APPENDIX 6.2
DETAILED DISPERSION MODELLING ASSESSMENT METHODOLOGY

Appendix 6.2 Detailed Dispersion Modelling Assessment Method

Modelling Software

The ADMS-Roads detailed dispersion model (version 5) was used to assess direct effects from the additional traffic on local air quality during 2019, to assess the sites current suitability for residential use and 2027, the year in which the Proposed Development is expected to be operational, both With and Without the development in place.

The ADMS-Roads model considers the key variables that influence pollutant emission and dispersion (meteorology, surface roughness, diurnal traffic flows, predicted future traffic mixes and predicted future engine emission standard mixes). Annual mean concentrations of NO_2, PM_{10} and $PM_{2.5}$ were predicted at a number of locations in the vicinity of the Proposed Development. The receptors chosen include those that are representative of worst-case exposure locations within the modelled study area.

Assessment Scenarios

Predictions of NO2, PM10 and PM2.5 were made for the following scenarios:
- **S1**: Baseline 2019; base year;

- **S2**: Future Baseline (2027) without the Proposed Development in place but inclusive of committed/consented **developments**; and

- **S3**: Future Baseline (2027) with the Proposed Development and committed/consented developments in **place**.

Traffic Data

The AADT and percentage of heavy-duty vehicles (%HDVs) for the local roads of interest were obtained from the Transport Consultants for the Proposed Development, Traffic Plus. Vehicle speeds were derived from the speed limits on each road link, but sometimes adjusted with reference the advice on modelling junctions and congestion provided within TG16, and professional judgement. **Table B-1** summarise the information used within the assessment (AADT, %HDVs and free-flowing speed). The roads and receptors included in the dispersion modelling assessment are also presented in **Figure B-1** below. Local authority monitoring locations are presented in **Figure B-2**.

Table B.1: Traffic Data for S1, S2 and S3

Link ID	Road name	S1 2019 base year		S2 (Without Development) 2027		S3 (With Development) 2027		Speed (km/h)
		AADT	%HDV	AADT	%HDV	AADT	%HDV	
MR1	Milton Road	30434	5	32674	5	33848	5	80
MR2	Milton Road	30434	5	32674	5	33848	5	48
MR2-J	Milton Road	30434	5	32674	5	33848	5	48
EW1-J	Elizabeth Way	27396	2	29648	2	30127	2	5
EW2	Elizabeth Way	27396	2	29648	2	30127	2	48
HR1	Histon Road	25108	2	27376	2	27376	2	48
A14E-1	A14 eastbound	20212	17	21459	17	21587	17	97
A14E-2B	A14 eastbound	20424	17	21684	17	21684	17	97
A14E-3	A14 eastbound	20212	17	21459	17	21587	17	97

A14E-4B	A14 eastbound	24610	17	25345	17	25473	17	97
A14E-5	A14 eastbound	24610	17	25345	17	25473	17	97
A14W-1	A14 westbound	29233	17	31037	17	31211	17	97
A14W-2B	A14 westbound	20682	17	21958	17	21958	17	97
A14W-3	A14 westbound	29233	17	31037	17	31211	17	97
A14W-4B	A14 westbound	24789	17	25530	17	25704	17	97
A14W-5	A14 westbound	24789	17	24789	17	25704	17	97
A14E-SR1	A14 eastbound slip road	8463	17	8985	17	9112	17	97
A14E-SR1J	A14 eastbound slip road	8463	17	8985	17	9112	17	5
A14E-SR2	A14 eastbound slip road	6022	17	6393	17	6519	17	97
A14W-SR1	A14 westbound slip road	6303	17	6692	17	6889	17	97
A14W-SR1J	A14 westbound slip road	6303	17	6692	17	6889	17	5
A14W-SR2	A14 westbound slip road	8291	17	8802	17	8977	17	97
A14E-SR3	A14 eastbound slip road	5539	17	5881	17	5881	17	97
A14E-SR3J	A14 eastbound slip road	5539	17	5881	17	5881	17	5
A14E-SR4	A14 eastbound slip road	4269	17	4532	17	4532	17	97
A14W-SR3	A14 westbound slip road	4217	17	4477	17	4477	17	97
A14W-SR3J	A14 westbound slip road	4217	17	4477	17	4477	17	5
A14W-SR4	A14 westbound slip road	5903	17	6267	17	6267	17	97
CR1	Cowley Road	2293	12	2462	12	4115	12	48
CR1J	Cowley Road	2293	12	2462	12	4115	12	5
A14R2-1	A14 roundabout	4217	17	4477	17	4477	17	32
A14R2-2	A14 roundabout	5539	17	5881	17	5881	17	32
HR2	Histon Road	25108	2	27376	2	27376	2	48
HR2J	Histon Road	25108	2	27376	2	27376	2	5
A14R1-1	A14 roundabout	6303	17	6692	17	6889	17	32
A14R1-2	A14 roundabout	8463	17	8985	17	9112	17	32
MR3-J	Milton Road	30434	5	32674	5	33848	5	5
NR5	Newmarket Road	12436	3	13546	3	13785	3	32
NR8	Newmarket Road	12436	3	13546	3	13785	3	32
NR9J	Newmarket Road	12436	3	13546	3	13785	3	5
NR10J	Newmarket Road	12436	3	13546	3	13785	3	5
NR6J	Newmarket Road	12436	3	13546	3	13785	3	5
NR7J	Newmarket Road	12436	3	13546	3	13785	3	5
EW3	Elizabeth Way	13698	2	14824	2	15064	2	48

EW5J	Elizabeth Way	13698	2	14824	2	15064	2	5
EWR1	Elizabeth Way	13698	3	14824	3	15064	3	32
EWR2	Elizabeth Way	13698	3	14824	3	15064	3	32
EW6J	Elizabeth Way	13698	2	14824	2	15064	2	5
EW4	Elizabeth Way	13698	2	14824	2	15064	2	48
EWR3J	Elizabeth Way roundabout	13698	3	14824	3	15064	3	5
NR11J	Newmarket Road	12436	3	13546	3	13785	3	5
NR12	Newmarket Road	12436	3	13546	3	13785	3	32
NR13J	Newmarket Road	12436	3	13546	3	13785	3	5
NR14J	Newmarket Road	12436	3	13546	3	13785	3	5
NR15	Newmarket Road	12436	3	13546	3	13785	3	32
NR16	Newmarket Road	12436	3	13546	3	13785	3	32
NR17J	Newmarket Road	12436	3	13546	3	13785	3	5
NR18Q	Newmarket Road	12436	3	13546	3	13785	3	32
NR19	Newmarket Road	12436	3	13546	3	13785	3	32
NR1	Newmarket Road	12436	3	13546	3	13785	3	32
NR2J	Newmarket Road	12436	3	13546	3	13785	3	5
NR3	Newmarket Road	12436	3	13546	3	13785	3	32
NR4J	Newmarket Road	12436	3	13546	3	13785	3	5

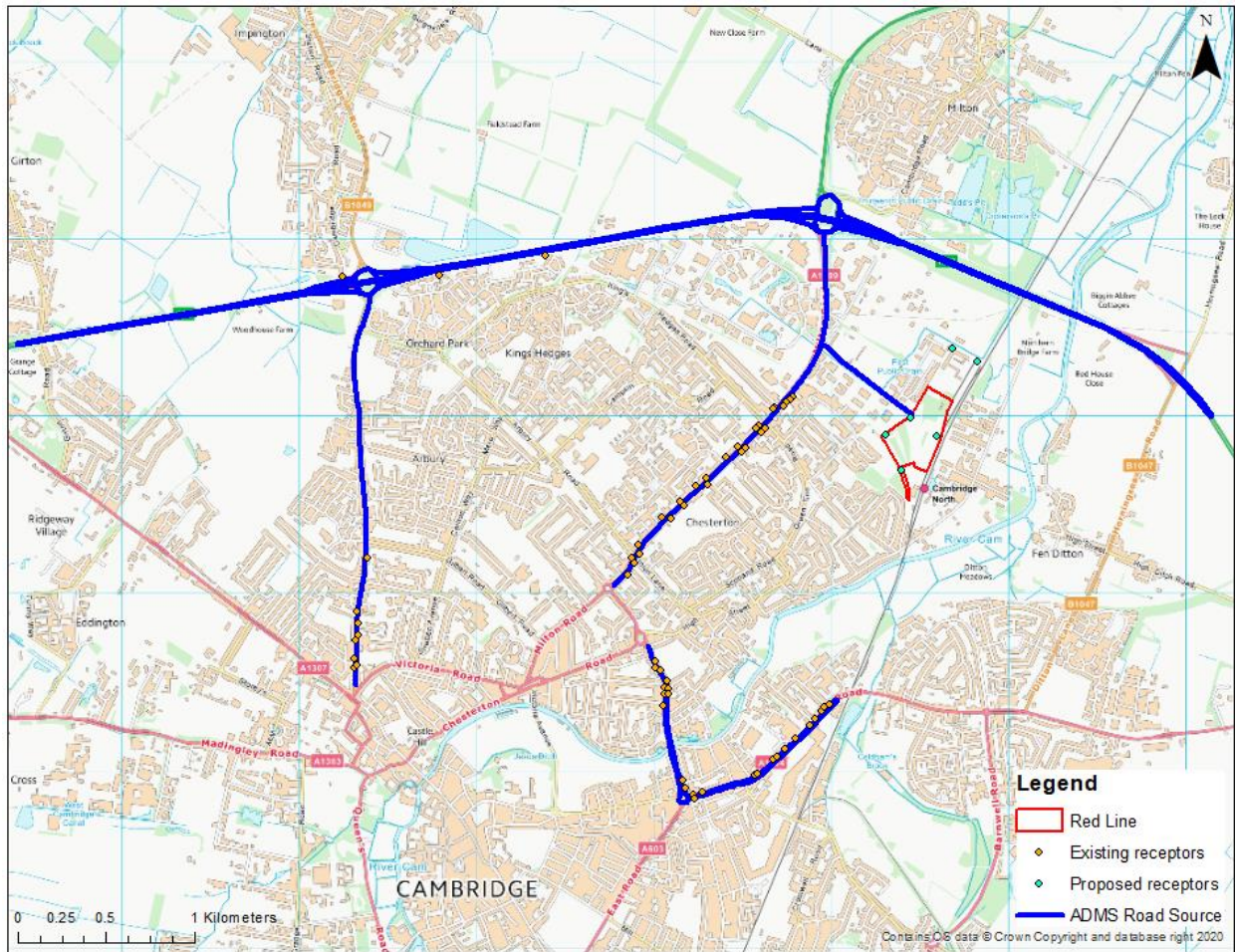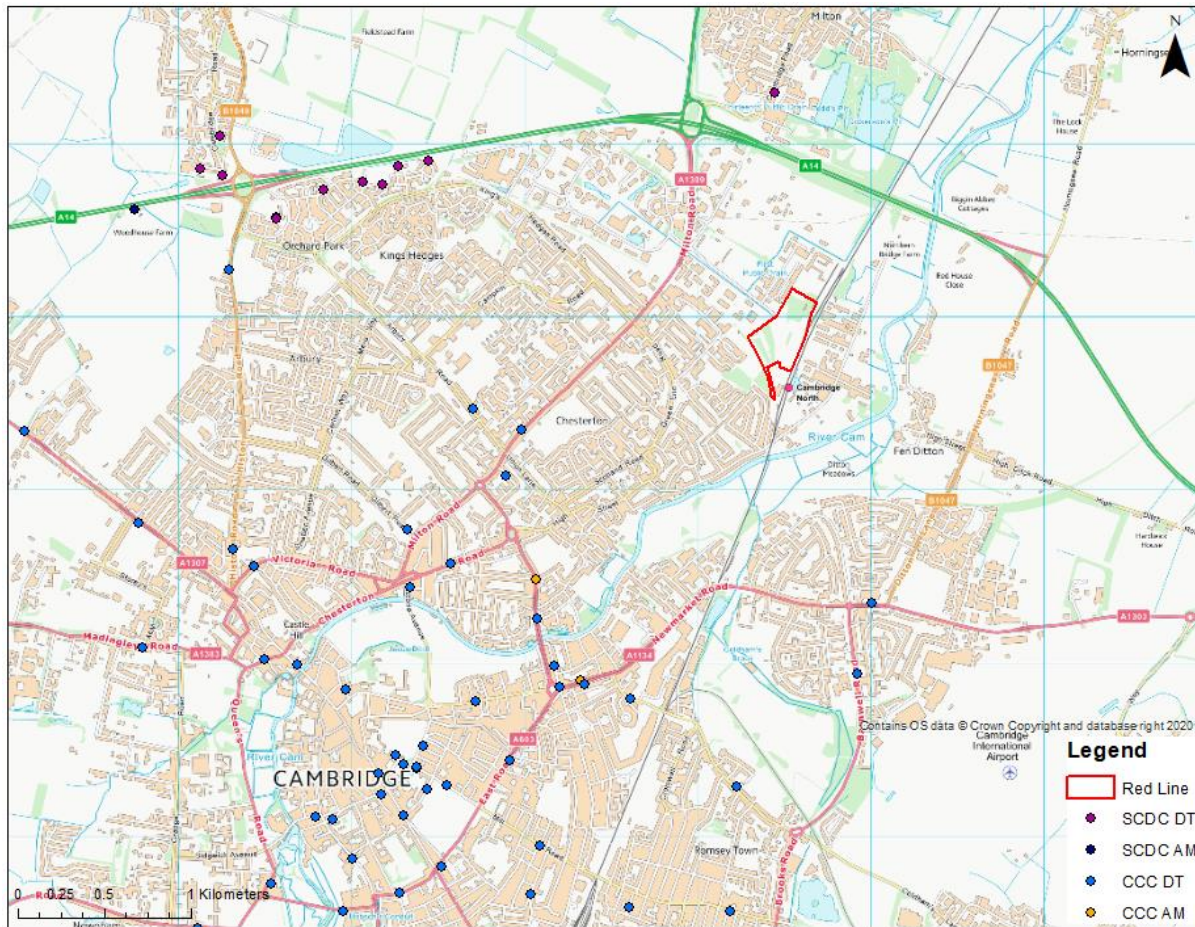**Figure B-1: Road Links and receptors included in the modelling assessment**

Figure B-2: Local authority monitoring locations in proximity to the Proposed Development

Vehicle Emissions Factors

The ADMS Roads model assesses the volume of pollutants generated along each stretch of modelled road based on inputted 'emissions factors' (g/km/s).

Defra's emissions factors toolkit was used to determine the emissions of NOx, PM10 and PM2.5 from construction and/ or operational traffic along the affected links. The England (not London) setting was selected, with reference to the 'Emissions Factors Toolkit v11.0 User Guide.'

Emissions factors appropriate to the modelled year (2019 or 2027) have been used.

Modelled Receptors

Sensitive existing receptors were selected at a range of locations (including worst-case ones) where members of the public are expected to be present and potentially regularly exposed to air pollutants. In addition, receptors were selected within the Proposed Development Site to assess whether future users may be exposed to poor ambient air quality when the Proposed Development is operational.

The assessment has assumed that all receptors at ground floor level are elevated to 1.5m, to represent the average breathing height for a human. Receptors named 'ER' are existing receptors, and receptors

named 'PR' are proposed receptors. Approximate addresses have been included in the receptor description, as the existing sensitive receptors modelled are residential properties.

Existing and future (new) sensitive receptors modelled are shown in **Figure B-1** and detailed in **Table B.2**, which also shows the AQOs which were applied at each location (as per the advice from TG16).

Table B.2: Receptors included in traffic air pollutant dispersion modelling

Receptor number	Receptor description (approximate)	Coordinates		AQS applied
		x (m)	y (m)	
ER1	454, Milton Road, Cambridge	546774.1	261112.8	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER2	450, Milton Road, Cambridge	546760.2	261095.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER3	446, Milton Road, Cambridge	546740.5	261077.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER4	440, Milton Road, Cambridge	546728.9	261055.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER5	361, Milton Road, Cambridge	546675.9	261054.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER6	359, Milton Road, Cambridge	546663.7	261042	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER7	412, Milton Road, Cambridge	546623.2	260933.1	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER8	351, Milton Road, Cambridge	546587.9	260951.2	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER9	347, Milton Road, Cambridge	546571.1	260936.9	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER10	400, Milton Road, Cambridge	546599.1	260910.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER11	384, Milton Road, Cambridge	546514.1	260825.4	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER12	376, Milton Road, Cambridge	546491.3	260802.8	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER13	317, Milton Road, Cambridge	546465.3	260829.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER14	301, Milton Road, Cambridge	546403	260770.1	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER15	249, Milton Road, Cambridge	546286.9	260655.9	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER16	322, Milton Road, Cambridge	546300	260614.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER17	237, Milton Road, Cambridge	546233.9	260605.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER18	217, Milton Road, Cambridge	546143.6	260523.4	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER19	284, Milton Road, Cambridge	546166.1	260494.3	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER20	268, Milton Road, Cambridge	546089.2	260424.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER21	Milton Arms, Milton Road, Cambridge	546041.3	260429.1	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER22	189, Milton Road, Cambridge	545904.1	260274	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER23	220, Milton Road, Cambridge	545916.5	260225.2	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER24	145, Milton Road, Cambridge	545865.9	260203	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER25	214, Milton Road, Cambridge	545885	260171.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER26	204, Elizabeth Way, Cambridge	545848.9	260106.8	Annual mean NO_2, PM_{10} and $PM_{2.5}$

Receptor number	Receptor description (approximate)	Coordinates		AQS applied
		x (m)	y (m)	
ER27	56, Elizabeth Way, Cambridge	545999.6	259620	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER28	51, Elizabeth Way, Cambridge	546000.5	259585.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER29	36, Elizabeth Way, Cambridge	546029.3	259570.3	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER30	24, Elizabeth Way, Cambridge	546065.1	259507.4	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER31	35, Elizabeth Way, Cambridge	546056	259470.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER32	14, Elizabeth Way, Cambridge	546075	259463.3	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER33	21, Elizabeth Way, Cambridge	546053.9	259432.8	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER34	4, Elizabeth Way, Cambridge	546072.7	259432.3	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER35	15, Elizabeth Way, Cambridge	546049.6	259366	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER36	19, Abbey Road, Cambridge (rear façade)	546155.9	258946.8	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER37	5, Abbey Road, Cambridge (rear façade)	546170.8	258903.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER38	123, Newmarket Road, Cambridge	546215.4	258869.1	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER39	110, Newmarket Road, Cambridge	546224.6	258845.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER40	139, Newmarket Road, Cambridge	546270	258882.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER41	231, Newmarket Road, Cambridge	546561.1	258976.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER42	245, Newmarket Road, Cambridge	546575.8	258985.3	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER43	275, Newmarket Road, Cambridge	546662.9	259063.2	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER44	297, Newmarket Road, Cambridge	546685.5	259084.1	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER45	337, Newmarket Road, Cambridge	546736.1	259127.9	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER46	351, Newmarket Road, Cambridge	546794.1	259184.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER47	415, Newmarket Road, Cambridge	546870.5	259259.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER48	429, Newmarket Road, Cambridge	546905.5	259293.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER49	451, Newmarket Road, Cambridge	546941.2	259338.8	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER50	463, Newmarket Road, Cambridge	546954.4	259357.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER51	469, Newmarket Road, Cambridge	546980.7	259379	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER52	41, Histon Road, Cambridge	544304.6	259584.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER53	58, Histon Road, Cambridge	544319.7	259600.4	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER54	51, Histon Road, Cambridge	544305.7	259632.2	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER55	95, Histon Road, Cambridge	544308	259735.9	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER56	92, Histon Road, Cambridge	544326	259770.4	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER57	116, Histon Road, Cambridge	544328.2	259833.1	Annual mean NO_2, PM_{10} and $PM_{2.5}$

Receptor number	Receptor description (approximate)	Coordinates		AQS applied
		x (m)	y (m)	
ER58	145, Histon Road, Cambridge	544315.9	259899.4	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER59	224, Histon Road, Cambridge	544376.2	260200	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER60	17, Flack End, Cambridge	545384.7	261904.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER61	7, Spindle Close, Cambridge	544784.1	261797.2	Annual mean NO_2, PM_{10} and $PM_{2.5}$
ER62	76, Cambridge Road, Cambridge	544235.9	261789.7	Annual mean NO_2, PM_{10} and $PM_{2.5}$
PR2	Midway point of south-west boundary of Proposed Development	547408.8	260704.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
PR3	South-western most point of Proposed Development	547300	260906.9	Annual mean NO_2, PM_{10} and $PM_{2.5}$
PR4	North-western most point of Proposed Development	547679.2	261381.6	Annual mean NO_2, PM_{10} and $PM_{2.5}$
PR5	North-eastern most point of Proposed Development	547819.4	261307.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
PR6	Midway point of eastern boundary of Proposed Development	547591.9	260889.5	Annual mean NO_2, PM_{10} and $PM_{2.5}$
PR7	Midway point of western boundary of Proposed Development	547443.4	260995	Annual mean NO_2, PM_{10} and $PM_{2.5}$

Meteorological data

This study used 2019 meteorological data from Cambridge Airport, which is considered a suitable, representative site. The wind rose (showing the wind direction and speed) for each year of meteorological data used are set out in **Figure B.2**.

Figure B.2: Wind rose from the Cambridge Airport meteorological station during 2019
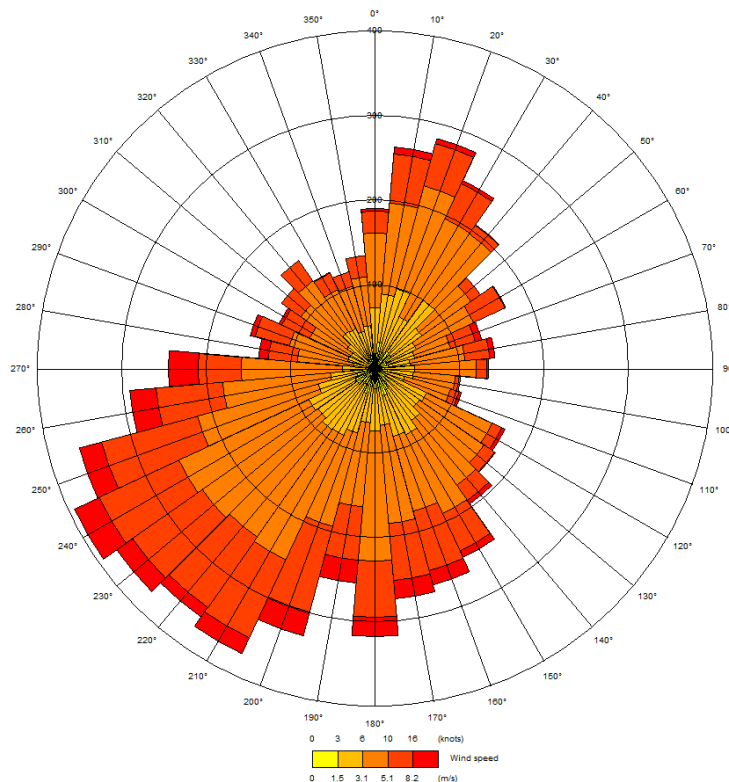
Background Concentrations

The total concentration of a pollutant comprises those from the modelled local emission sources and background pollutant concentrations, which are transported into an area by the wind from further away.

The concentration applicable to the assessed year and 1km2 grid within which each receptor is located has been applied.

The annual mean NO2, PM10 and PM2.5 concentrations applied (following adjustment) at each of the receptor locations is shown in **Table B.3**.

Table B.3: Background annual mean NO$_2$, PM$_{10}$ and PM$_{2.5}$ concentrations applied at each of the modelled receptor locations

Scenario	1km^2 grid square	NO$_2$ (μg/m^3)	PM$_{10}$ (μg/m^3)	PM$_{2.5}$ (μg/m^3)
S1 (2019)	546500, 261500	15.99	15.95	10.55
	546500, 260500	12.68	15.76	10.54
	545500, 260500	12.35	15.66	10.40
	545500, 259500	13.95	15.59	10.36
	546500, 259500	14.44	15.68	10.38
	546500, 258500	14.28	16.24	10.81
	544500, 259500	14.65	15.76	10.35
	544500, 260500	11.82	15.70	10.34
	545500, 261500	14.21	17.49	11.21
	544500, 261500	14.68	17.80	11.10
	547500, 260500	11.67	14.88	9.88
	547500, 261500	14.30	16.27	10.48
S2 + S3 (2027)	546500, 261500	12.63	14.73	9.57
	546500, 260500	9.76	14.53	9.59
	545500, 260500	9.55	14.43	9.45
	545500, 259500	10.85	14.35	9.40
	546500, 259500	11.24	14.43	9.42
	546500, 258500	11.22	14.97	9.83
	544500, 259500	11.55	14.52	9.39
	544500, 260500	8.98	14.48	9.40
	545500, 261500	10.30	16.26	10.24
	544500, 261500	10.09	16.58	10.13
	547500, 260500	9.04	13.67	8.93
	547500, 261500	10.56	15.07	9.51

Summary of additional model inputs

A summary of the additional parameters considered in the dispersion modelling study are outlined in **Table B.4** below.

Table B.4: Summary of additional model input parameters

Parameter	Input into model
Road elevation	No terrain file used.
Road width	Road widths determined based on approximate measurement of roads using online measurement tools.
Surface roughness	A value of 0.5 at the dispersion site and 0.2 at the meteorological site.
Monin-Obukhov length	Assumed to be 100m at the site (representative of large conurbations). Was set to 30m at meteorological data site.

Model verification

Model verification refers to checks that are carried out on model performance in relation to roads modelling at a local level. Modelled concentrations are compared with the results of local monitoring and, where there is a disparity between modelled and monitored concentrations, an adjustment may be applied to the final model output.

Model verification for NO_2 was undertaken for this assessment using 2019 data monitored at various roadside diffusion tubes across the study area, falling under the jurisdiction of both South Cambridgeshire District Council (SCDC) and Cambridge City Council (CCC). Due to the size of the study area, it was decided to apply different verification factors in different areas of the study area. It was decided to calculate a verification factor for the Cambridge City AQMA, the former A14 Corridor AQMA (which was revoked by SDSC during 2021 or 2022), as well as another separate verification factor for outside of the AQMAs.

Model verification for PM_{10} and $PM_{2.5}$ was undertaken using the NO_x verification factor. This approach is recommended in TG16 where there are no suitable 'roadside' verification sites within the vicinity of the Proposed Development site.

Tables B.5, B.6 and B.7 below summarises the comparison of monitored versus modelled NOx concentrations at the diffusion tube used for model verification and assessment purposes. The monitored road NO_x was calculated by converting roadside NO_2 (i.e. monitored NO_2 – background NO_2) to NOx using the latest version of the NO_x to NO_2 calculator.

In the A14 Corridor AQMA, the model was found to be significantly overpredicting modelled concentrations and so an adjustment factor of 1 was used in this area.

Table B.5: Verification Table for NO_x in former A14 Corridor AQMA

Characteristic of verification	SCDC Verification Location		
	DT22	**IMP**	**DT15**
Monitored total NO_2 (µg/m³)	15.9	16	18.5
Background NO_2 (µg/m³)	14.21	13.58	14.68
Modelled road contribution NO_x (µg/m³)	8	23.82	9.7
Monitored road contribution NO_x (µg/m³)	3.12	4.47	7.13
Monitored NO_x / Modelled NO_x (Correction Factor)	**0.39**	**0.19**	**0.74**

In the Cambridge City AQMA, the model was found to be slightly underpredicting pollutant concentrations, and so a verification factor of 1.2011 has been applied to receptors within this AQMA.

Table B.6: Verification Table for NO_x in Cambridge City AQMA

Characteristic of verification	CCC Verification Location		
	CM2	DT20	DT7
Monitored total NO_2 ($\mu g/m^3$)	22	26	31
Background NO_2 ($\mu g/m^3$)	14.44	14.44	14.28
Modelled road contribution NO_x ($\mu g/m^3$)	14.78	16.11	26.96
Monitored road contribution NO_x ($\mu g/m^3$)	14.21	22.1	32.67
Monitored NO_x / Modelled NO_x (Correction Factor)	**0.96**	**1.37**	**1.21**

Outside of the two AQMAs in the study area, the model was found to be very slightly overpredicting pollutant concentrations, by a factor of 0.94, and as such this was rounded to 1 and a factor of 1 applied to receptors outside of the AQMAs.

Table B.7: Verification Table for NO_x outside AQMAs

Characteristic of verification	CCC Verification Location		
	DT2	DT24	DT8
Monitored total NO_2 ($\mu g/m^3$)	21	25	18
Background NO_2 ($\mu g/m^3$)	14.68	14.65	12.35
Modelled road contribution NO_x ($\mu g/m^3$)	13.83	17.93	13.84
Monitored road contribution NO_x ($\mu g/m^3$)	11.83	19.7	10.45
Monitored NO_x / Modelled NO_x (Correction Factor)	**0.86**	**1.10**	**0.76**

Post-processing of results

At each receptor, the following method was used to estimate total annual mean pollutant concentrations:
- Modelled road NO_x, PM_{10} and $PM_{2.5}$ concentrations were adjusted (as part of model verification) using the method set out above and as per TG16;

- The road source NO_2 at each receptor was estimated from the modelled NO_x concentration using version 8.1 of the NOx to NO_2 calculator; and,

- Adjusted annual mean road NO_2, PM_{10} and $PM_{2.5}$ concentrations were added to the applicable background, shown in **Table B.3**.

According to the EPUK-IAQM guidance, the 24-hour mean PM_{10} AQO will not be exceeded unless the annual mean PM_{10} AQO exceeds ~32$\mu g/m^3$. TG16 indicates that exceedances of the hourly mean NO_2 AQO should not be excepted if annual mean NO_2 concentrations are below 60$\mu g/m^3$. These criteria have been used to determine whether the Proposed Development is likely to expose receptors into an area where the relevant short-term AQOs may be exceeded.