fully operational until 2036. The 2026 Opening Year assessments considered development traffic flows associated with the whole Main HNRFI Site being operational and not just the elements which will actually be operational in 2026. It is therefore considered to represent a robust scenario assuming the entire HNRFI, and its associated vehicle trips, is operational in the earliest possible year (2026) as this will not be the reality.

9.19. In addition, vehicle emission factors and background concentrations are expected to decrease year on year as vehicle technologies improve, therefore 2026 vehicle emissions and background concentrations are expected to be higher than later years, for example 2036 when the whole Main HNRFI Site is expected to be fully operational. The 2026 Opening Year assessments have therefore considered higher traffic flows, higher vehicle emissions and higher background pollutant concentrations than will be the reality. The operational phase Opening Year therefore represents a robust and conservative scenario.

9.20. To provide a robust approach, it has been assumed in Scenario 2 and Scenario 4 that a constant queue, of 10mph, is present 24 hours a day, 365 days a year, for all vehicles, and not just HGVs. It is considered that this is a robust approach as a queue of this length will not be present constantly for all vehicles and the average speed throughout the day is not likely to be as low as 10mph. In addition, the assessment also considered areas where the carriageway is being widened to allow large vehicles to pass each other and to introduce a new bus stop layby.

RELEVANT LAW, POLICY, AND GUIDANCE

National Legislation and Planning Policy

9.21. The Revised National Networks National Policy Statement was designated by Parliament on 24 May 2024. However the 2014 National Policy Statement remains the National Policy Statement which has effect in relation to the application and the Applicant notes that the Secretary of State at paragraph 22 of her letter dated 10 September 2024 does not consider that the 2024 NNNPS should be given material weight in connection with the determination of the application.

9.22. There are no other changes to the National Planning Policy and the text within the ES remains valid.

Local Planning Policy

9.23. There are no changes to the Local Planning Policy and the text within the ES remains valid.

Air Quality Guidance

9.24. Since the preparation of the ES, the Institute of Air Quality Management (IAQM) has updated its Guidance on the Assessment of Dust from Demolition and Construction Activities. The latest guidance has been considered within this ES Addendum.

9.25. There are no other changes to the Air Quality guidance considered within the assessment and the text within the ES remains valid.

BASELINE CONDITIONS

Air quality review and assessment

Blaby District Council

9.26. BDC has published NO₂ monitoring data up to and including 2023. There have been no changes to the baseline conditions within BDC and the text within the ES remains valid.

Hinckley and Bosworth Borough Council

9.27. HBBC has published NO₂ monitoring data up to and including 2023. There have been no changes to the baseline conditions within HBBC and the text within the ES remains valid.

Harborough District Council

9.28. HDC has published NO₂ monitoring data up to and including 2023. Since the preparation of the ES, HDC has revoked its Lutterworth AQMA due to improvements in monitored NO₂ concentrations. In addition, there were no monitored exceedances of the annual mean NO₂ objectives within HDC in 2023.

Rugby Borough Council

9.29. RBC has published NO₂ monitoring data up to and including 2023. There were no monitored exceedances of the annual mean NO₂ objectives with RBC in 2023.

Background concentrations

9.30. There are no changes to the background concentrations used in the assessment and the text within the ES remains valid.

Baseline local air quality operational phase road traffic emissions assessment

9.31. Pollutant concentrations were predicted at the identified existing sensitive human receptor locations within Sapote using the dispersion model ADMS-Roads. The assessed receptors (R12 -R18) are the same as those assessed within Sapcote in the ES. Predicted concentrations for Scenario 4: 2026 Opening Year Without HNRFI and Scenario 6: Opening Year with HNRFI are detailed in Table 9.1.

Table 9.1: NO₂, PM₁₀ and PM_{2.5} baseline pollutant concentrations in Scenario 4: 2026 Opening Year Without HNRFI and Scenario 6: 2036 Future Year Without HNRFI at receptors within Sapcote

Receptor	Scenario 4 2026 Opening Year Without HNRFI (µg.m ⁻³)			Scenario 6 2036 Future Year Without HNRFI (µg.m ⁻³)		
	NO ₂	PM ₁₀	PM _{2.5}	NO ₂	PM ₁₀	PM _{2.5}
R12	9.2	12.7	8.2	8.2	12.7	8.1
R13	8.8	12.6	8.1	7.9	12.5	8.0
R14	8.9	12.6	8.1	8.0	12.6	8.1
R15	9.2	12.7	8.2	8.2	12.7	8.1
R16	8.3	12.8	8.0	7.6	12.7	8.0
R17	8.4	12.8	8.0	7.6	12.7	8.0
R18	8.3	12.8	8.0	7.6	12.7	8.0

9.32. No exceedances of the current annual mean NO₂, PM₁₀ or PM_{2.5} objectives are predicted in the Opening Year or Future Year baseline scenarios at any of the human receptor locations considered in Sapcote. In addition, there are no predicted exceedances of the 2028 interim PM_{2.5} target and the 2040 future PM_{2.5} objective.

9.33. The conclusions of the baseline operational phase road traffic emissions assessment in the ES are still valid.

POTENTIAL SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSALS

Construction phase dust assessment

9.34. There are no changes to the conclusions of the construction phase dust emissions assessment and the text in the ES remains valid.

Construction phase road traffic emissions assessment

9.35. There are no changes to the conclusions of the construction phase road traffic emissions assessment and the text in the ES remains valid.

Operational phase road traffic emissions assessment

2026 Opening Year

9.36. Concentrations of NO₂, PM₁₀ and PM_{2.5} were predicted in the 2026 Opening Year at identified existing receptor locations to consider the impact of the Sapcote Enhanced Scheme. Predicted pollutant concentrations are detailed in Table 9.2 for NO₂, PM₁₀ and PM_{2.5} respectively together with the ‘without HNRFI’ concentrations for comparison purposes. The predicted change in pollutant concentrations resulting from development-generated traffic, and the associated impacts are also provided.

Table 9.2: Predicted Annual Mean NO₂, PM₁₀ and PM_{2.5} Concentrations and Sapcote Enhanced Scheme Impact at Receptor Locations for the 2026 Opening Year

Receptor	2026 Opening Year Without HNRFI (µg.m ⁻³)	2026 Opening Year With HNRFI (µg.m ⁻³)	Concentration Change* (µg.m ⁻³)	Change in Concentration Relative to Air Quality Assessment	Impact
NO₂					
R12	9.2	10.4	+1.3	3	Negligible
R13	8.8	9.4	+0.7	2	Negligible
R14	8.9	9.7	+0.8	2	Negligible
R15	9.2	10.3	+1.1	3	Negligible
R16	8.3	8.8	+0.5	1	Negligible
R17	8.4	9.0	+0.6	2	Negligible
R18	8.3	8.8	+0.5	1	Negligible
PM₁₀					
R12	12.7	13.0	+0.3	1	Negligible
R13	12.6	12.7	+0.1	0	Negligible
R14	12.6	12.8	+0.2	0	Negligible
R15	12.7	12.9	+0.2	1	Negligible
R16	12.8	12.9	+0.1	0	Negligible
R17	12.8	12.9	+0.1	0	Negligible
R18	12.8	12.9	+0.1	0	Negligible
PM_{2.5}					
R12	8.2	8.3	+0.1	1	Negligible
R13	8.1	8.1	+0.1	0	Negligible
R14	8.1	8.2	+0.1	0	Negligible
R15	8.2	8.3	+0.1	1	Negligible
R16	8.0	8.1	<0.1	0	Negligible
R17	8.0	8.1	+0.1	0	Negligible
R18	8.0	8.1	<0.1	0	Negligible

**discrepancies due to rounding effects*

- 9.37. Predicted concentrations of NO₂ and PM₁₀ are below the current annual mean air quality objectives of 40µg.m⁻³ at all modelled receptor locations. PM_{2.5} concentrations are below the current annual mean air quality objective of 20µg.m⁻³. In addition, PM_{2.5} concentrations are predicted to be below the 2028 interim target of 12µg.m⁻³ and the 2040 future objective of 10µg.m⁻³.
- 9.38. In accordance with Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK) guidance the predicted impact is predicted to be ‘negligible’ and ‘not significant’ at all receptor locations.
- 9.39. The conclusions of the operational phase road traffic emissions assessment in the ES are still valid.

2036 Completion Year

- 9.40. Concentrations of NO₂, PM₁₀ and PM_{2.5} were predicted in the 2036 Completion Year at identified existing receptor locations to consider the impact of the Sapcote Enhanced Scheme. Predicted pollutant concentrations are detailed in **Table 9.3** for NO₂, PM₁₀ and PM_{2.5} together with the ‘without HNRFI’ concentrations for comparison purposes. The predicted change in pollutant concentrations resulting from development-generated traffic, and the associated impacts are also provided.

Table 9.3: Predicted Annual Mean NO₂, PM₁₀ and PM_{2.5} Concentrations and Sapcote Enhanced Scheme Impact at Receptor Locations for 2036 Completion Year

Receptor	2036 Completion Year Without HNRFI (µg.m ⁻³)	2036 Completion Year With HNRFI (µg.m ⁻³)	Concentration Change* (µg.m ⁻³)	Change in Concentration Relative to Air Quality Assessment Level (%)	Impact
NO₂					
R12	8.2	9.0	+0.8	2	Negligible
R13	7.9	8.4	+0.4	1	Negligible
R14	8.0	8.5	+0.5	1	Negligible
R15	8.2	8.9	+0.7	2	Negligible
R16	7.6	7.9	+0.3	1	Negligible
R17	7.6	8.0	+0.4	1	Negligible
R18	7.6	7.9	+0.3	1	Negligible
PM₁₀					
R12	12.7	12.9	+0.3	1	Negligible
R13	12.5	12.6	+0.1	0	Negligible
R14	12.6	12.7	+0.2	0	Negligible
R15	12.7	12.9	+0.2	1	Negligible
R16	12.7	12.8	+0.1	0	Negligible
R17	12.7	12.9	+0.1	0	Negligible
R18	12.7	12.8	+0.1	0	Negligible

PM _{2.5}					
R12	12.7	8.2	+0.1	1	Negligible
R13	12.5	8.1	+0.1	0	Negligible
R14	12.6	8.1	+0.1	0	Negligible
R15	12.7	8.2	+0.1	1	Negligible
R16	12.7	8.0	+0.1	0	Negligible
R17	12.7	8.1	+0.1	0	Negligible
R18	12.7	8.2	+0.1	0	Negligible

**discrepancies due to rounding effects*

- 9.41. Predicted concentrations of NO₂ and PM₁₀ are below the current annual mean air quality objectives of 40µg.m⁻³ at all modelled receptor locations. PM_{2.5} concentrations are below the current annual mean air quality objective of 20µg.m⁻³. In addition, PM_{2.5} concentrations are predicted to be below the 2028 interim target of 12µg.m⁻³ and the 2040 future objective of 10µg.m⁻³.
- 9.42. In accordance with IAQM and EPUK guidance the predicted impact is predicted to be 'negligible' and 'not significant' at all receptor locations.
- 9.43. The conclusions of the operational phase road traffic emissions assessment in the ES are still valid.

Rail emissions

- 9.44. There are no changes to the conclusions of the rail emissions assessment and the text in the ES remains valid.

Operational phase back-up CHP emissions

- 9.45. There are no changes to the conclusions of the operational phase back-up CHP emissions assessment and the text in the ES remains valid.

PROPOSED MITIGATION

Construction phase dust assessment

- 9.46. There are no changes to proposed mitigation of construction phase dust emissions and the text within the ES remains valid.

Construction phase road traffic emissions

- 9.47. There are no changes to proposed mitigation of construction phase road traffic emissions and the text within the ES remains valid.

Operational phase road traffic emissions

- 9.48. There are no changes to proposed mitigation of operational phase road traffic emissions and the text within the ES remains valid.

Operational phase back-up CHP emissions

9.49. There are no changes to proposed mitigation of operational phase back-up CHP emissions and the text within the ES remains valid.

RESIDUAL ENVIRONMENTAL EFFECTS

Construction phase dust assessment

9.50. There are no changes to residual effects from construction phase dust emissions assessment on air quality and the text within the ES remains valid.

Construction phase road traffic emissions assessment

9.51. There are no changes to residual effects from construction phase road traffic emissions assessment on air quality and the text within the ES remains valid.

Operational phase road traffic emissions assessment

9.52. There are no changes to the residual effect from operational phase road traffic emissions assessments on air quality and the text within the ES remains valid.

CUMULATIVE AND IN-COMBINATION EFFECTS

Construction phase dust assessment

9.53. There are no changes to the cumulative and in-combination effects in relation to construction phase dust and the text within the ES remains valid.

Construction phase road traffic emissions assessment

9.54. There are no changes to the cumulative and in-combination effects in relation to construction phase road traffic emissions and the text within the ES remains valid.

Operational phase road traffic emissions assessment

9.55. There are no changes to the cumulative and in-combination effects in relation to operational phase road traffic emissions and the text within the ES remains valid.

Operational phase back-up CHP emissions assessment

9.56. There are no changes to the cumulative and in-combination effects in relation to operational phase back-up CHP emissions and the text within the ES remains valid.

Cumulative operational phase emissions (road traffic emissions and back-up CHP emissions)

9.57. There are no changes to the cumulative operational (road traffic emissions and back-up CHP emissions) effects for the completed development and the text within the ES remains valid.

CLIMATE CHANGE

9.58. There are no changes to the impact on climate change and the text within the ES remains valid.

SUMMARY AND CONCLUSIONS

Construction phase

Construction phase dust

9.59. There are no changes to the summary and conclusions of the construction phase dust assessments and the Sapcote Enhanced Scheme will not result in any additional adverse impacts or Likely Significant Effects when compared to the findings in the original ES.

Construction phase road traffic

9.60. There are no changes to the summary and conclusions of the construction phase road traffic emissions assessments and the Sapcote Enhanced Scheme will not result in any additional adverse impacts or Likely Significant Effects when compared to the findings in the original ES. Operational Phase

Operational phase road traffic

9.61. There are no changes to the summary and conclusions of the operational phase road traffic emissions assessment and the Sapcote Enhanced Scheme will not result in any additional adverse impacts or Likely Significant Effects when compared to the findings in the original ES.

Rail emissions

9.62. There are no changes to the summary and conclusions of the rail emissions assessment and the Sapcote Enhanced Scheme will not result in any additional adverse impacts or Likely Significant Effects when compared to the findings in the original ES.

Operational phase back-up CHP emissions

9.63. There are no changes to the summary and conclusions of the operational phase back-up CHP emissions assessment and the Sapcote Enhanced Scheme will not result in any additional adverse impacts or Likely Significant Effects when compared to the findings in the original ES.

Table 9.4: Summary of environmental effects (air quality)

Potential Effect	Receptor*	Nature of Effect**	Sensitivity of Effect***	Magnitude of Effect****	Significance of Effect^	Mitigation	Residual Effect
Construction							
Dust Soiling from Construction Phase	Local	Short term and Temporary	High	Major	Not defined in accordance with IAQM guidance	Dust Mitigation Measures within CEMP	Not Significant
Dust impact from Construction Phase on Human Health	Local	Short term and Temporary	Medium	Major	Not defined in accordance with IAQM guidance	Dust Mitigation Measures within CEMP	Not Significant
Dust Impacts on Ecological Receptors	Local	Short term and Temporary	High	Major	Not defined in accordance with IAQM guidance	Dust Mitigation Measures within CEMP	Not Significant
Emissions from Construction Traffic on Human Health	Local	Short term and Temporary	High	Not Defined	Negligible	CTMP to route deliveries away from densely populated areas where practicable and consolidate deliveries to minimise vehicle trips.	Not Significant

Potential Effect	Receptor*	Nature of Effect**	Sensitivity of Effect***	Magnitude of Effect****	Significance of Effect^	Mitigation	Residual Effect
Emissions from Construction Traffic on Ecological Receptors	Local	Short term and Temporary	Please see Chapter 6.1.12: <i>Ecology and Biodiversity</i> for the assessment of ecological receptors.				
Operation							
Emissions from HNRFI Traffic on Human Health	Local	Long term and Permanent	High	Not Defined	Negligible	Comprehensive package of on and off-site transport improvements; Sustainable Transport Strategy, Travel Plan and EV charging	Not significant
Emissions from HNRFI Traffic on Ecological Receptors	Local	Long Term and Permanent	Please see Chapter 6.1.12: <i>Ecology and Biodiversity</i> for the assessment of ecological receptors				
Emission from proposed back-up CHP on Human Health	Local	Short Term and Temporary	High	Not Defined	Negligible	None	Not Significant

Potential Effect	Receptor*	Nature of Effect**	Sensitivity of Effect***	Magnitude of Effect****	Significance of Effect^	Mitigation	Residual Effect
Emission from proposed energy centre on Ecological Receptors	Local	Short term and temporary	Please see Chapter 6.1.12: <i>Ecology and Biodiversity</i> for the assessment of ecological receptors				

* *International; United Kingdom; England; Regional; County; Borough; Local.*

** *Permanent or Temporary/Direct or Indirect.*

*** *High, Moderate or Low.*

**** *Major, Moderate, Minor or Negligible.*

^ *Major, Moderate, Minor or Negligible/Adverse or Beneficial.*