

13 AIR QUALITY

13.1 Introduction

13.1.1 This chapter comprises the assessment of potential air quality impacts and effects associated with the Scheme, including an assessment of the potential changes in air quality in relation to the UK National Air Quality Strategy (NAQS) objectives.

13.1.2 The Scheme would provide an improvement to the existing single carriageway route, including on-line widening of single carriageway to dual carriageway off-line construction of a new dual carriageway, and associated access junction and bridge works. The existing layout is shown on Figures 13.0 (a-c) and the Scheme is shown on Figures 13.1 (a-c).

13.1.3 The Scheme has the potential for generating both beneficial and adverse impacts on air quality. During construction there would be potential for temporary impacts due to emissions of air pollutants and dust. During operation there would be potential for local air quality impacts from road vehicles and potential for regional impacts from changes in greenhouse gas emissions.

13.2 Methodology

General

13.2.1 The assessment has been carried out in accordance with the guidelines in the Design Manual for Roads and Bridges Volume 11 Section 3 Part 1 (DMRB Volume 11) and is based upon the following sources of information:

- OS Mapping
- Traffic data
- NETCEN Local Air Quality Management web page, AEA Technology Environment on behalf of DEFRA
- Local Authority air quality information; (Teignbridge District Council; <www.teignbridge.gov.uk>)

13.2.2 The scope of this air quality assessment:

- Establishment of air quality baseline conditions
- An assessment of potential temporary impacts and effects
- An assessment of permanent impacts and effects

Potential Temporary Impacts and Effects

13.2.3 Potential temporary impacts and effects would only occur during the construction works and these would relate solely to the effects of dust raised during construction activity.

13.2.4 Adverse effects associated with pollutant emissions from construction traffic are not likely to be significant due to the relatively low number of additional vehicle movements expected as a consequence of construction activity (i.e. it is estimated that traffic associated with the construction of the bypass would increase total daily traffic flows by approximately 1.5%).

13.2.5 DMRB Volume 11 does not provide guidance for assessing air quality impacts and effects associated with construction dust. The aim of the assessment has been to identify whether there is potential for dust related nuisance to arise as a result of the construction activities associated with the Scheme.

- 13.2.6 Under Part III of the Environmental Protection Act 1990 dust arising from human activities may be identified as a Statutory Nuisance where Best Practicable Means (BPM) have not been applied to control emissions.
- 13.2.7 To cause a nuisance outside the construction site, dust must become airborne and reach a potentially sensitive receptor. Generation, dispersion and deposition of these particles would depend on a variety of factors including prevailing meteorological conditions, nature of materials and type and duration of activities.
- 13.2.8 The most significant potential source of dust emissions during construction would be earthworks activities including the removal of topsoil and the construction of cuttings and embankments. Handling and storage of materials and use of haulage roads and unsurfaced areas are also potential sources of dust generation.
- 13.2.9 The degree of potential effects would also depend on proximity of the air quality receptors to the potential dust sources. The potential for dust to be transferred off site and cause a nuisance is likely to be limited to around 100m from those construction works involving considerable earthworks.
- 13.2.10 The assessment of dust construction effects is based on the assumption that appropriate control measures would be applied during construction works aimed to avoid the occurrence of dust related nuisance.

Permanent Impacts and Effects

- 13.2.11 Potential permanent impacts and effects are those associated with the operation of the Scheme. During operation there would be potential for local air quality impacts from road vehicle emissions and for regional impacts from changes in greenhouse gas emissions.
- 13.2.12 The Highways Agency (HA) has developed a Screening Method that enables the undertaking of local and regional air quality impact assessments for road schemes. The Screening Method provides an initial test designed to establish whether a road scheme ought to be subjected to a more detailed air quality assessment. In this case a more detailed assessment has been found not to be required.
- 13.2.13 Operational impacts have been assessed following the Stage 3 Assessment method set out in DMRB Volume 11 and comprise the following assessments:
- A Local Impact Assessment
 - A Generalised Local Impact Assessment
 - A Regional Impact Assessment

Local Impact Assessment

- 13.2.14 The Local Impact Assessment estimates air pollution concentrations at selected locations near to the road network. Estimates are made of the concentrations of carbon monoxide (CO), nitrogen dioxide (NO₂), benzene, 1,3-butadiene and suspended particulates (PM₁₀). These are the pollutants of concern for human health.
- 13.2.15 The years required to be assessed are the base year (2001 in this case) and the opening year (2011) with and without the Scheme.
- 13.2.16 In accordance with the assessment procedure set down in DMRB the Study Area for the local air quality assessment comprises an area 200m either side of the centreline along the lengths of the existing road and the Scheme.
- 13.2.17 Receptor points have been selected as local air quality assessment locations following the guidance provided in DMRB. The properties are representative of

sensitive properties across the Study Area that are likely to be affected by the operation of the Scheme. These assessment locations are shown on Figures 13.0 (a-c) and 13.1 (a-c).

- 13.2.18 The changes in local traffic pollution levels predicted at the selected assessment locations have been assessed by comparing the predicted levels with the current air quality objectives and considering the change (improvement or deterioration) between the Do Minimum (without the Scheme) and the Do Something (with the Scheme) scenarios.
- 13.2.19 A breach of the air quality objectives would indicate a potential adverse impact and would require detailed air modelling whilst not breaching the objectives would indicate that no adverse effects on human health are expected.

Generalised Local Impact Assessment

- 13.2.20 The Generalised Local Impact Assessment addresses the total number of properties that would be affected by NO₂ and PM₁₀. Properties up to 200m from the roadside are considered. Beyond 200m, the contribution of vehicle emissions is not considered significant. This assessment provides an estimate of the overall change in people's exposure to concentrations of NO₂ and PM₁₀, which are identified as of particular concern with respect to compliance with the objectives in the NAQS.
- 13.2.21 The roadside levels of PM₁₀ and NO₂ are assessed for the both the Do Minimum and the Do Something scenarios. Properties are counted in distance bands from road centrelines and are then weighted and an assessment score determined for each pollutant. The assessment scores are compared for the Do Minimum and Do Something scenarios to determine whether there is an improvement or deterioration in air quality as a result of the Scheme. A positive value would represent an improvement in air quality; a negative value would indicate a deterioration in air quality.
- 13.2.22 This assessment should be undertaken for the NAQS specific years for these pollutants (i.e. 2005 and 2004 for NO₂ and PM₁₀ respectively) or where a scheme opens after these dates, the Scheme opening year. In this case the assessment has been carried out for the Scheme opening year i.e. 2011.
- 13.2.23 All assessments take account of the predicted vehicle flows and speeds, the distance of the receiver from the road and changes in future exhaust emissions.

Regional Impact Assessment

- 13.2.24 The Regional Impact Assessment addresses the total quantities of CO, CO₂, NO_x, PM₁₀, and hydrocarbons that would be produced without and with the Scheme.
- 13.2.25 This assessment involves the prediction of the change in the total emissions of pollutants that would result from the Scheme, compared with Do Minimum.
- 13.2.26 The assessment years are the base year (2001), opening year (2011) and the design year (15 years after opening i.e. 2026). Due to restrictions of the Highway's Agency DMRB Screening Method worksheet, the assessment has been applied to the nearest possible year, i.e. year 2025.
- 13.2.27 Regional air quality effects are expressed as a single set of mass emissions (tonnes of pollutant per year).
- 13.2.28 The effect of the Scheme at the regional scale is determined by comparing the total tonnes/year of each pollutant produced by the Do Minimum and Do Something scenarios in the opening year and the design year.

13.2.29 DMRB Volume 11 does not provide guidance for assessing the significance of these effects. Therefore, a comparison of the change in total emissions associated with the Scheme against the total amount of emissions produced by road traffic in the UK in 2002 has been carried out to put the effect of the Scheme into the national context.

13.3 Baseline Conditions

13.3.1 Background concentrations have been predicted at the selected properties for the years 2001 and 2011 to provide the baseline current and future concentrations, against which predicted concentrations with the Scheme can be compared.

13.3.2 Table 13.1 presents the current UK air quality objectives for the five traffic pollutants considered in the air quality assessment.

Table 13.1 Summary of Current UK Air Quality Objectives

Pollutant	Objective	Measured as	To be Achieved by
Benzene	5 µg/m ³	Annual mean	31/12/2010
1,3-Butadiene	2.25 µg/m ³ (1 ppb)	Running annual mean	31/12/2003
Carbon Monoxide (CO)	10 mg/m ³ (8.6 ppm)	Max daily running 8hr mean	31/12/2003
Nitrogen Dioxide (NO ₂)	200µ/m ³ (105 ppb) not to be exceeded by more than 18 times /year	1 hr mean	31/12/2005
	40µg/m ³ (21 ppb)	Annual mean	31/12/2005
Particulate matter (PM ₁₀)	50µ/m ³ not to be exceeded more than 35 times/year	24 hr mean	31/12/2004
	50µ/m ³ not to be exceeded more than 7 times/year	24 hr mean	31/12/2010 ¹
	40µg/m ³	Annual mean	31/12/2004
	20µg/m ³	Annual mean	31/12/2010 ¹

Notes: 1. The 2010 objective for PM₁₀ is provisional

13.3.3 The air quality objectives apply to all locations where members of the public might be regularly exposed. Technical Guidance LAQM TG(03) notes that annual mean averaging periods apply to building facades of residential properties, schools and hospitals, whilst intermediate standards, such as percentiles of 24-hour means, apply for gardens of residential properties.

13.3.4 The predicted background pollutant concentrations in the Study Area are presented in Table 13.2, together with the air quality objectives. Background pollutant concentrations have been obtained from the UK National Air Quality Information Archive (prepared by NETCEN, part of AEA Technology Environment, on behalf of the UK Department for Environment, Food & Rural Affairs and the Devolved Administrations). Future background levels have been estimated using the NETCEN Calculator.

Table 13.2 Predicted Background Air Quality Concentrations (Annual Mean)

Pollutant		CO (mg/m ³)	Benzene (µg/m ³)	1,3 butadiene (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)
Current objective		10	5	2.25	40	40 (2004) 20 (2010) ²
Year	2001	0.30	0.84	0.37	22.1	20.0
	2011	0.14	0.54	0.16	16.8	16.1

13.3.5 The background results show that remote from the direct influence of the existing road existing air quality levels are below the limits stated by the Air Quality Standards.

Local Air Quality Management Area Status

13.3.6 As part of this study, the status of Local Air Quality Management Areas (LAQM's) has been assessed. LAQM's may be described as follows:

Since December 1997 each local authority in the UK has been carrying out a review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment. If a local authority finds any places where the objectives are not likely to be achieved, it must declare an Air Quality Management Area there. Then the local authority will put together a plan to improve the air quality - a Local Air Quality Action Plan." (www.airquality.co.uk)

13.3.7 The Study Area is largely within the local authority area of Teignbridge District Council. This authority has completed its review and assessment processes and has not declared any Air Quality Management Areas.

13.3.8 Baseline air quality conditions have been established by predicting current and future traffic pollutant concentrations without the Scheme at the properties listed in Table 13.3 for the pollutants NO₂ and PM₁₀. The results are calculated by adding the emissions caused by road traffic to the background concentrations given in Table 13.2.

Table 13.3 Potentially Sensitive Receptors (Existing Conditions)

Receptor Name and location	Air Quality Levels in 2001	
	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³) (No. days > 50 µg/m ³)
S1: Community Centre Gilbert Road, east of A380, 500m north of Penn Inn Roundabout	30.4	23.2 9
S2: Church St Mary Church Road, east of A380, immediately south east of Penn Inn Roundabout	38.0	27.2 18
S3: Church Near Laburnum Road, east of A380, 500m south of Penn Inn Roundabout	26.4	21.5 6
S4: Church Near Cole's Lane, west of A380	25.2	21.0 5
S5: Library Jury's Corner, west of A380	34.9	25.3 13
S6: Hall Jury's Corner, east of A380	33.8	24.7 12
S7: Hall Near Maddacombe Rd	22.1	20.0
S8: Church Near Sunnyside Road, west of A380	36.2	26.0 15
S9: Church Yon Street	22.1	20.0

13.3.9 No exceedances of the current air quality objectives for human health for NO₂ and PM₁₀ are predicted at any of the selected assessment locations in the base year 2001.

13.3.10 In summary, the assessment of existing air quality in the Study Area indicates that the air quality objectives are currently being met.

13.4 Mitigation Strategy

Mitigation During Construction

13.4.1 Specific control measures for construction would be applied through the implementation of a Construction Environmental Management Plan (CEMP).

13.4.2 To minimise the risk of Statutory Nuisance (Part III of Environment Act 1990) it would be necessary to demonstrate the application of Best Practicable Means (BPM) in controlling dust during construction works at all times.

13.4.3 Site management and dust control measures to be defined in the CEMP would include, but not be limited to, the following:

- minimising the handling of materials such as soil
- minimising material drop heights and rates as well as stockpile heights
- locating stockpiling areas as far as practicable from the receptors
- preventing wind blown dust from stockpiled materials through compaction (paying attention to final use of the material) and temporary seeding
- damping down dry surfaces with water sprays
- regular grading of unpaved running surfaces (haul routes)
- regular cleansing of paved surfaces using appropriate equipment such as vacuum sweepers
- sheeting of lorries delivering and/or leaving site with loose material
- restricting vehicle speeds on unsurfaced access routes and all unsurfaced areas to 15 km/h
- providing appropriate cleaning facilities for road vehicles at egress points
- undertaking visual inspections, considering meteorological conditions and compliance with agreed mitigation measures
- keeping local residents informed on construction programme and activities, particularly prior to activities with a 'major' potential to cause dust

13.4.4 The site manager would have responsibility on a day to day basis for determining if either the nature of the activities on site or weather conditions are likely to result in the transfer of dust off site. If so, remedial action would be taken to minimise emissions, including the temporary suspension of works.

Mitigation during Operation

13.4.5 Operational mitigation for air quality effects has been incorporated at the design stage by taking into account the proximity to residential properties and incorporating measures that allow traffic to flow freely such as gentle gradients, appropriate design of junctions and creation of grade separated junctions.

13.5 Assessment of Temporary Impacts and Effects

13.5.1 There are a number of properties within 100m of proposed works associated with the Scheme that could potentially be affected by construction dust.

13.5.2 The potential for dust nuisance at these properties would depend on a wide range of factors including prevailing meteorological conditions, type and duration of the activities.

13.5.3 The employment of Best Practicable Means (BPM) as outlined in Section 13.4 would minimise the risk of adverse effects from construction dust and avoid causing Statutory Nuisance (Part III of Environment Act 1990).

13.6 Assessment of Permanent Impacts and Effects

Local Impact Assessment

13.6.1 The predicted operational pollutant concentrations in 2011 at the selected assessment locations are presented in Table 13.4. No exceedances of the current air quality objectives for PM₁₀ and NO₂ have been predicted at any of the selected locations due to the Scheme operation. In addition, no exceedances of the provisional annual mean PM₁₀ objective of 20µg/m³, to be achieved by 2010, are predicted at any of the selected assessment locations.

13.6.2 Reductions in air pollution concentrations are predicted at some locations as a result of the Scheme, whilst an increase in concentrations are predicted at other locations.

The former are associated with the removal of traffic from the existing A380, whilst the latter are explained by the close distance between the Scheme and these locations.

13.6.3 The predicted pollutant concentrations decline from 2001 to 2011 as emissions per vehicle are reduced over time on account of vehicle technology improvements and subsequent reduction of the overall background levels.

13.6.4 Predicted concentrations for all the assessment locations and years considered are below the UK air quality objectives for the protection of human health with the Scheme in operation. It is therefore concluded that no adverse impacts on local air quality receptors are expected as a result of the Scheme.

Table 13.4 Potentially Sensitive Receptors (Do Minimum & Do Something)

Receptor Name and location	Air Quality Levels					
	NO ₂ (µg/m ³)			PM ₁₀ (µg/m ³) (No. days > 50 µg/m ³)		
	2001	2011 DM	2011 DS	2001	2011 DM	2011 DS
S1: Community Centre Gilbert Road, east of A380, 500m north of Penn Inn Roundabout	30.4	20.9	21.4	23.2 9	17.6 1	17.8 1
S2: Church St Mary Church Road, east of A380, immediately south east of Penn Inn Roundabout	38.0	20.0	20.2	27.2 18	17.1 1	17.2 1
S3: Church Near Laburnum Road, east of A380, 500m south of Penn Inn Roundabout	26.4	19.0	19.4	21.5 6	16.8 1	17.0 1
S4: Church Near Cole's Lane, west of A380	25.2	18.3	17.6	21.0 5	16.6 1	16.3 0
S5: Library Jury's Corner, west of A380	34.9	23.2	20.2	25.3 13	18.3 2	17.2 1
S6: Hall Jury's Corner, east of A380	33.8	22.8	19.7	24.7 12	18.1 1	17.0 1
S7: Hall Near Maddacombe Rd	22.1	16.8	17.8	20.0	16.1	16.4 0
S8: Church Near Sunnyside Road, west of A380	36.2	24.2	20.0	26.0 15	18.7 2	17.1 1
S9: Church Yon Street	22.1	16.8	22.8	20.0	16.1	18.3 2

Generalised Local Impact Assessment

13.6.5 Tables 13.5a, 13.5b and 13.5c present the results of the Generalised Local Impact Assessment for the Scheme in terms of total assessment values for NO₂ and PM₁₀. Also presented is the number of properties experiencing an improvement or deterioration in air quality as a result of the Scheme.

Table 13.5a Generalised Local Impact Assessment Results (Do Minimum)

Do Minimum 2011. Properties North of Aller Road					
Roadside concentrations:		PM ₁₀		NO ₂	
		17.8 (a)		21.4 (a)	
Distance from road	No. of properties	PM ₁₀ weights	PM ₁₀ weighted properties	NO ₂ weights	NO ₂ weighted properties
0 – 50m	105	1.00	105	1.00	105
50 – 100m	191	0.65	124	0.80	153
100 – 150m	167	0.55	92	0.65	109
150 – 200m	172	0.50	86	0.55	95
Totals	635		407 (b)		462 (b)
Assessment value (axb)			7,245		9,887
Do Minimum 2011. Properties South of Aller Road					
Roadside concentrations:		PM ₁₀		NO ₂	
		17.5 (a)		21.2 (a)	
Distance from road	No. of properties	PM ₁₀ weights	PM ₁₀ weighted properties	NO ₂ weights	NO ₂ weighted properties
0 – 50m	320	1.00	320	1.00	320
50 – 100m	327	0.65	213	0.80	262
100 – 150m	318	0.55	175	0.65	207
150 – 200m	279	0.50	140	0.55	153
Totals	1244		848 (b)		942 (b)
Assessment value (axb)			14,840		19,970
Total Assessment value			22,085		29,857

Table 13.5b Generalised Local Impact Assessment Results (Do Something)

Do Something 2011. Properties North of Aller Road					
Roadside concentrations:			PM ₁₀		NO ₂
			18.0 (a)		21.9 (a)
Distance from road	No. of properties	PM ₁₀ weights	PM ₁₀ weighted properties	NO ₂ weights	NO ₂ weighted properties
0 – 50m	105	1.00	105	1.00	105
50 – 100m	191	0.65	124	0.80	153
100 – 150m	167	0.55	92	0.65	109
150 – 200m	172	0.50	86	0.55	95
Totals	635		407 (b)		462 (b)
Assessment value (axb)			7,326		10,118
Do Something 2011. Properties South of Aller Road (Adjacent to Bypass)					
Roadside concentrations:			PM ₁₀		NO ₂
			18.2 (a)		22.9 (a)
Distance from road	No. of properties	PM ₁₀ weights	PM ₁₀ weighted properties	NO ₂ weights	NO ₂ weighted properties
0 – 50m	2	1.00	2	1.00	2
50 – 100m	33	0.65	21	0.80	26
100 – 150m	80	0.55	44	0.65	52
150 – 200m	86	0.50	43	0.55	47
Totals	201		110 (b)		127 (b)
Assessment value (axb)			2,002		2,908
Do Something 2011. Properties South of Aller Road (Adjacent to A380)					
Roadside concentrations:			PM ₁₀		NO ₂
			16.2 (a)		17.1 (a)
Distance from road	No. of properties	PM ₁₀ weights	PM ₁₀ weighted properties	NO ₂ weights	NO ₂ weighted properties
0 – 50m	320	1.00	320	1.00	320
50 – 100m	327	0.65	213	0.80	262
100 – 150m	318	0.55	175	0.65	207
150 – 200m	279	0.50	140	0.55	153
Totals	1244		848 (b)		942 (b)
Assessment value (axb)			13,738		16,108
Total Assessment value			23,066		29,134

Table 13.5c Generalised Local Impact Assessment (Results)

Do Minimum Total Assessment Value for NO ₂	22,085
Do Something Total Assessment Value for NO ₂	23,066
Net Change with Do Something	-981
Do Minimum Total Assessment Value for PM ₁₀	29,857
Do Something Total Assessment Value for PM ₁₀	29,134
Net Change with Do Something	+723
Number of Properties Experiencing an improvement in Air Quality	1,244
Number of Properties Experiencing a deterioration in Air Quality	836

13.6.6 The total assessment value for NO₂ is negative which indicates an increase in pollution exposure with Do Something.

13.6.7 The total assessment value for PM₁₀ is positive which indicates a decrease in pollution exposure with Do Something.

13.6.8 There are 1,244 properties that would experience an improvement in air quality with Do Something. This is directly related to the fact that traffic currently travelling through the centre of Kingskerswell (and therefore affecting the majority of the residential properties within the Study Area) would be removed to the bypass.

13.6.9 There are 836 properties that would experience deterioration in air quality with Do Something. These properties lie adjacent to the A380 north of Aller Road and adjacent to the Scheme south of Aller Road.

13.6.10 Overall therefore, there would be an improvement in air quality for a significant number of properties.

DMRB Regional Air Quality Impact Assessment

13.6.11 Table 13.6 presents the total emissions of CO, THC, NOx, PM₁₀, and CO₂ for 2001, 2011 and 2025 for Do Minimum and Do Something.

Table 13.6 Predicted Total Emissions (tonnes/year)

Scenario	CO	THC	NOx	PM ₁₀	CO ₂
2001	536.2	77.6	338.2	9.8	48,849
2011 DM	230.8	30.8	163.7	4.7	50,932
2011 DS	261.2	35.0	199.7	5.7	60,211
(DS - DM) =	30.4	4.2	36.0	1.0	9,279
2011 % change with DS	13%	14%	22%	21%	18%
2025 DM	238.0	31.6	133.1	4.0	54,660
2025 DS	261.0	34.8	156.0	4.7	62,496
(DS - DM) =	23	3.2	22.9	0.7	7,836
2025 % change with DS	10%	10%	17%	18%	14%

- 13.6.12 Comparing Do Something with Do Minimum, there would be an increase in the total quantity of pollutants if the Scheme were built. The significance of these increases on regional air quality and climate change can be judged by comparing these changes with the total quantity of emissions from UK road transport sources in 2002 as shown in Table 13.7.

Table 13.7 Total Regional Emissions in Comparison with 2002 UK Roads

	CO	THC	NOx	PM ₁₀	CO ₂
Change in total with Do Something in 2011 (Tonnes/year)	+30.4	+4.2	+36.0	+1.0	+9,279
Change in total with Do Something in 2025 (Tonnes/year)	+23.0	+3.2	+22.9	+0.7	+7,836
2002 Total UK Road Traffic Emissions (Tonnes/year)	1,916,000	211,000	711,000	39,000	31,900,000
Change as % of 2002 UK total for 2011	0.00	0.00	0.01	0.00	0.03
Change as % of 2002 UK total for 2025	0.00	0.00	0.00	0.00	0.02

- 13.6.13 At the national scale, the change in the total quantity of pollution produced if the Scheme were built would be negligible.

13.7 Conclusions

- 13.7.1 No exceedances of the current air quality objectives for human health (NO₂, PM₁₀) are predicted at any of the selected assessment locations in the base year 2001. The assessment of existing air quality in the Study Area indicates that the air quality objectives are currently being met.
- 13.7.2 Best Practicable Means (BPM) would be applied through the implementation of a Construction Environmental Management Plan (CEMP) to minimise the risk of adverse effects from construction dust and avoid causing Statutory Nuisance (Part III of Environment Act 1990). To minimise the risk of statutory nuisance it would be necessary to demonstrate the application of BPM during construction works at all times.
- 13.7.3 Changes in air quality due to the operation of the Scheme have been assessed following the quantitative methods set out in DMRB Volume 11 which enable the assessment of operational effects at local and regional level.
- 13.7.4 The DMRB Local Air Quality Assessment shows that no exceedances of the current air quality objectives for human health (NO₂, PM₁₀) are predicted at any of the receptors in either the baseline or operational scenarios.
- 13.7.5 The Generalised Local Impact Assessment has predicted an increase in NO₂ exposure were the Scheme to be built and a decrease in PM₁₀ exposure were the Scheme to be built. There are 1,244 properties that would experience an improvement in air quality with Do Something in comparison with 836 properties that would experience deterioration in air quality.
- 13.7.6 The Regional Impact Assessment shows that the total emissions predicted with the Scheme in operation (Do Something) are higher than those predicted for the Do Minimum scenario. However, the changes in tonnes per year between Do Minimum and Do Something are negligible in comparison with the Total UK road traffic emissions in 2002.