Dundee City Council

S-Paramics Air Quality Modelling Study
Lochee Road Area

April 2016

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Executive Summary

Bureau Veritas have been commissioned by Dundee City Council to undertake air quality dispersion modelling studies to predict annual mean concentrations of NO_2 and PM_{10} for three areas of Dundee (Forfar, Lochee and Stannergate) identified by the Council. This report and associated results file focus on the Lochee Road area of Dundee. Separate reports have been produced for the Stannergate and Forfar areas.

The Council commissioned SIAS to develop a S-Paramics traffic micro-simulation model for the study areas to simulate real-time behaviour of vehicles on the roads in the study areas. The output from the S-Paramics model was then processed using the Analysis of Instantaneous Road Emissions (AIRE) model to produce hourly emissions of NO_x and PM_{10}. The emissions from AIRE have then been inputted into an ADMS-Roads dispersion model to predict the pollutant concentrations at sensitive receptors.

In line with those detailed in SIAS report “Lochee Road S-Paramics Model”, the following scenarios have been assessed:

- 2012 Base (BC);
- Scenario 1 (SC1) – Assessment of Cleghorn Street Closure;
- Scenario 3 (SC3) – Scenario assessing the potential impact should the bus fleet in the Lochee Road modelled area be entirely made up of Euro Class V vehicles; and
- Scenario 4 (SC4) – Scenario assessing the potential impact should the bus fleet in the Lochee Road modelled area be entirely made up of Euro Class VI vehicles.

The traffic data was provided by SIAS in the form of hourly exhaust emissions of NO_x and PM_{10} for each of the modelled links split between different vehicle types. PM_{10} contributions from brake, tyre wear and road abrasion were calculated by entering the number of vehicles on each road link (as output from S-Paramics) for each hour into the Emissions Factor Toolkit (EFT) v6.0.2.

Annual mean concentrations of NO_2 and PM_{10} were predicted at 1,809 specific receptors across the modelled area representing relevant public exposure, located at the façade of properties. Of these 1,809 receptors, 1,029 were at ground floor level (1.5m height), 279 were at 1st floor level (4.5m height), 268 were at 2nd floor level (7.5m height), 227 were at 3rd floor level (10.5m height) and 6 were at 4th floor level (13.5m).

Of the 1,029 receptors at ground floor level (1.5m), a maximum of 30 were predicted to exceed the 40µg/m^3 AQO for NO_2 in any of the four scenarios. Of the 279 receptors at 1st floor level (4.5m), a maximum of 5 were predicted to exceed the 40µg/m^3 AQO for NO_2 in any of the four scenarios. There were no exceedences predicted at 2nd (7.5m), 3rd (10.5m) or 4th (13.5m) floor levels in any of the four scenarios.

Two receptors (911 and 923 - located on Lochee Road near to the junction with Mitchell Street) were predicted to exceed the NO_2 hourly mean AQO in BC and SC1, based on the 60µg/m^3 criteria outlined in LAQM.TG(09). The NO_2 hourly mean AQO was expected to be met at all modelled receptors in SC3 and SC4.

According to EPUK guidance, in relation to the annual mean AQO for NO_2, implementation of SC1 would result in a negligible impact at 1,753 receptors, a slight beneficial impact at 20 receptors, a moderate beneficial impact at 5 receptors and a substantial beneficial impact at 1 receptor. A slight adverse impact was predicted at 30 receptors as a result of SC1 in relation to the annual mean AQO for NO_2.

According to EPUK guidance, in relation to the annual mean AQO for NO_2, implementation of SC3 would result in a negligible impact at 1,738 receptors, a slight beneficial impact at 37 receptors, a moderate beneficial impact at 33 receptors and a substantial beneficial impact at 1 receptor. Adverse impacts were not predicted at any receptors as a result of SC3 in relation to the annual mean AQO for NO_2.

According to EPUK guidance, in relation to the annual mean AQO for NO_2, implementation of SC4 would result in a negligible impact at 1,680 receptors, a slight beneficial impact at 76 receptors, a moderate beneficial impact at 28 receptors and a substantial beneficial impact at 25 receptors. Adverse impacts were not predicted at any receptors as a result of SC4 in relation to the annual mean AQO for NO_2.

Of the 1,809 receptors at ground floor level (1.5m), a maximum of 9 were predicted to exceed the 18µg/m^3 annual mean AQO for PM_{10} in any of the four scenarios. There were no exceedences predicted at 1st (4.5m), 2nd (7.5m), 3rd (10.5m) or 4th (13.5m) floor levels in any of the four scenarios.

The PM_{10} 24-hour mean AQO was expected to be met at all modelled receptors in all four scenarios.

According to EPUK guidance, in relation to the annual mean AQO for PM_{10}, implementation of SC1 would result in a negligible impact at 1,804 receptors and a slight beneficial impact at 4 receptors. A slight adverse impact was predicted at 1 receptor as a result of SC1 in relation to the annual mean AQO for PM_{10}.

According to EPUK guidance, in relation to the annual mean AQO for PM_{10}, implementation of SC3 would result in a negligible impact at 1,787 receptors and a slight beneficial impact at 22 receptors. Adverse impacts were not predicted at any receptors as a result of SC3 in relation to the annual mean AQO for PM_{10}.

According to EPUK guidance, in relation to the annual mean AQO for PM_{10}, implementation of SC4 would result in a negligible impact at 1,785 receptors, a slight beneficial impact at 15 receptors and a moderate beneficial impact at 9 receptors. Adverse impacts were not predicted at any receptors as a result of SC4 in relation to the annual mean AQO for PM_{10}.

A source apportionment study for the BC scenario found that Cars were found to account for the highest proportion of road NO_x, road NO_2 and road PM_{10} concentrations when results were averaged across all modelled receptors, and when averaged across receptors with NO_2 concentration greater than 40µg/m^3. Cars were also found to account for the greatest proportion of road NO_x, NO_2 and PM_{10} at the receptor with the maximum road pollutant concentration.

The number of people predicted to be exposed to potential exceedences of the annual mean NO_2 and PM_{10} in the area covered by the Lochee Road model for the BC scenario, is estimated to be 122 and 51 respectively.

Full results for all modelled receptors can be found in the MS Excel file, which accompanies this report (Lochee Results_submitted_V4.xlsx).

1 Introduction

1.1 Scope of Study

The Review and Assessment of air quality undertaken by Dundee City Council (the Council) as part of the Local Air Quality Management (LAQM) regime has identified widespread exceedences of the Air Quality Strategy (AQS) Air Quality Objectives (AQOs) for nitrogen dioxide (NO_2) and particulate matter (PM_{10}). In July 2006 the Council declared the entire of Dundee city centre as an Air Quality Management Area (AQMA) in relation to the annual mean AQO for NO_2. This AQMA declaration was subsequently modified in October 2010 to include PM_{10} and the hourly mean for NO_2 in March 2013.

The Council identified three areas of the city (Forfar Road, Lochee Road and Stannergate), in which elevated concentrations of NO_2 and PM_{10} had been recorded. In order to better understand the extents of the areas of exceedences, the Council wished for a detailed air quality dispersion modelling study to be undertaken.

It is hoped that in addition to providing baseline concentrations, the modelling would be able to predict impacts from major projects being undertaken in Dundee, including:

- Impacts of the Port of Dundee expansion, which will impact traffic on the local road network; and
- Impacts from schemes being considered by the Council's Transport department, considering various route and traffic management options.

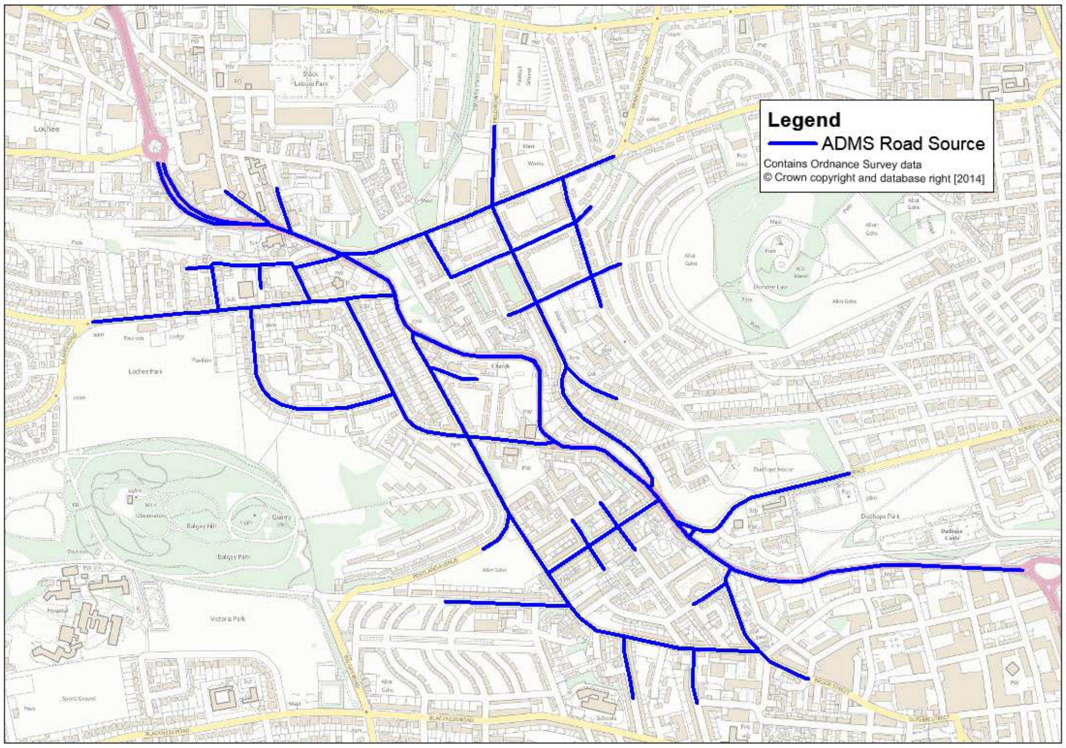
The Council intends this study to inform the air quality impacts of various traffic management options in order to assess the implications for compliance with the AQOs and the requirements for mitigation.

The Council commissioned SIAS to develop a S-Paramics traffic micro-simulation model for the study areas to simulate real-time behaviour of vehicles on the roads in the study areas. The output from the S-Paramics model was then processed using the Analysis of Instantaneous Road Emissions (AIRE) model to produce hourly emissions of NO_x and PM_{10}. The emissions from AIRE have then been used in ADMS-Roads to predict the pollutant concentrations at sensitive receptors.

Bureau Veritas has therefore been commissioned by Dundee City Council to undertake air quality dispersion modelling studies to predict annual mean concentrations of NO_2 and PM_{10} for the three areas of Dundee identified by the Council, under baseline conditions, and under a variety of development and intervention scenarios.

This report and the associated results file focus on the Lochee Road area of Dundee. Separate reports have been produced for the Stannergate and Forfar areas. The area considered in this report is illustrated in Figure 1.

Figure 1 - Modelled Area



2 Air Quality – Legislative Context

2.1 Air Quality Strategy

The importance of existing and future pollutant concentrations can be assessed in relation to the national air quality standards and objectives established by Government. The Air Quality Strategy[1] (AQS) provides the over-arching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the UK Government and Devolved Administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from Limit Values prescribed in the EU Directives transposed into national legislation by Member States.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The CAFE Directive[2] has been adopted and replaces all previous air quality Directives, except the 4th Daughter Directive[3]. The Directive introduces new obligatory standards for $PM_{2.5}$ for Government but places no statutory duty on local government although Scottish Government have brought in a new $PM_{2.5}$ standard for Scottish local authorities through the Air Quality (Scotland) Amendment Regulations 2016 which introduces (from 1 April 2016) a $PM_{2.5}$ annual mean standard of $10µg/m^3$ for Scottish local authorities to work towards achieving.

The Air Quality Standards (Scotland) Regulations[4] 2010 came into force on 11 June 2010 in order to align and bring together in one statutory instrument the Government's obligations to fulfil the requirements of the new CAFE Directive.

The objectives for ten pollutants – benzene (C_6H_6), 1,3-butadiene (C_4H_6), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), sulphur dioxide (SO_2), particulate matter - PM_{10} and $PM_{2.5}$, ozone (O_3) and Polycyclic Aromatic Hydrocarbons (PAHs), have been prescribed within the AQS[2].

The EU Limit Values are considered to apply everywhere with the exception of the carriageway and central reservation of roads and any location where the public do not have access (e.g. industrial sites).

Guidance from the UK Government and Devolved Administrations makes clear that exceedences of the health based objectives should be assessed at outdoor locations where members of the general public are regularly present over the averaging time of the objective. Table 1 taken from LAQM.TG(09)[5] provides an indication of those locations that may or may not be relevant for each averaging period.

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[1] The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland

[2] Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe.

[3] Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air.

[4] The Air Quality Standards Regulations (England) 2010, Statutory Instrument No 1001, The Stationary Office Limited.

[5] LAQM Technical Guidance LAQM.TG(09) - February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

Table 1 – Examples of where the Air Quality Objectives should apply

Averaging Period	Objectives should apply at:	Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed Building facades of residential properties, schools, hospitals, care homes etc.	Building facades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
24-hour mean and 8-hour mean	All locations where the annual mean objectives would apply, together with hotels Gardens or residential properties[1]	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives would apply. Kerbside sites (e.g. pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where the public might reasonably be expected to spend one hour or more. Any outdoor locations at which the public may be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15-minute mean	All locations where members of the public might reasonably be expected to spend a period of 15 minutes or longer.	

Note [1] For gardens and playgrounds, such locations should represent parts of the garden where relevant public exposure is likely, for example where there is seating or play areas. It is unlikely that relevant public exposure would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied.

This assessment focuses on NO_2 and PM_{10} as these are the pollutants of most concern within the Council's administrative area, given monitored exceedences. Moreover, as a result of traffic pollution the UK has failed to meet the EU Limit Values for this pollutant by the 2010 target date. As a result, the Government has had to submit time extension applications for compliance with the EU Limit Values. Continued failure to achieve these limits may lead to EU fines. The AQOs for NO_2 and PM_{10} are presented in Table 2. Further details regarding the effects of NO_2 and PM_{10} can be found in Appendix 1.

Table 2 – Relevant AQOs for the Assessed Pollutants in Scotland

Pollutant	AQO	Concentration Measured as:	Date for Achievement
Nitrogen Dioxide (NO_2)	200µg/m³ not to be exceeded more than 18 times per year	1-hour mean	31 December 2005
	40µg/m³	Annual mean	31 December 2005
Particulate Matter (PM_{10}) (gravimetric)	50µg/m³ not to be exceeded more than 7 times per year	24-hour mean	31 December 2005
	18µg/m³	Annual mean	31 December 2005

2.2 Local Air Quality Management (LAQM)

Part IV of the Environment Act 1995 places a statutory duty on local authorities to periodically Review and Assess the current and future air quality within their area, and determine whether they are likely to meet the AQOs set down by Government for a number of pollutants – a process known a Local Air Quality Management (LAQM). The AQOs that apply to LAQM are defined for seven pollutants: benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide and particulate matter.

Where the results of the Review and Assessment process highlight that problems in the attainment of health-based objectives for air quality will arise, the authority is required to declare an Air Quality Management Area (AQMA) – a geographic area defined by high concentrations of pollution and exceedences of health-based standards.

Where an authority has declared an AQMA, and development is proposed to take place either within or near the declared area, further deterioration to air quality resulting from a proposed development can be a potential barrier to gaining consent for the development proposal. Similarly, where a development would lead to an increase of the population within an AQMA, the protection of residents against the adverse long-term impacts of exposure to existing poor air quality can provide the barrier to consent. As such, following an increased number of declarations across the UK, it has become standard practice for planning authorities to require an air quality assessment to be carried out for a proposed development (even where the size and nature of the development indicates that a formal Environmental Impact Assessment (EIA) is not required).

One of the objectives of the LAQM regime is for local authorities to enhance integration of air quality into the planning process. Current LAQM Policy Guidance[6] clearly recognises land-use planning as having a significant role in terms of reducing population exposure to elevated pollutant concentrations. Generally, the decisions made on land-use allocation can play a major role in improving the health of the population, particularly at sensitive locations – such as schools, hospitals and dense residential areas.

[6] LAQM Policy Guidance LAQM.PG(09) - February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

3 Review and Assessment of Air Quality Undertaken by the Council

3.1 First and Second Rounds of Review and Assessment

The First and Second Rounds of air quality Review and Assessment for the Council concluded that exceedences of the annual mean objective for NO_2 were likely as a result of traffic sources in Dundee City Centre, especially in the following areas:

- Seagate;
- Nethergate / Marketgait Junction;
- Dock Street;
- Commercial Street;
- Victoria Road / Hilltown / Meadowside Junction;
- Lochee Road / Rankine Street Junction;
- Lochee Road / Dudhope Junction; and
- Logie Street / Loons Road Junction.

Following the detailed modelling of NO_2 and PM_{10} concentrations in Dundee in 2005, the Council declared the whole of the City Centre as an AQMA for NO_2 in July 2006. The results of the 2005 Detailed Assessment were inconclusive for PM_{10} as there was insufficient confidence in verification of the modelled predictions for 2010. It was concluded that additional monitoring and modelling would be required to determine whether an AQMA for PM_{10} was required. The Scottish Environment Protection Agency (SEPA) and the Scottish Government accepted the conclusions of the Detailed Assessment and funded the expansion of the PM_{10} monitoring network. This included OSIRIS particulate monitoring in potential areas of exceedence, a new background site and a local gravimetric factor inter-comparison study.

3.2 Third Round of Review and Assessment

The Third Round of Review and Assessment started with the Updating and Screening Assessment (USA), completed in 2006. The USA showed that the monitored PM_{10} concentrations in Union Street exceeded the annual mean objective. However, this result was adversely influenced by major construction projects in the vicinity and may not have been truly representative of ambient concentrations present at this location.

The 2007 Annual Progress Report analysis of the 2006 monitoring data for NO_2 confirmed the need for continuance of the AQMA and development of an Action Plan. Two new areas of potential exceedence of the NO_2 annual mean were identified at the Kingsway/Forfar Road and Arbroath Road/Albert Street Junctions, which were considered in the 2009 Further Assessment.

The Council's 2006 monitoring results indicated exceedences of the PM_{10} annual mean objective at the following locations:

- Victoria Road / Hilltown Junction;
- Seagate;
- Logie Street; and

- Lochee Road.

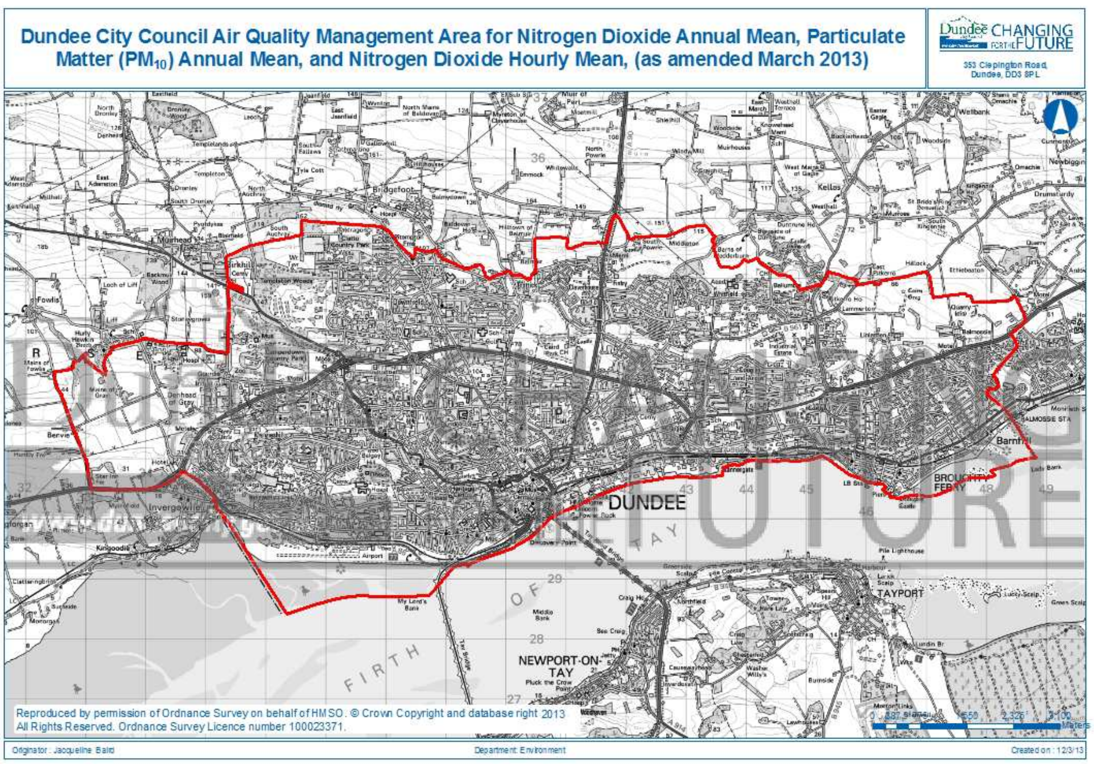
The 2006 PM_{10} monitoring results indicated that a Detailed Assessment of PM_{10} should be carried out. This Detailed Assessment, completed in 2009, modelled the areas identified as at risk, and confirmed the exceedences of the PM_{10} annual mean objective. Consequently, it was recommended that the Council declare an AQMA for PM_{10}.

The Further Assessment for the Dundee City AQMA for NO_2 was completed in November 2009[7]. The Further Assessment confirmed the need to maintain the AQMA for NO_2. It also confirmed significant exceedences of the PM_{10} annual mean objective. Based on the risk of exceedence the assessment confirmed that the Council should declare an AQMA for PM_{10}.

3.3 Fourth Round of Review and Assessment

The Fourth Round of Review and Assessment started with the USA 2009, which confirmed the risk of exceedence of the PM_{10} annual mean objective at a number of busy roadside sites. Accordingly, the existing AQMA, declared for NO_2 only, was varied on 25 October 2010 to include the PM_{10} annual mean objective. The AQMA is shown in Figure 2.

Figure 2 – Dundee City AQMA for NO_2 and PM_{10}



The Progress Reports 2010 and 2011 reviewed the 2009 and 2010 monitoring data and made the following conclusions:

- The PM_{10} annual mean objective was still being exceeded;

[7] Dundee City Council – LAQM Detailed and Further Assessment 2009 - BV/AQ/AGGX1347518 – November 2009

- The NO_2 annual mean objective was still exceeded in the AQMA. The monitoring data also identified a new area with potential exceedences in Strathmore Avenue;
- At some diffusion tubes, the NO_2 annual mean concentration was close to 60µg/m^3, which highlighted potential exceedence of the NO_2 1-hour mean objective. However, these tubes were not representative of public exposure. The Council decided to monitor at locations of relevant exposure to verify this; and
- At the Lochee Road automatic monitoring site, the number of NO_2 1-hour means above 200µg/m^3 was 23 and 67 in 2009 and 2010 respectively, whilst the objective only allows 18 exceedences. All these exceedences occurred during peak-hours on weekdays in winter. It was concluded that these were likely due to particularly cold weather, congestion and poor dispersion.

3.4 Fifth Round of Review and Assessment

The Fifth Round of Review and Assessment started with the USA 2012, which recommended the following actions:

- Take forward the amendment of the current AQMA order to include the NO_2 1-hour mean objective;
- Review the need to amend the AQMA order to include the PM_{10} 24-hour mean objective as more data becomes available;
- Review the results of additional monitoring installed at Kingsway–Myrekirk and Stannergate roundabouts as information becomes available;
- Review the NO_2 diffusion tube monitoring network in light of trends in monitoring results and new exposure; and
- Further investigate sources of biomass/solid fuel combustion in Dundee to enable appropriate screening, and report findings in subsequent LAQM reports as information becomes available.

3.5 Sixth Round of Review and Assessment

The Sixth Round of Review and Assessment started with the USA 2015. The 2015 USA concluded that no assessments of monitoring data or emission sources justify the need to proceed to a Detailed Assessment for any pollutant. Proposed actions arising from the 2015 USA are as follows:

- Review results of new diffusion tube sites installed on Coupar Angus Rd / Stirling St., West Marketgait /Old Mill, High Street - Lochee (22-24), Broughty Ferry Rd (129);
- Compare diurnal profiles of pollutant concentrations and traffic (where available), in particular for Lochee Road;
- Undertake further analysis of pollutant concentrations in Meadowside following the one year trialling of an Action Plan measure that extends the distance between the facades of ground floor flats and vehicle exhausts by reallocating road space to cycles;
- Review the remaining Dundee City Council traffic radar count data for the presence of relevant exposure to identify where new classified traffic counts or NO_2 diffusion tube monitoring may be needed;

- Review and assess updated traffic data from Department of Transport for 2014 when this becomes available in June 2015;
- Review the results of the Council's on-going air dispersion modelling projects for Kingsway/Forfar Road, Dundee Eastern Arterial Routes (including Stannergate Roundabout), North West arterial route (Lochee Road) and bus emissions in the city centre;
- Review the results of third party air quality monitoring and modelling study of the Kingsway/Myrekirk Road roundabout and associated road network;
- Carry out classified traffic counts on Coupar Angus Road, Lochee District Centre and South Union Street once new traffic flows and patterns become established;
- Investigate sources of biomass/solid fuel combustion in the local authority area to enable appropriate screening and report findings in subsequent LAQM reports as information becomes available; and
- Take forward the planned actions highlighted in the Action Plan Progress Report.

3.6 Council Monitoring Data

The Council operates 13 automatic air quality monitoring stations throughout Dundee which monitor NO_2 and/or PM_{10}. Table 3 shows the details of the six automatic monitoring locations which monitor NO_2, along with the recorded annual mean NO_2 concentrations for years 2012 to 2014.

Table 3 – LAQM Automatic NO_2 Monitoring Undertaken in the Council area – Annual Mean

Site	Site Name	Site Type	OS Grid Ref	Annual Mean NO_2 Concentration (µg/m^3)		
				2012	2013	2014
CM12	Mains Loan	Urban Background	340972, 731893	9.8	11.5	12.4
CM5	Seagate Romon	Roadside	340487, 731446	**47.6**	**55.0**	**54.5**
CM2	Union Street Rollalong	Roadside	340235, 730091	31.7	30.5	28.4
CM6	Whitehall Street Romon	Roadside	340278, 730156	**44.4**	**41.2**	**42.5**
CM14	Meadowside Romon	Roadside	340243, 730653	**53.9**	**49.1**	39.6
CM4	Lochee Road	Roadside	338861, 730773	**52.9**	**51.6**	**45.8**
In **Bold**, exceedence of the annual mean NO_2 AQS objective of 40µg/m^3						

Annual mean NO_2 concentrations have been observed to be above the 40µg/m^3 AQOs at the roadside sites CM4, CM5, CM6 and CM14 for almost all years from 2012 to 2014. The annual mean NO_2 concentration at the urban background site CM12 has been observed to be well below the AQO for all years from 2012 to 2014, with a maximum annual mean concentration of 12.4µg/m^3 occurring in 2014.

Table 4 shows the details of the twelve locations which monitor PM_{10}, along with the recorded annual mean PM_{10} concentrations for years 2012 to 2014.

Table 4 – LAQM Automatic PM_{10} Monitoring Undertaken in the Council area – Annual Mean

Site	Site Name	Site Type*	OS Grid Ref	Annual Mean PM_{10} Concentration ($\mu g/m^3$)		
				2012	2013	2014
CM3	Broughty Ferry Road Rollalong (TEOM)	UI	341970, 730977	14.2	15.9	14.7
CM13	Broughty Ferry Road (Partisol)	UI	341971, 730978	14.3	15.1	14.5
CM4	Lochee Road Romon (BAM)	RS	338861, 730773	16.5	17.9	**18.6**
CM9	Logie Street (Osiris)	KS	338176, 731298	**18.0**	16.5	16.1
CM12	Mains Loan (TEOM)	UB	340972, 731893	11.4	11.9	12.9
CM5	Seagate Romon (BAM)	RS	340487, 730446	14.1	16.0	17.7
CM2	Union Street Rollalong (BAM)	RS	340235, 730091	15.5	15.1	16.5
CM14	Meadowside Romon (BAM)	RS	340243, 730653	**18.6**	**18.6**	16.6
CM15	Albert Street (Osiris)	KS	341090, 731105	16.8	**18.3**	**21.4**
CM16	Broughty Ferry Road (Osiris)	UI	341970, 730977	13.4	15.0	14.6
CM17	Myrekirk (Osiris)	RS	335438, 731740	16.1	15.5	**18.3**
CM18	Stannergate (Osiris)	RS	343322, 731073	**19.9**	**24.5**	**26.7**

In **Bold**, exceedence of the annual mean PM_{10} AQO of 18µg/m^3
* UI = Urban Industrial, RS = Roadside, KS = Kerbside, UB = Urban Background

Annual mean PM_{10} concentrations have been observed to be above the 18µg/m^3 AQO for at least one year between 2012 and 2014 at the roadside sites CM4, CM14, CM17 and CM18 and the kerbside sites CM9 and CM15. The annual mean PM_{10} concentration at the urban background site CM12 has been observed to be below the AQO for all years from 2012 to 2014, with a maximum annual mean concentration of 12.9µg/m^3 occurring in 2014.

In addition to the automatic monitoring stations, the Council operates an extensive network of passive monitoring for NO_2 within the city. Recent monitoring results for the sites in the vicinity of the modelled area are shown in Table 5.

Table 5 – LAQM Diffusion Tube Monitoring undertaken for NO_2 in modelled area

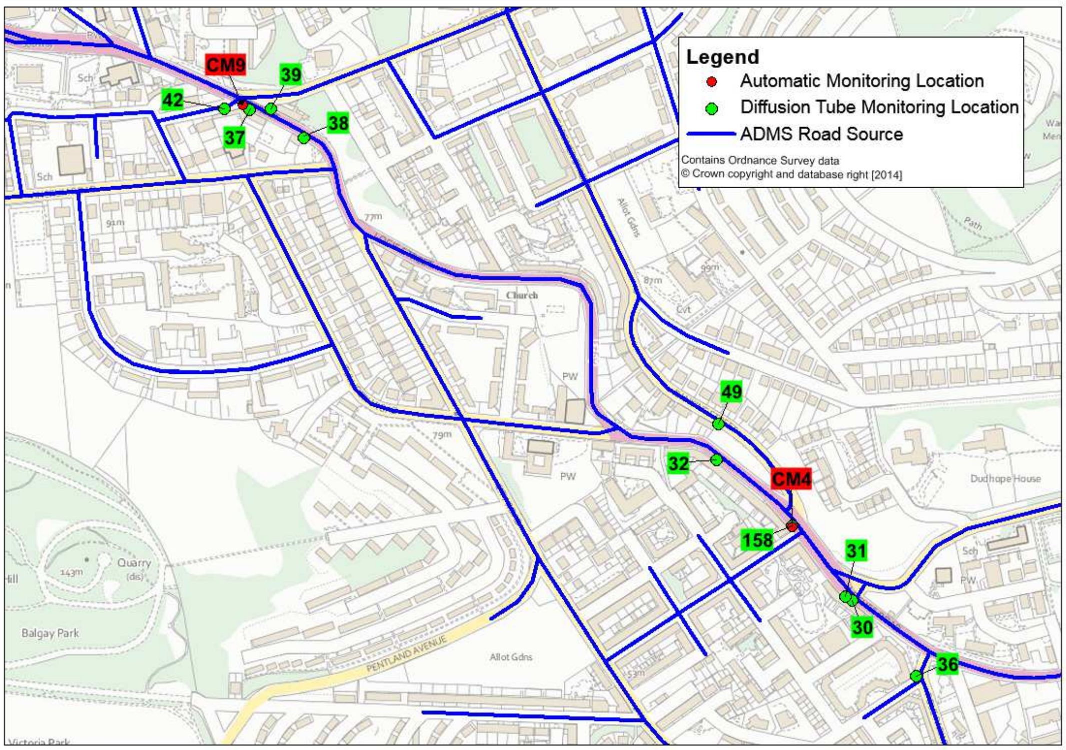
Site	Site Name	Site Type**	OS Grid Ref	Height (m)	Annual Mean NO_2 Concentration ($\mu g/m^3$)*		
					2012 (Bias 0.88)	2013 (Bias 0.87)	2014 (Bias 0.82)
30	LOCHEE RD (138)	KS	338936, 730680	2.8	**53.4**	**51.2**	**49.6**
31	LOCHEE RD (140) TRAFFIC LTS	RS	338927, 730685	2.6	**54.8**	**52.8**	**51.1**
32	LOCHEE RD (184)	KS	338767, 730856	2.4	37.6	36.1	34.4
36	LOCHEE RD/POLEPARK RD	KS	339016, 730586	2.7	31.8	29.6	28.9
37	LOGIE STREET (114)	RS	338184, 731293	2.7	**54.6**	**54.8**	**51.7**
38	LOGIE STREET (98)	KS	338252, 731258	2.6	34.5	37.5	33.1
39	LOONS ROAD (1)	RS	338211, 731293	2.7	**42.0**	**40.3**	39.1
42	MUIRTON ROAD (6)	RS	338152, 731293	2.5	27.2	30.0	29.2
49	RANKINE ST (2)	RS	338768, 730900	2.7	**44.4**	**40.1**	38.1
82	WOODSIDE AVE	UB	340776, 732307	2.6	16.2	15.4	14.9
146	MAINS LOAN	UB	340972, 731893	-	15.0	-	-
158	Lochee Road Romon (average)	RS	338861, 730773	2.0	**48.7**	**44.4**	**43.1**

In **bold**, exceedence of the annual mean NO_2 AQO of 40µg/m^3
* Bias Adjustment Factors listed with relevant year
** RS = Roadside, KS = Kerbside, UB = Urban Background

Annual mean NO_2 concentrations have been observed to be above the 40µg/m^3 AQO in 2012 at the roadside sites 30 (LOCHEE RD (138), 31 (LOCHEE RD (140) TRAFFIC LTS), 37 (LOGIE STREET (114)), 39 (LOONS ROAD (1)), 49 (RANKINE ST (2)) and 158 (Lochee Road Romon (average)).

Figure 3 shows the monitoring locations in the vicinity of the modelled road network. The monitoring locations are labelled to match the Site references given in Table 4 and Table 5.

Figure 3 – Local Monitoring Locations



3.7 Background Mapped Concentration Estimates

The Scottish Government hosts the Air Quality in Scotland website[8] which includes a nationwide model of existing and future background air quality concentrations at a 1km grid square resolution. The data sets include annual mean concentration estimates for NO_x, NO_2, PM_{10} and $PM_{2.5}$, using a base year of 2011. The model used is semi-empirical in nature; it uses the national atmospheric emissions inventory (NAEI) emissions to model-predict the concentrations of pollutants at the centroid of each 1km grid square, but then calibrates these concentrations in relation to actual monitoring data.

Annual mean background concentrations have been obtained from the Air Quality in Scotland website background maps[9] for consideration in the assessment, based on the 1km grid squares which cover the modelled area and the affected road network. The Air Quality in Scotland mapped background concentrations for 2012 are presented in Table 6.

[8] Air Quality in Scotland - http://www.scottishairquality.co.uk/

[9] http://www.scottishairquality.co.uk/data/mapping?view=data

Table 6 – Background Pollutant Concentrations (Air Quality in Scotland Background Maps)

Grid Square (E,N)	2012 Annual Mean Concentration (µg/m^3)		
	NO_x	NO_2	PM_{10}
337500, 731500	23.0	15.6	12.1
338500, 731500	22.1	15.1	12.2
339500, 731500	23.2	15.8	12.4
337500, 730500	16.8	11.8	11.2
338500, 730500	21.6	14.8	12.1
339500, 730500	27.6	18.4	12.9
AQS objective	**-**	***40.0***	***18.0***

These mapped background concentrations are all well below the respective annual mean AQOs.

3.8 Background Concentrations used in the Assessment

It is generally preferable to use background data from appropriate local monitoring where available and provided there is good data capture. Mapped concentrations are estimates of background pollution and include inherent errors associated with large scale modelling. LAQM.TG(09)[5] states that if mapped background concentrations are to be used, these should be "*compared against local monitoring data to confirm there is good agreement*".

Annual mean background concentrations for the pollutants of relevance to this assessment have therefore been derived using local monitoring data. The background NO_2 concentration applied to modelled receptors has been taken from the average of the two urban background diffusion tube sites 82 (WOODSIDE AVE) and 146 (MAINS LOAN), details of which are provided in Table 5. Both the background sites are located within 2km of the modelled road network and so are considered representative of background concentration values.

The background PM_{10} concentration applied to modelled receptors has been taken from the 2012 concentrations observed at the urban background TEOM site CM12 (Mains Loan). CM12 is located within 1.0km of the modelled road network and so represents suitable background concentrations.

These concentrations are summarised in Table 7. These background concentrations were applied to all receptor locations considered.

Table 7 - Background Concentrations Used in Assessment

	Background Concentration (µg/m^3)		
Pollutant	NO_x	NO_2	PM_{10}
Concentration	22.9	15.6	11.4
AQO	-	*40.0*	*18.0*

Whilst urban background sites are useful in providing an indication of background values, they are not useful for the purpose of model verification. Model verification has therefore been undertaken using only the kerbside and roadside sites listed in Table 5.

4 Assessment Methodology

To assess the impact of road traffic emissions on air quality and to quantify the impacts of the various modelled scenarios, the atmospheric dispersion model ADMS Roads version 3.4 was utilised, focusing on emissions of NO_x and PM_{10}.

In order to provide consistency with the Council's own work on air quality, the guiding principles for air quality assessments as set out in the latest guidance and tools provided by Defra for air quality assessment (LAQM.TG(09)[5]) have been used.

The approach used in this assessment has been based on the following:

- Prediction of ambient NO_2 and PM_{10} concentrations, to which existing receptors may be exposed and comparison with the relevant AQOs; and
- Determination of the geographical extent of any potential exceedences.

4.1 Traffic Inputs

The traffic data for this assessment has been provided by the Council's traffic consultant SIAS.

SIAS were commissioned to develop an S-Paramics model in 2013 for the Lochee Road area of Dundee. The project include the use of Analysis of Instantaneous Emissions (AIRE) program to enable outputs to be used in an air quality dispersion modelling study to predict concentrations at local receptors. The AIRE outputs enabled Dundee City Council to consider various options for future year development and junction alterations. Further details of the work undertaken by SIAS can be found in Lochee Road S-Paramics Model (SIAS Ref. TPDCCLAA/76999 March 2015)[10].

The traffic data was provided by SIAS in the form of hourly exhaust emissions of NO_x and PM_{10} for each of the modelled links split between different vehicle types. PM_{10} contributions from brake, tyre wear and road abrasion were calculated by entering the number of vehicles on each road link (as output from S-Paramics) for each hour into the Emissions Factor Toolkit (EFT) v6.0.2[11].

Tabulated Annual Average Daily Traffic (AADT) counts split between vehicles type and complete details of the road geometry assumed during the modelling are provided in the MS Excel file, which accompanies this report (Lochee Results_submitted_V4.xlsx). An ESRI shape file showing the location of the modelled road sources also accompanies this submission.

4.2 Assessment Scenarios

In line with those detailed in Lochee Road S-Paramics Model[10], the following scenarios have been considered:

- 2012 Base (BC) – Base case traffic developed using a single modelled period covering a full 24-hours in early 2013.
- Scenario 1 (SC1) – Cleghorn Street Closure, SC1 assessed the impacts of the closure of Cleghorn Street between Benvie Road and the A923 Lochee Road as illustrated in Figure 2.1 of Lochee Road S-Paramics Model[10].
- Scenario 3 (SC3) – Scenario assessing the potential impact should the bus fleet in the Lochee Road modelled area be entirely made up of Euro Class V vehicles.

[10] Lochee Road S-Paramics Model (SIAS Ref. TPDCCLAA/76999 March 2015)

[11] Emission Factor Toolkit, Version 6.0.2, November 2014 – Available athttp://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft

- Scenario 4 (SC4) – Scenario assessing the potential impact should the bus fleet in the Lochee Road modelled area be entirely made up of Euro Class VI vehicles. Traffic inputs for SC4 were not provided by SIAS due to the inherent limitation of AIRE not including emissions for Euro VI vehicles. Euro VI Bus exhaust emissions for SC4 were calculated using the EFT.

Scenario 2 (SC2) aimed to consider the possible optimisation and coordination of each signal controlled junction along the Lochee Road corridor. This scenario was based on the assumption that each signal controlled junction operated in isolation and that coordination between each junction would provide operational benefits.

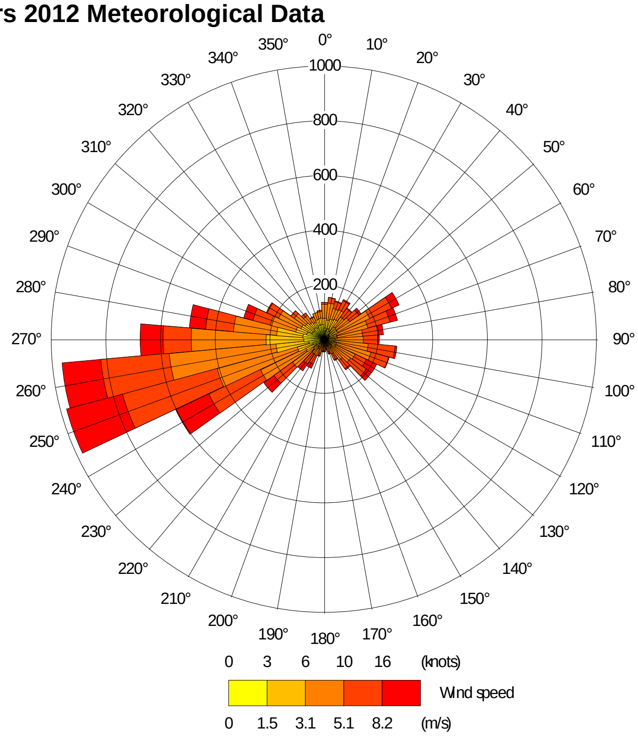
Further investigation, and through the development of the base network, found that the signal system was controlled by Urban Traffic Control (UTC) and so each signal controlled junction along the corridor operated each stage sequence at specific times throughout the day, and each stage operated within predefined limits.

The S-Paramics model was found to demonstrate a good representation of the UTC system currently in place and good operational progression between each junction. Any further benefits to the system were shown to be limited within the scope of this exercise. The Council were made aware of this in April 2014, when it was agreed that SC2 would not be progressed any further. Therefore, no air quality modelling work has been undertaken for SC2 as part of this study.

4.3 Meteorological Data

2012 meteorological data from Leuchars weather station, located approximately 13km to the south, has been used in this assessment. A wind rose for this site for the year 2012 is shown in Figure 4.

Figure 4 – Leuchars 2012 Meteorological Data

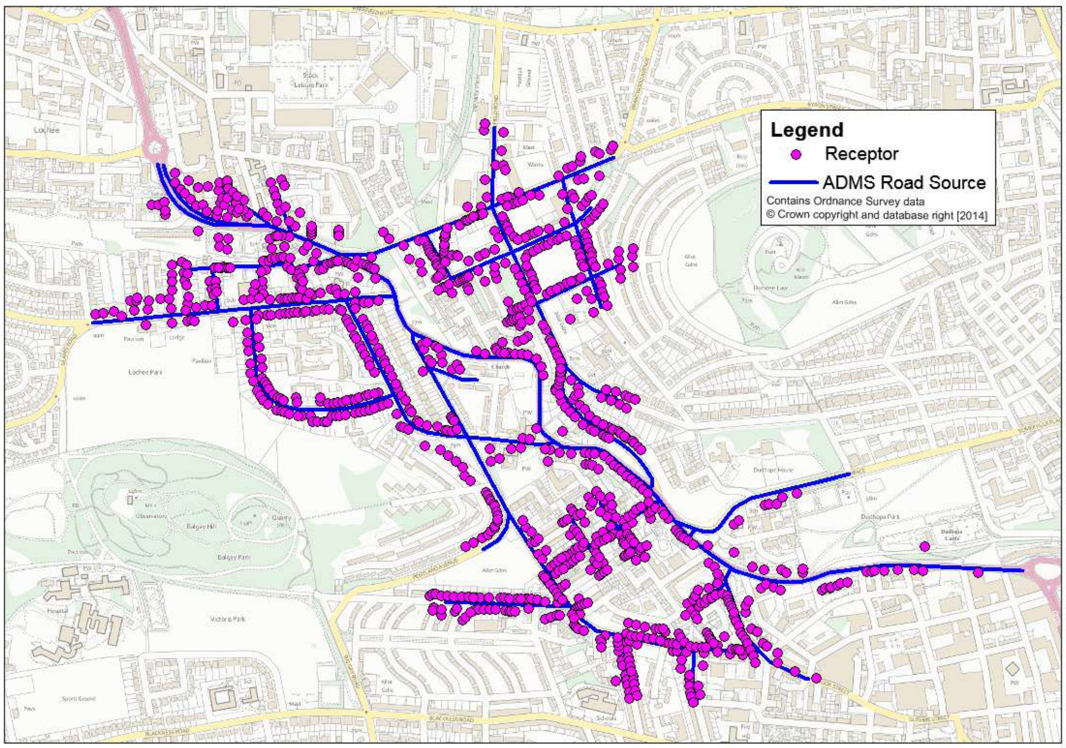


Most dispersion models do not use meteorological data if they relate to calm winds conditions, as dispersion of air pollutants is more difficult to calculate in these circumstances. ADMS-Roads treats calm wind conditions by setting the minimum wind speed to 0.75m/s. It is recommended in LAQM.TG(09)[5] that the meteorological data file be tested within a dispersion model and the relevant output log file checked, to confirm the number of missing hours and calm hours that cannot be used by the dispersion model. This is important when considering predictions of high percentiles and the number of exceedences. LAQM.TG(09)[5] recommends that meteorological data should only be used if the percentage of usable hours is greater than 75%, and preferably 90%. 2012 meteorological data from Leuchars includes 8,783 lines of usable hourly data out of the total 8,784 for the year, i.e. 99.9% usable data. This is therefore suitable for the dispersion modelling exercise.

4.4 Sensitive Receptors

A total of 1,809 receptor locations are considered in the assessment of emissions from road traffic and their location is illustrated in Figure 5.

Figure 5 – Receptor Locations considered in the Assessment



Ground level receptors have been assumed to be a height of 1.5m, representative of the average inhalation height of an individual. In areas of elevated concentrations or areas of interest to the Council, receptors have additionally been considered at heights representative of 1st floor level (4.5m), 2nd floor level (7.5m), 3rd floor level (10.5m) and 4th floor level (13.5m). Table 8 shows the number of receptors at each of the different heights, a complete list of receptor locations and associated heights can be found in Appendix 3.

Table 8 – Number of Modelled Receptors

Scenario	Number of Receptors	Ground (1.5m)	1st Floor (4.5m)	2nd Floor (7.5m)	3rd Floor (10.5m)	4th Floor (13.5m)
All Scenarios	All Receptors	1,029	279	268	227	6

4.5 Model Outputs

The monitored background NO_2 concentration has been used in conjunction with the contribution from road traffic calculated in the ADMS-Roads model to calculate predicted total annual mean concentrations of NO_x and NO_2.

For the prediction of annual mean NO_2 concentrations for the modelled scenarios, the output of the ADMS-Roads model for NO_x has been converted to NO_2 following the methodology in LAQM.TG(09)[5] and using the NO_x to NO_2 conversion tool developed on behalf of Defra. This tool also utilises the total background NO_x and NO_2 concentrations. This assessment has utilised version 4.1 (June 2014) of the NO_x to NO_2 conversion tool. The road contribution is then added to the appropriate NO_2 background concentration value to obtain an overall total NO_2 concentration.

Verification of the ADMS assessment has been undertaken using those local authority monitoring locations that are located adjacent to the affected road network.

All NO_2 results presented in the assessment are those calculated following the process of model verification, using a factor of 3.170 for those receptors in model verification zone A and 5.460 for those receptors in model verification zone B.

All PM_{10} results presented in the assessment are those calculated following the process of model verification, using a factor of 9.731 applied to the PM_{10} exhaust emissions. Full details of the model verification can be found in Appendix 3.

4.6 Significance Criteria

Although no formal procedure exists for classifying the magnitude and significance of air quality effects from the modelled scenarios, guidance issued by Environmental Protection UK (EPUK)[12] has been used to address the issue.

The EPUK guidance has been superseded by the Land-Use Planning & Development Control: Planning for Air Quality (May 2015)[13] produced jointly by EPUK and the Institute of Air Quality Management (IAQM). The 2015 EPUK/IAQM guidance is not, however, as prescriptive for assessing beneficial impacts and so cannot be applied as readily for assessing the impacts associated with the intervention scenarios, hence the previous EPUK[12] guidance has been applied in this assessment.

In the EPUK guidance, the magnitude of impact due to an increase/decrease in annual mean NO_2, PM_{10} and other pollutants is described using the criteria in Table 9. These criteria are based on the change in concentration brought about by the interventions as a percentage of the assessment level, or the equivalent mass basis.

Table 9 – Definition of Impact Magnitude for Changes in Pollutant Concentrations

Magnitude of Change	Annual Mean NO_2 and PM_{10} Concentrations	Change in Number of Days with PM_{10} Concentration greater than 50 μg/m³	Other Pollutants[1]
Large	Increase/decrease > 4 μg/m³	Increase/decrease > 4 days	Increase/decrease > 10%
Medium	Increase/decrease 2 - 4 μg/m³	Increase/decrease 2-4 days	Increase/decrease 5-10%
Small	Increase/decrease 0.4 - 2 μg/m³	Increase/decrease 1-2 days	Increase/decrease 1-5%
Imperceptible	Increase/decrease < 0.4 μg/m³	Increase/decrease <1 days	Increase/decrease <1%

[1] For other pollutants, increase/decrease is a % relative to the relevant annual mean AQOs.

[12] Environmental Protection UK (EPUK) (2010). Development Control: Planning for Air Quality (2010 Update).

[13] Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) Land-Use Planning & Development Control: Planning For Air Quality (May 2015).

When describing the impact at a specific receptor (either adverse or beneficial), the actual concentration at that receptor should be taken into account, in combination with the magnitude of change, using the approach detailed in Table 10. The shaded cells in Table 10 show those changes which may be considered as significant, whereas the changes in the non-shaded cells can be considered as not significant.

Table 10 – Air Quality Impact Descriptors

Annual Mean NO_2 and PM_{10}	Change in Number of Days with PM_{10} Concentration greater than 50 $\mu g/m^3$	Other Pollutants	Change in Concentration[1]		
			Small	**Medium**	**Large**
Increase with Scheme					
Above Objective/Limit Value *With* Scheme (>40 $\mu g/m^3$ for NO_2) (>18 $\mu g/m^3$ for PM_{10})	Above objective *With* Scheme (>7 days)	>100% objective/limit value *With* Scheme	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value *With* Scheme (36-40 $\mu g/m^3$ for NO_2) (16.2-18 $\mu g/m^3$ for PM_{10})	Just below objective *With* Scheme (6-7 days)	90-100% objective/limit value *With* Scheme	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value *With* Scheme (30-36 $\mu g/m^3$ for NO_2) (13.5-16.2 $\mu g/m^3$ for PM_{10})	Below objective *With* Scheme (5-6 days)	75-90% objective/limit value *With* Scheme	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value *With* Scheme (<30 $\mu g/m^3$ for NO_2) (<13.5 $\mu g/m^3$ for PM_{10})	Well below objective *With* Scheme <5 days)	<75% objective/limit value *With* Scheme	Negligible	Negligible	Slight Adverse
Decrease with Scheme					
Above Objective/Limit Value *Without* Scheme (>40 $\mu g/m^3$ for NO_2) (>18 $\mu g/m^3$ for PM_{10})	Above objective *Without* Scheme (> 7 days)	>100% objective/limit value *Without* Scheme	Slight Beneficial	Moderate Beneficial	Substantia l Beneficial
Just Below Objective/Limit Value *Without* Scheme (36-40 $\mu g/m^3$ for NO_2) (16.2-18 $\mu g/m^3$ for PM_{10})	Just below objective *Without* Scheme (6-7 days)	90-100% objective/limit value *Without* Scheme	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value *Without* Scheme (30-36 $\mu g/m^3$ for NO_2) (13.5-16.2 $\mu g/m^3$ for PM_{10})	Below objective *Without* Scheme (5-6 days)	75-90% objective/limit value *Without* Scheme	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value *Without* Scheme (<30 $\mu g/m^3$ for NO_2) (<13.5 $\mu g/m^3$ for PM_{10})	Well below objective *Without* Scheme <5 days)	<75% objective/limit value *Without* Scheme	Negligible	Negligible	Slight Beneficial

[1] An imperceptible change would be described as 'negligible'.

For short-term pollutant emissions, the magnitude of change is determined based upon the number of predicted exceedences of the short-term AQO limit. This makes the EPUK guidance less pragmatic to apply, since it requires data on the existing number of exceedences which is generally not known for most pollutants. The guidance has therefore been applied to annual mean NO_2 concentrations only.

The significance of the impact of the intervention scenarios will be determined by applying the magnitude of change to the relevant impact descriptor for the receptors of concern.

4.7 Comparison with AQOs

Annual mean NO_2 and PM_{10} concentrations have been predicted based on dispersion modelling, and compared to their respective long-term AQOs. However, short-term concentrations (1-hour mean for NO_2 and 24-hour mean for PM_{10}) have also been considered in the assessment, as follows:

- For NO_2, the 1-hour mean AQO is 200µg/m^3 with 18 allowed exceedences per year. Analysis of UK continuous NO_2 monitoring data has shown that it is unlikely that the 1-hour mean objective would be exceeded where the annual mean objective is below 60µg/m^3 [14]. Therefore, potential exceedences of the 1-hour mean objective have been identified based on this criterion.

- For PM_{10}, the 24-hour mean AQO is 50µg/m^3, not to be exceeded more than 7 times per year (Scotland only). The number of 24-hour mean exceeding 50µg/m^3 can be estimated using the relationship detailed in LAQM.TG(09)[5]. This relationship indicates that where the annual mean is above 22.5µg/m^3, more than 7 24-hour mean exceedences of 50µg/m^3 may be expected in a calendar year (i.e. the likelihood of an exceedence of the 24-hour mean objective for PM_{10} would be high).

[14] AEAT (May 2008) - Analysis of the relationship between annual mean nitrogen dioxide concentration and exceedences of the 1-hour mean AQS Objective. A report produced for Defra, the Scottish Government, the Welsh Assembly Government and the Department of the Environment in Northern Ireland.

5 Assessment Results

5.1 Nitrogen Dioxide (NO_2)

Annual mean NO_2 concentrations were predicted at 1,809 specific receptors across the modelled area representing relevant public exposure, located at the façade of properties. Concentrations have been predicted for the four scenarios as detailed in section 4.2. Table 11 shows the number of receptors predicted to exceed the 40µg/m^3 AQO for NO_2 at each of the assumed floor levels. Of the 1,029 receptors at ground floor level (1.5m) a maximum of 25 are predicted to exceed in any of the four scenarios. Of the 279 receptors at 1st floor level (4.5m) a maximum of 5 are predicted to exceed in any of the four scenarios. There were no exceedences predicted at 2nd (7.5m), 3rd (10.5m) or 4th (13.5m) floor levels in any of the four scenarios.

Table 11 – Predicted Number of Exceedences of NO_2 40µg/m^3 AQO at Different Floor Levels

Scenario	Number of Receptors	Ground (1.5m)	1st Floor (4.5m)	2nd Floor (7.5m)	3rd Floor (10.5m)	4th Floor (13.5m)
BC	**Number of Exceeding Receptors**	25	5	0	0	0
SC1		25	4	0	0	0
SC3		19	3	0	0	0
SC4		17	0	0	0	0
All Scenarios	***All Receptors***	***1,029***	***279***	***268***	***227***	***6***

At ground floor level (1.5m) the exceedences of the annual mean PM_{10} AQO were predicted at the following locations:

- On Lochee Road between Polepark Road and Tullideph Road;
- At the Logie Street/High Street junction; and
- On High Street near Gray's Lane.

Thematic maps showing annual mean NO_2 concentrations at ground floor level for the BC (Figure A7), SC1 (Figure A8), SC3 (Figure A9) and SC4 (Figure A10) scenarios are shown in Appendix 4.

Thematic maps highlighting where exceedences of the annual mean NO_2 AQO have been removed, caused or remain relative to the BC scenario are provided for ground level receptors in Appendix 4 for the following scenarios, SC1 (Figure A11), SC3 (Figure A12), and SC4 (Figure A13).

Thematic maps showing annual mean NO_2 concentrations at 1st floor level for the BC (Figure A14), SC1 (Figure A15), SC3 (Figure A16) and SC4 (Figure A17) scenarios are shown in Appendix 4.

Thematic maps highlighting where exceedences of the annual mean NO_2 AQO have been removed, caused or remain relative to the BC scenario are provided for 1st floor level receptors in Appendix 4 for the following scenarios, SC1 (Figure A18), SC3 (Figure A19), and SC4 (Figure A20).

Table 12 provides a summary of the predicted NO_2 concentrations for the four scenarios in comparison to the annual mean NO_2 AQO and the predicted impact according to the EPUK guidance.

Table 12 – NO_2 Results Summary

Descriptor		BC	SC1	SC3	SC4
Summary Statistics (µg/m^3)	Min	16.4	16.5	16.4	16.3
	Max	63.4	63.7	59.6	56.2
	Average	21.9	21.8	21.3	20.9
Number of Receptors with NO_2 concentration relative to 100%, 90% and 75% of the 40µg/m^3 AQO	<30µg/m^3	1,682	1,672	1,713	1,731
	30-36µg/m^3	74	86	58	48
	36-40µg/m^3	23	22	16	13
	>=40µg/m^3	30	29	22	17
Percentage of Receptors with NO_2 concentration relative to 100%, 90% and 75% of the 40µg/m^3 AQO	<30µg/m^3	93.0%	92.4%	94.7%	95.7%
	30-36µg/m^3	4.1%	4.8%	3.2%	2.7%
	36-40µg/m^3	1.3%	1.2%	0.9%	0.7%
	>=40µg/m^3	1.7%	1.6%	1.2%	0.9%
EPUK Impact Descriptor	Substantial Beneficial	N/A	1	1	25
	Moderate Beneficial		5	33	28
	Slight Beneficial		20	37	76
	Negligible		1,753	1,738	1,680
	Slight Adverse		30	0	0
	Moderate Adverse		0	0	0
	Substantial Adverse		0	0	0

Annual mean NO_2 concentrations were predicted at 1,809 specific receptors across the modelled area representing relevant public exposure, located at the façade of properties. Concentrations have been predicted for four scenarios as detailed in section 4.2. The results have been summarised in Table 12.

SC1 is predicted to reduce the number of exceedences of the NO_2 annual mean objective, with 30 predicted exceedences in BC scenario and 29 exceedences predicted in the SC1 scenario. According to EPUK guidance, implementation of SC1 would result in a negligible impact at 1,753 receptors, a slight beneficial impact at 20 receptors, and a moderate beneficial impact at 5 receptors and a substantial beneficial impact at 1 receptor, in relation to the annual mean AQO for NO_2. Slight adverse impacts were predicted at 30 receptors as a result of SC1 in relation to the annual mean AQO for NO_2.

SC3 is predicted to reduce the number of exceedences of the NO_2 annual mean objective, with 30 predicted exceedences in BC scenario and 22 exceedences predicted in the SC3 scenario. According to EPUK guidance, implementation of SC3 would result in a negligible impact at 1,738 receptors, a slight beneficial impact at 37 receptors, and a moderate beneficial impact at 33 receptors and a substantial beneficial impact at 1 receptor, in relation to the annual mean AQO for NO_2. Adverse impacts were not predicted at any receptors as a result of SC3 in relation to the annual mean AQO for NO_2.

SC4 is predicted to reduce the number of exceedences of the NO_2 annual mean objective, with 30 predicted exceedences in BC scenario and 17 exceedences predicted in the SC4 scenario. According to EPUK guidance, implementation of SC4 would result in a negligible impact at 1,680 receptors, a slight beneficial impact at 76 receptors, and a moderate beneficial impact at 28 receptors and a substantial beneficial impact at 25 receptors, in relation to the annual mean AQO for NO_2. Adverse impacts were not predicted at any receptors as a result of SC4 in relation to the annual mean AQO for NO_2.

Analysis of UK continuous NO_2 monitoring data has shown that it is unlikely that the hourly mean NO_2 AQO, of 18 hourly means over 200µg/m^3, would be exceeded where the annual mean concentration is below 60µg/m^3 [15]. Annual mean NO_2 concentrations at two receptors (911 and 923) were predicted to be above 60µg/m^3 for the BC and SC1 scenarios, as shown in Table 13. Both receptors are located on Lochee Road near to the junction with Mitchell Street.

Table 13 – Modelled NO_2 concentrations at receptors with predicted NO_2 concentration above 60µg/m^3

Receptor	X (m)	Y (m)	Height (m)	Modelled NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
911	338939	730676	1.5	62.8	62.8	59.3	56.2
921	338950	730667	1.5	63.4	63.7	59.6	56.1

The maximum predicted annual mean for NO_2 at a receptor for scenarios SC3 and SC4 is 59.6µg/m^3. Therefore, the NO_2 hourly mean AQO is expected to be met at all modelled receptors for SC3 and SC4.

Full results for all modelled receptors can be found in the MS Excel file, which accompanies this report (Lochee Results_submitted_V4.xlsx).

5.2 Particulate Matter (PM_{10})

Annual mean PM_{10} concentrations were predicted at 1,809 specific receptors across the modelled area representing relevant public exposure, located at the façade of properties. Concentrations have been predicted for the four scenarios as detailed in section 4.2. Table 14 shows the number of receptors predicted to exceed the 18µg/m^3 AQO at each of the assumed floor levels. Of the 1,029 receptors at ground floor level (1.5m) a maximum of 9 are predicted to exceed in any of the four scenarios. There were no exceedences predicted at 1st (4.5m), 2nd (7.5m), 3rd (10.5m) or 4th (13.5m) floor levels in any of the four scenarios.

Table 14 – Predicted Number of Exceedences of PM_{10} 18µg/m^3 AQO at Different Floor Levels

Scenario	Number of Receptors	Ground (1.5m)	1st Floor (4.5m)	2nd Floor (7.5m)	3rd Floor (10.5m)	4th Floor (13.5m)
BC	**Number of Exceeding Receptors**	8	0	0	0	0
SC1		9	0	0	0	0
SC3		1	0	0	0	0
SC4		1	0	0	0	0
All Scenarios	***All Receptors***	***1,029***	***279***	***268***	***227***	***6***

At ground floor level (1.5m) the exceedences of the annual mean PM_{10} AQO were predicted at the following locations:

- On Lochee Road between Polepark Road and Tullideph Road; and
- At the Logie Street/High Street junction.

Thematic maps showing annual mean PM_{10} concentrations at ground floor level for the BC (Figure A21), SC1 (Figure A22), SC3 (Figure A23) and SC4 (Figure A24) scenarios are shown in Appendix 4.

Thematic maps highlighting where exceedences of the annual mean PM_{10} AQO have been removed, caused or remain relative to the BC scenario are provided for ground level receptors in

[15] Analysis of the relationship between annual mean nitrogen dioxide concentration and exceedences of the 1-hour mean AQS Objective – AEA - 2008

Appendix 4 for the following scenarios, SC1 (Figure A25), SC3 (Figure A26), and SC4 (Figure A27).

A thematic map showing annual mean PM_{10} concentrations at first floor level for the BC scenario are provided in Appendix 4 in Figures A28.

Table 15 provides a summary of the predicted PM_{10} concentrations for the four scenarios in comparison to the annual mean PM_{10} AQO and the predicted impact according to the EPUK guidance.

Table 15 – PM_{10} Results Summary

Descriptor		BC	SC1	SC3	SC4
Summary Statistics (µg/m^3)	Min	11.6	11.6	11.6	11.6
	Max	19.5	19.7	18.7	18.5
	Average	12.7	12.7	12.6	12.5
Number of Receptors with PM_{10} concentration relative to 100%, 90% and 75% of the 18µg/m^3 AQO	<13.5µg/m^3	1,553	1,547	1,607	1,617
	13.5-16.2µg/m^3	234	243	187	179
	16.2-18µg/m^3	14	10	14	12
	>=18µg/m^3	8	9	1	1
Percentage of Receptors with PM_{10} concentration relative to 100%, 90% and 75% of the 18µg/m^3 AQO	<13.5µg/m^3	85.8%	85.5%	88.8%	89.4%
	13.5-16.2µg/m^3	12.9%	13.4%	10.3%	9.9%
	16.2-18µg/m^3	0.8%	0.6%	0.8%	0.7%
	>=18µg/m^3	0.4%	0.5%	0.1%	0.1%
EPUK Impact Descriptor	Substantial Beneficial	N/A	0	0	0
	Moderate Beneficial		0	0	9
	Slight Beneficial		4	22	15
	Negligible		1,804	1,787	1,785
	Slight Adverse		1	0	0
	Moderate Adverse		0	0	0
	Substantial Adverse		0	0	0

Annual mean PM_{10} concentrations were predicted at 1,809 specific receptors across the modelled area representing relevant public exposure, located at the façade of properties. Concentrations have been predicted for four scenarios as detailed in section 4.2. The results have been summarised in Table 15.

SC1 is predicted to result in an increase in the number of exceedences of the PM_{10} annual mean objective with 8 predicted exceedences in BC increasing to 9 predicted exceedences in SC1. According to EPUK guidance, implementation of SC1 would result in a negligible impact at 1,804 receptors and a slight beneficial impact at 4 receptors, in relation to the annual mean AQO for PM_{10}. Slight adverse impacts were predicted at 1 receptor as a result of SC1 in relation to the annual mean AQO for PM_{10}.

SC3 is predicted to result in a decrease in the number of exceedences of the PM_{10} annual mean objective with 8 predicted exceedences in BC reducing to 1 predicted exceedence in SC3. According to EPUK guidance, implementation of SC3 would result in a negligible impact at 1,787 receptors and a slight beneficial impact at 22 receptors, in relation to the annual mean AQO for PM_{10}. Adverse impacts were not predicted at any receptors as a result of SC3 in relation to the annual mean AQO for PM_{10}.

SC4 is predicted to result in a decrease in the number of exceedences of the PM_{10} annual mean objective with 8 predicted exceedences in BC reducing to 1 predicted exceedence in SC4. According to EPUK guidance, implementation of SC4 would result in a negligible impact at 1,785 receptors, a slight beneficial impact at 15 receptors and a moderate beneficial impact at 9 receptors, in relation to the annual mean AQO for PM_{10}. Adverse impacts were not predicted at any receptors as a result of SC4 in relation to the annual mean AQO for PM_{10}.

Analysis of UK continuous PM_{10} monitoring data has shown that it is unlikely that the 24-hour mean PM_{10} AQO of seven 24-hour means over 50µg/m^3, would be exceeded where the annual mean objective is below 22.5µg/m^3. Across the whole modelled area, the maximum predicted annual mean PM_{10} concentration at a receptor in any of the four scenarios is 19.7µg/m^3. Therefore, the 24-hour mean AQO is expected to be met at all modelled receptors.

Full results for all modelled receptors can be found in the MS Excel file, which accompanies this report (Lochee Results_submitted_V4.xlsx).

5.3 Source Apportionment

A source apportionment study was carried out for the BC scenario of the Lochee Road modelled area. The source apportionment was carried out for the following vehicle classes:

- Cars;
- Light-Goods Vehicles (LGVs);
- Heavy-Goods Vehicles (HGVs); and
- Buses.

NO_x

Table 16 and Figure 6 present source apportionment results for BC NO_x concentrations for three different selections of the modelled receptors:

- **Average across all modelled receptors**. This provides useful information when considering possible AQAP measure to test and adopt. It will however understate road NO_x concentrations in problem areas;
- **Average across all receptors with NO_2 Concentration greater than 40µg/m^3**. This provides an indication of source apportionment in areas known to be a problem (i.e. only where the AQS objective is exceeded). As such, this information should be considered with more scrutiny when testing and adopting AQAP measures; and
- **At the Receptor with maximum road NO_x Concentration**. This is likely to be in the area of most concern and so a good place to test and adopt AQAP measures. Any gains predicted by AQAP measures are however likely to be greatest at this location and so would not represent gains across the whole modelled area.

When considering the average NO_x concentration across all modelled receptors, road traffic accounts for 12.5µg/m^3 (16.2%) of total NO_x (35.4µg/m^3). Of this total average NO_x, Cars account for the most (16.2%) of any of the vehicle types on average, followed by Buses (5.3%). HGVs and LGVs account on average for 5.2% and 4.2% respectively of the overall predicted average NO_x concentration.

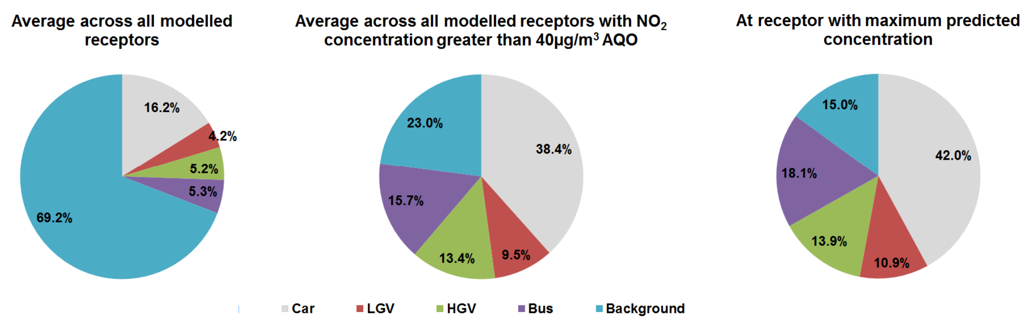
Table 16 – NO_x Source Apportionment for BC

Results	All Vehicles	Car	LGV	HGV	Bus	Background
Average across all modelled receptors						
NO_x Concentration (µg/m^3)	12.5	6.5	1.7	2.1	2.2	22.9
Percentage	30.8%	16.2%	4.2%	5.2%	5.3%	69.2%
Percentage Road Contribution	100%	52.4%	13.5%	17.0%	17.2%	-
Average across all receptors with NO_2 Concentration greater than 40µg/m^3						
NO_x Concentration (µg/m^3)	80.5	40.1	9.9	14.0	16.4	22.9
Percentage	77.0%	38.4%	9.5%	13.4%	15.7%	23.0%
Percentage Road Contribution	100%	49.8%	12.3%	17.5%	20.4%	-
At Receptor with maximum road NO_x Concentration (Receptor 921 – Lochee Rd near Mitchell St)						
NO_x Concentration (µg/m^3)	130.0	64.3	16.7	21.3	27.7	22.9
Percentage	85.0%	42.0%	10.9%	13.9%	18.1%	15.0%
Percentage Road Contribution	100%	49.4%	12.9%	16.4%	21.3%	-

When considering the average NO_x concentration at receptors with an NO_2 concentration greater than 40µg/m^3, road traffic contribution is much higher, accounting for 80.5µg/m^3 (77.0%) of total NO_x (103.4µg/m^3). Of this 103.4µg/m^3, Cars account for the most (38.4%) of any of the vehicle types, followed by Buses (15.7%), then HGVs and LGVs (13.4% and 9.5% respectively).

At the receptor with the maximum road NO_x concentration (152.9µg/m^3, predicted at receptor 921 on Lochee Road near the end of Mitchell Street), road traffic accounts for 85.0% of the overall NO_x. Of this 152.9µg/m^3, Cars account for the most (42.0%) of any of the vehicle types, followed by Buses (18.1%), then HGVs and LGVs (13.9% and 10.9% respectively).

Figure 6 – Pie Charts showing NO_x Source Apportionment for BC



NO_2

Table 17 and Figure 7 present source apportionment results for BC NO_2 concentrations for three different selections of the modelled receptors, using the same approach as was undertaken for NO_x, as follows:

- Average across all modelled receptors.
- Average across all receptors with NO_2 Concentration greater than 40µg/m^3.
- At the Receptor with maximum road NO_2 Concentration.

When considering the average NO_2 concentration across all modelled receptors, road traffic accounts for 6.0µg/m^3 (25.0%) of total NO_2 (21.6µg/m^3). Of this total average NO_2, Cars account for the most (13.1%) of any of the vehicle types on average, followed by Buses (4.3%). HGVs and LGVs account on average for 4.2% and 3.4% respectively of the overall predicted average NO_2 concentration.

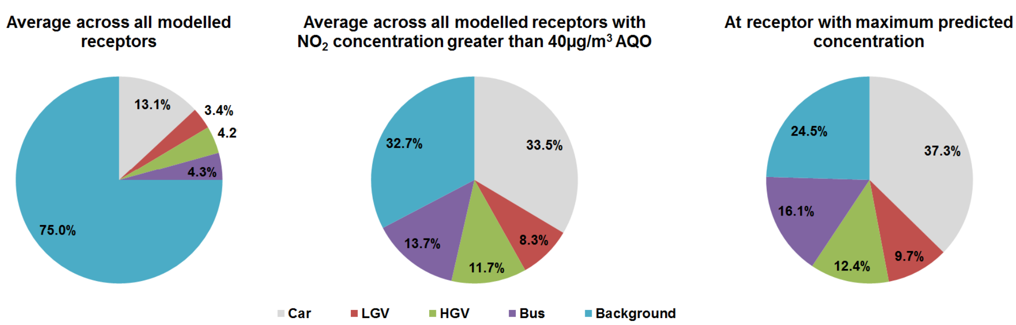
When considering the average NO_2 concentration at receptors with an NO_2 concentration greater than 40µg/m^3, road traffic contribution is much higher, accounting for 32.9µg/m^3 (67.3%) of total NO_2 (48.5µg/m^3). Of this 48.5µg/m^3, Cars account for the most (33.5%) of any of the vehicle types, followed by Buses (13.7%), then HGVs and LGVs (11.7% and 8.3% respectively).

At the receptor with the maximum road NO_2 concentration (63.6µg/m^3, predicted at receptor 921 on Lochee Road near the end of Mitchell Street), road traffic accounts for 75.5% of the overall NO_2. Of this 63.6µg/m^3, Cars account for the most (37.3%) of any of the vehicle types, followed by Buses (16.1%) then HGVs and LGVs (12.4% and 9.7% respectively).

Table 17 – NO_2 Source Apportionment for BC

Results	All Vehicles	Car	LGV	HGV	Bus	Background
Average across all modelled receptors						
NO_2 Concentration (µg/m^3)	6.0	3.1	0.8	1.0	1.0	15.6
Percentage	25.0%	13.1%	3.4%	4.2%	4.3%	75.0%
Percentage Road Contribution	100%	52.4%	13.5%	17.0%	17.2%	-
Average across all receptors with NO_2 Concentration greater than 40µg/m^3						
NO_2 Concentration (µg/m^3)	32.9	16.4	4.1	5.7	6.7	15.6
Percentage	67.3%	33.5%	8.3%	11.7%	13.7%	32.7%
Percentage Road Contribution	100%	49.8%	12.3%	17.4%	20.4%	-
At Receptor with maximum road NO_2 Concentration (Receptor 921 – Lochee Rd near Mitchell St)						
NO_2 Concentration (µg/m^3)	48.0	23.7	6.2	7.9	10.2	15.6
Percentage	75.5%	37.3%	9.7%	12.4%	16.1%	24.5%
Percentage Road Contribution	100%	49.4%	12.9%	16.4%	21.3%	-

Figure 7 – Pie Charts showing NO_2 Source Apportionment for BC



PM_{10}

Table 18 and Figure 8 present source apportionment results for BC PM_{10} concentrations for three different selections of the modelled receptors, using the same approach as was undertaken for NO_x and NO_2, as follows:

- Average across all modelled receptors.
- Average across all receptors with PM_{10} Concentration greater than 18µg/m^3.
- At the Receptor with maximum road PM_{10} Concentration.

When considering the average PM_{10} concentration across all modelled receptors, road traffic accounts for 1.2µg/m^3 (9.8%) of total PM_{10} (12.6µg/m^3). Of this total average PM_{10}, Cars account for the most (6.4%) of any of the vehicle types on average, followed by LGVs (1.5%) and Buses (1.1%). HGVs account on average for 0.8% of the overall predicted average PM_{10} concentration.

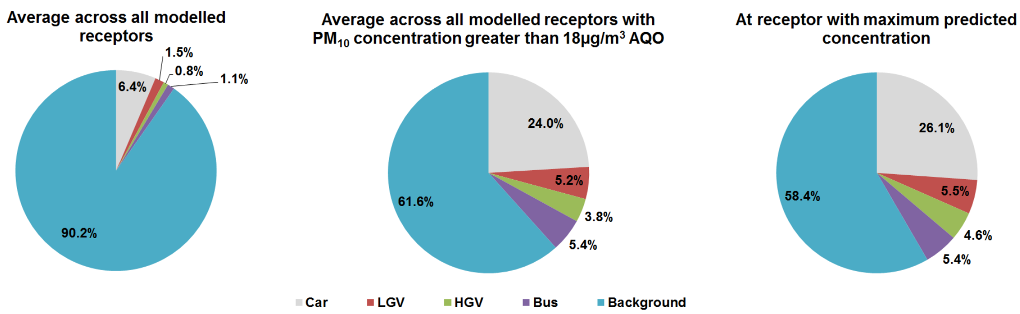
When considering the average PM_{10} concentration at receptors with a PM_{10} concentration greater than 18µg/m^3, road traffic contribution is much higher, accounting for 7.1µg/m^3 (38.4%) of total PM_{10} (18.5µg/m^3). Of this 18.5µg/m^3, Cars account for the most (24.0%) of any of the vehicle types, followed by Buses (5.4%) then LGVs and HGVs (5.2% and 3.8% respectively).

Table 18 – PM_{10} Source Apportionment for BC

Results	All Vehicles	Car	LGV	HGV	Bus	Background
Average across all modelled receptors						
PM_{10} Concentration (µg/m^3)	1.2	0.8	0.2	0.1	0.1	11.4
Percentage	9.8%	6.4%	1.5%	0.8%	1.1%	90.2%
Percentage Road Contribution	100%	65.7%	14.9%	8.0%	11.4%	-
Average across all receptors with PM_{10} Concentration greater than 18µg/m^3						
PM_{10} Concentration (µg/m^3)	7.1	4.4	1.0	0.7	1.0	11.4
Percentage	38.4%	24.0%	5.2%	3.8%	5.4%	61.6%
Percentage Road Contribution	100%	62.7%	13.5%	9.9%	14.0%	-
At Receptor with maximum road PM_{10} Concentration (267 - Junction of High St and Logie St)						
PM_{10} Concentration (µg/m^3)	8.1	5.1	1.1	0.9	1.1	11.4
Percentage	41.6%	26.1%	5.5%	4.6%	5.4%	58.4%
Percentage Road Contribution	100%	62.8%	13.2%	11.0%	13.0%	-

At the receptor with the maximum road PM_{10} concentration (19.5µg/m^3, predicted at receptor 267 at the junction of High Street and Logie Street), road traffic accounts for 41.6% of the overall PM_{10}. Of this 19.5µg/m^3, Cars account for the most (26.1%) of any of the vehicle types, followed by LGVs (5.5%) then Buses and HGVs (5.4% and 4.6% respectively).

Figure 8 – Pie Charts showing PM_{10} Source Apportionment for BC



5.4 Population Exposure

The predicted pollutant concentrations at receptors were used to determine the population exposure to potential exceedence of the annual mean NO_2 and PM_{10} AQS objectives, as presented in Table 19. The Office for National Statistics[16] provides an average number of 2.3 people per UK household based on the 2011 census.

Based on the number of properties located in areas where annual mean NO_2 concentrations are predicted to be 36µg/m^3 and above, and the average number of people per UK household, the number of people exposed to potential exceedences of the annual mean NO_2 in the area covered by the Lochee Road model is approximately 122.

Based on the number of properties located in areas where annual mean PM_{10} concentrations are predicted to be 16.2µg/m^3 and above, and the average number of people per UK household, the number of people exposed to potential exceedences of the annual mean PM_{10} in the area covered by the Lochee Road model is approximately 51.

Table 19 – Estimated Population exposure to NO_2 and PM_{10} Exceedences

Pollutant	Number of receptors where pollutant concentration is predicted to be greater than 90% of annual mean AQS Objective	Estimated population exposed in the Modelled area
NO_2	53	122
PM_{10}	22	51

16 http://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/populationandhouseholdestimatesfortheunitedkingdom/2011-03-21

6 Conclusions

Bureau Veritas has been commissioned by Dundee City Council to undertake air quality dispersion modelling studies to predict annual mean concentrations of NO_2 and PM_{10} for the three areas of Dundee (Forfar, Lochee and Stannergate) identified by the Council. This report and associated results files focus on the Lochee Road area of Dundee. Separate reports have been produced for the Stannergate and Forfar areas.

In line with those detailed in Lochee Road S-Paramics Model[10], the following scenarios have been assessed:

- 2012 Base (BC);
- Scenario 1 (SC1) – Assessment of Cleghorn Street Closure;
- Scenario 3 (SC3) – Scenario assessing the potential impact should the bus fleet in the Lochee Road modelled area be entirely made up of Euro Class V vehicles; and
- Scenario 4 (SC4) – Scenario assessing the potential impact should the bus fleet in the Lochee Road modelled area be entirely made up of Euro Class VI vehicles.

Annual mean concentrations of NO_2 and PM_{10} were predicted at 1,745 specific receptors across the modelled area representing relevant public exposure, located at the façade of properties. Of these 1,809 receptors, 1,029 were at ground floor level (1.5m height), 279 were at 1st floor level (4.5m height), 268 were at 2nd floor level (7.5m height), 227 were at 3rd floor level (10.5m height) and 6 were at 4th floor level (13.5m).

6.1 Nitrogen Dioxide (NO_2)

Of the 1,029 receptors at ground floor level (1.5m), a maximum of 30 were predicted to exceed the 40µg/m^3 AQO for NO_2 in any of the four scenarios. Of the 279 receptors at 1st floor level (4.5m), a maximum of 5 were predicted to exceed the 40µg/m^3 AQO for NO_2 in any of the four scenarios. There were no exceedences predicted at 2nd (7.5m), 3rd (10.5m) or 4th (13.5m) floor levels in any of the four scenarios.

Two receptors (911 and 923 - located on Lochee Road near to the junction with Mitchell Street) were predicted to exceed the NO_2 hourly mean AQO in BC and SC1, based on the 60µg/m^3 criteria outlined in LAQM.TG(09). The NO_2 hourly mean AQO was expected to be met at all modelled receptors in SC3 and SC4.

According to EPUK guidance, in relation to the annual mean AQO for NO_2, implementation of SC1 would result in a negligible impact at 1,753 receptors, a slight beneficial impact at 20 receptors, a moderate beneficial impact at 5 receptors and a substantial beneficial impact at 1 receptor. A slight adverse impact was predicted at 30 receptors as a result of SC1 in relation to the annual mean AQO for NO_2.

According to EPUK guidance, in relation to the annual mean AQO for NO_2, implementation of SC3 would result in a negligible impact at 1,738 receptors, a slight beneficial impact at 37 receptors, a moderate beneficial impact at 33 receptors and a substantial beneficial impact at 1 receptor. Adverse impacts were not predicted at any receptors as a result of SC3 in relation to the annual mean AQO for NO_2.

According to EPUK guidance, in relation to the annual mean AQO for NO_2, implementation of SC4 would result in a negligible impact at 1,680 receptors, a slight beneficial impact at 76 receptors, a moderate beneficial impact at 28 receptors and a substantial beneficial impact at 25 receptors. Adverse impacts were not predicted at any receptors as a result of SC4 in relation to the annual mean AQO for NO_2.

6.2 Particulate Matter (PM_{10})

Of the 1,809 receptors at ground floor level (1.5m), a maximum of 9 were predicted to exceed the 18µg/m^3 annual mean AQO for PM_{10} in any of the four scenarios. There were no exceedences predicted at 1st (4.5m), 2nd (7.5m), 3rd (10.5m) or 4th (13.5m) floor levels in any of the four scenarios.

The PM_{10} 24-hour mean AQO was expected to be met at all modelled receptors in all four scenarios.

According to EPUK guidance, in relation to the annual mean AQO for PM_{10}, implementation of SC1 would result in a negligible impact at 1,804 receptors and a slight beneficial impact at 4 receptors. A slight adverse impact was predicted at 1 receptor as a result of SC1 in relation to the annual mean AQO for PM_{10}.

According to EPUK guidance, in relation to the annual mean AQO for PM_{10}, implementation of SC3 would result in a negligible impact at 1,787 receptors and a slight beneficial impact at 22 receptors. Adverse impacts were not predicted at any receptors as a result of SC3 in relation to the annual mean AQO for PM_{10}.

According to EPUK guidance, in relation to the annual mean AQO for PM_{10}, implementation of SC4 would result in a negligible impact at 1,785 receptors, a slight beneficial impact at 15 receptors and a moderate beneficial impact at 9 receptors. Adverse impacts were not predicted at any receptors as a result of SC4 in relation to the annual mean AQO for PM_{10}.

Full results for all modelled receptors can be found in the MS Excel file, which accompanies this report (Lochee Results_submitted_V4.xlsx).

6.3 Source Apportionment

A source apportionment study was carried out for the BC scenario of the Lochee Road modelled area for NO_x, NO_2 and PM_{10}.

Of the four modelled vehicle types (Cars, LGVs, HGVs and Buses), Cars were found to account for the largest proportion of road NO_x when averaged across all modelled receptors (52.4% road NO_x), and when averaged across receptors with NO_2 concentration greater than 40µg/m^3 (49.8% road NO_x). At the receptor with the maximum road NO_x concentration, the vehicle type with the highest proportion of road NO_x is Car, with 49.4% of the road NO_x contribution. Background NO_x accounted for 69.2% of the total NO_x concentration when averaged across all receptors.

Of the four modelled vehicle types (Cars, LGVs, HGVs and Buses), Cars were found to account for the largest proportion of road NO_2 when averaged across all modelled receptors (52.4% road NO_2), and when averaged across receptors with NO_2 concentration greater than 40µg/m^3 (49.8% road NO_2). At the receptor with the maximum road NO_2 concentration, the vehicle type with the highest proportion of road NO_2 is Car, with 49.4% of the road NO_2 contribution. Background NO_2 accounted for 75.0% of the total NO_2 concentration when averaged across all receptors.

Of the four modelled vehicle types (Cars, LGVs, HGVs and Buses), Cars were found to account for the largest proportion of road PM_{10} when averaged across all modelled receptors (65.7% road PM_{10}), and when averaged across receptors with PM_{10} concentration greater than 18µg/m^3 (62.7% road PM_{10}). At the receptor with the maximum road PM_{10} concentration, the vehicle type with the highest proportion of road PM_{10} is Car, with 62.8% of the road PM_{10} contribution. Background PM_{10} accounted for 90.2% of the total PM_{10} concentration when averaged across all receptors.

6.4 Population Exposure

The number of people predicted to be exposed to potential exceedences of the annual mean NO_2 in the area covered by the Lochee Road model is estimated to be 122.

The number of people predicted to be exposed to potential exceedences of the annual mean PM_{10} in the area covered by the Lochee Road model is estimated to be 51.

Appendices

Appendix 1 – Background to Air Quality

Emissions from road traffic contribute significantly to ambient pollutant concentrations in urban areas. The main constituents of vehicle exhaust emissions, produced by fuel combustion are carbon dioxide (CO_2) and water vapour (H_2O). However, combustion engines are not 100% efficient and partial combustion of fuel results in emissions of a number of other pollutants, including carbon monoxide (CO), particulate matter (PM), Volatile Organic Compounds (VOCs) and hydrocarbons (HC). For HC, the pollutants of most concern are 1,3 - butadiene (C_4H_6) and benzene (C_6H_6). In addition, some of the nitrogen (N) in the air is oxidised under the high temperature and pressure during combustion; resulting in emissions of oxides of nitrogen (NO_x). NO_x emissions from vehicles predominately consist of nitrogen oxide (NO), but also contain nitrogen dioxide (NO_2). Once emitted, NO can be oxidised in the atmosphere to produce further NO_2.

The quantities of each pollutant emitted depend upon a number of parameters; including the type and quantity of fuel used, the engine size, the vehicle speed, and the type of emissions abatement equipment fitted. Once emitted, these pollutants disperse in the air. Where there is no additional source of emission, pollutant concentrations generally decrease with distance from roads, until concentrations reach those of the background.

This air quality assessment focuses on NO_2 and PM_{10} (PM of aerodynamic diameter less than 10µm) as these pollutants are least likely to meet their respective Air Quality Strategy (AQS) objectives near roads. This has been confirmed over recent years by the outcome of the Local Air Quality Management (LAQM) regime. Recent statistics[17] regarding Air Quality Management Areas (AQMAs) show that, 601 AQMAs were declared in the UK, of which 562 include NO_2 and 99 include PM_{10} (a number of AQMAs have been declared for both pollutants). The majority (92%) of existing AQMAs have been declared in relation to road traffic emissions.

In line with these results, the reports produced by the Council under the LAQM regime have confirmed that road traffic within their administrative area is the main issue in relation to air quality.

An overview of these two pollutants, describing briefly the sources and processes influencing the ambient concentrations, is presented below.

Particulate Matter (PM_{10})

Particulate matter is a mixture of solid and liquid particles suspended in the air. There are a number of ways in which airborne PM may be categorised. The most widely used categorisation is based on the size of particles such as $PM_{2.5}$, particles of aerodynamic diameter less than 2.5µm (micrometre = 10^{-6} metre), and PM_{10}, particles of aerodynamic diameter less than 10µm. Generically, particulate residing in low altitude air is referred to as Total Suspended Particulate (TSP) and comprises coarse and fine material including dust.

Particulate matter comprises a wide range of materials arising from a variety of sources. Examples of anthropogenic sources are carbon (C) particles from incomplete combustion, bonfire ash, recondensed metallic vapours and secondary particles (or aerosols) formed by chemical reactions in the atmosphere. As well as being emitted directly from combustion sources, man-made particles can arise from mining, quarrying, demolition and construction operations, from brake and tyre wear in motor vehicles and from road dust resuspension from moving traffic or strong winds. Natural sources of PM include wind-blown sand and dust, forest fires, sea salt and biological particles such as pollen and fungal spores.

The health impacts from PM depend upon size and chemical composition of the particles. For the purposes of AQOs, PM_{10} or $PM_{2.5}$ is solely defined on size rather than chemical composition. This enables a uniform method of measurement and comparison. The short and long-term exposure to PM has been associated with increased risk of lung and heart diseases([see 2]). PM may also carry

[17] Statistics from the UK AQMA website available at http://aqma.defra.gov.uk – Figures as of January 2013

surface-absorbed carcinogenic compounds. Smaller PM have a greater likelihood of penetrating the respiratory tract and reaching the lung to blood interface and causing the above adverse health effects.

In the UK, emissions of PM_{10} have declined significantly since 1980, and were estimated to be 114kt (kilotonne) in 2010[18]. Residential / public electricity and heat production and road transport are the largest sources of PM_{10} emissions. The road transport sector contributed 22% (25kt) of PM_{10} emissions in 2010. The main source within road transport is brake and tyre wear.

It is important to note that these estimates only refer to primary emissions, that is, the emissions directly resulting from sources and processes and do not include secondary particles. These secondary particles, which result from the interaction of various gaseous components in the air such as ammonia (NH_3), sulphur dioxide (SO_2) and NO_x, can come from further a field and impact on the air quality in the UK and vice versa.

Similarly to PM_{10}, emissions of $PM_{2.5}$ have declined since 1970, and were estimated to be 67kt in 2010, which makes over 58% of PM_{10} emissions. In 2010, the road transport sector emitted 28% (18kt) of the total $PM_{2.5}$ emissions in the UK.

Nitrogen Oxides (NO_x)

NO and NO_2, collectively known as NO_x, are produced during the high temperature combustion processes involving the oxidation of N. Initially, NO_x are mainly emitted as NO, which then undergoes further oxidation in the atmosphere, particularly with ozone (O_3), to produce secondary NO_2. Production of secondary NO_2 could also be favoured due to a class of compounds, VOCs, typically present in urban environments, and under certain meteorological conditions, such as hot sunny days and stagnant anti-cyclonic winter conditions.

Of NO_x, it is NO_2 that is associated with health impacts. Exposure to NO_2 can bring about reversible effects on lung function and airway responsiveness. It may also increase reactivity to natural allergens, and exposure to NO_2 puts children at increased risk of respiratory infection and may lead to poorer lung function in later life.

In the UK, emissions of NO_x have decreased by 62% between 1990 and 2010. For 2010, NO_x (as NO_2) emissions were estimated to be 1,106kt. The transport sector remained the largest source of NO_x emissions with road transport contribution 34% to NO_x emissions in 2010.

[18] National Atmospheric Emissions Inventory (NAEI) Summary Emission Estimate Datasets 2010. March 2012

Appendix 2 – Full list of Modelled Results

NO_2

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
LOCHEE RD (138)	338935.7	730680.4	2.75	58.6	58.4	55.7	53.1
LOCHEE RD (140) TRAF	338927.2	730685.1	2.62	51.2	50.6	48.9	46.8
LOCHEE RD (184)	338767	730856	2.35	37.6	38.0	34.7	32.4
LOCHEE RD/POLEPARK R	339016	730586	2.65	28.3	29.4	27.7	27.2
LOGIE STREET (114)	338183.8	731292.8	2.7	43.2	43.6	41.0	39.2
LOGIE STREET (98)	338252.2	731257.6	2.62	39.3	39.8	37.4	35.7
LOONS ROAD (1)	338211.1	731293.4	2.73	48.4	49.0	46.0	44.0
MUIRTON ROAD (6)	338152.3	731293.3	2.5	31.4	31.6	30.0	28.8
RANKINE ST (2)	338768.3	730900.3	2.7	36.8	36.9	35.4	34.2
Lochee Road Romon (a	338860.6	730773.4	2.04	50.3	47.0	47.3	44.8
Lochee Road Romon NO	338861	730773	1.77	51.6	48.1	48.5	45.9
Lochee Road Romon PM	338861	730773	2.06	50.4	47.0	47.4	44.9
Lochee Road Osiris P	338920	730693	3.22	47.7	46.8	45.7	43.9
Logie Street Osiris	338176	731298	3.31	41.8	42.2	39.7	37.9
1	337628.1	731177.6	1.5	19.3	19.3	19.0	18.9
2	337644.8	731179.9	1.5	20.6	20.5	20.2	20.0
3	337669.9	731183.3	1.5	22.0	21.9	21.4	21.1
4	337685.8	731173.8	1.5	31.8	31.6	30.8	30.0
5	337705	731208.4	1.5	18.6	18.6	18.3	18.1
6	337713.5	731185.7	1.5	22.9	22.8	22.3	21.8
7	337718.5	731208.4	1.5	18.8	18.8	18.5	18.2
8	337720.1	731214.8	1.5	18.3	18.3	18.1	17.9
9	337740.5	731153.2	1.5	22.1	22.0	21.3	20.8
10	337743.7	731188.1	1.5	21.3	21.2	20.7	20.2
10_4.5	337744.8	731494.8	4.5	18.7	18.7	18.3	18.1
11	337746.2	731208.4	1.5	18.9	18.8	18.5	18.2
12	337753.6	731419.9	1.5	18.5	18.5	18.1	17.8
13	337767	731419.5	1.5	19.1	19.1	18.6	18.2
14	337771.6	731211.6	1.5	18.7	18.7	18.3	18.0
15	337780.1	731425.4	1.5	20.6	20.5	19.9	19.3
16	337780.1	731425.4	1.5	20.6	20.5	19.9	19.3
17	337780.1	731425.4	1.5	20.6	20.5	19.9	19.3
18	337780.1	731425.4	1.5	20.6	20.5	19.9	19.3
19	337780.1	731425.4	1.5	20.6	20.5	19.9	19.3
20	337780.1	731425.4	1.5	20.6	20.5	19.9	19.3
20_4.5	337780.1	731425.4	4.5	19.8	19.8	19.2	18.8
20_7.5	337780.1	731425.4	7.5	18.7	18.7	18.3	18.0
20_10.5	337780.1	731425.4	10.5	17.8	17.8	17.6	17.3
21	337782.9	731398.9	1.5	19.1	19.0	18.6	18.2
22	337782.9	731398.9	1.5	19.1	19.0	18.6	18.2
23	337782.9	731398.9	1.5	19.1	19.0	18.6	18.2
24	337782.9	731398.9	1.5	19.1	19.0	18.6	18.2
25	337782.9	731398.9	1.5	19.1	19.0	18.6	18.2
26	337782.9	731398.9	1.5	19.1	19.0	18.6	18.2
26_4.5	337782.9	731398.9	4.5	18.7	18.7	18.3	18.0
26_7.5	337782.9	731398.9	7.5	18.3	18.2	17.9	17.6
26_10.5	337782.9	731398.9	10.5	17.7	17.7	17.5	17.2
27	337782.9	731406.8	1.5	19.4	19.4	18.9	18.5
28	337782.9	731406.8	1.5	19.4	19.4	18.9	18.5
29	337782.9	731406.8	1.5	19.4	19.4	18.9	18.5
30	337782.9	731406.8	1.5	19.4	19.4	18.9	18.5
31	337782.9	731406.8	1.5	19.4	19.4	18.9	18.5
32	337782.9	731406.8	1.5	19.4	19.4	18.9	18.5
32_4.5	337782.9	731406.8	4.5	19.0	19.0	18.6	18.2
32_7.5	337782.9	731406.8	7.5	18.4	18.4	18.0	17.8
32_10.5	337782.9	731406.8	10.5	17.8	17.8	17.5	17.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
33	337791.4	731211.6	1.5	18.7	18.7	18.3	18.0
34	337796	731189.6	1.5	21.2	21.2	20.5	19.8
35	337797	731265.6	1.5	17.6	17.6	17.4	17.2
36	337797.6	731158.8	1.5	21.0	21.0	20.3	19.6
37	337798.6	731232.3	1.5	18.1	18.1	17.8	17.5
38	337798.6	731250.5	1.5	17.8	17.8	17.5	17.3
39	337798.6	731286.1	1.5	17.6	17.6	17.3	17.1
40L	337804.3	731469.4	1.5	33.5	33.3	31.7	30.3
40_4.5L	337804.3	731469.4	4.5	25.5	25.4	24.3	23.4
40_7.5L	337804.3	731469.4	7.5	20.0	19.9	19.4	18.9
41L	337804.7	731489.3	1.5	26.8	26.8	25.8	25.2
41_4.5L	337804.7	731489.3	4.5	23.5	23.5	22.7	22.2
41_7.5L	337804.7	731489.3	7.5	20.0	19.9	19.4	19.1
42L	337817.8	731453.2	1.5	29.5	29.3	28.1	26.9
42_4.5L	337817.8	731453.2	4.5	24.6	24.6	23.7	22.8
42_7.5L	337817.8	731453.2	7.5	20.4	20.3	19.7	19.2
43	337819.2	731293.3	1.5	17.8	17.8	17.5	17.3
44	337823.1	731269.5	1.5	17.9	17.9	17.6	17.4
45	337824.7	731252.9	1.5	18.0	17.9	17.7	17.4
46L	337825.6	731446.1	1.5	27.6	27.5	26.4	25.4
46_4.5L	337825.6	731446.1	4.5	24.0	23.9	23.1	22.4
46_10.5L	337825.6	731446.1	10.5	18.4	18.4	18.0	17.7
47	337827.9	731187.1	1.5	22.9	22.9	21.8	21.0
48	337830.3	731241.8	1.5	18.1	18.1	17.8	17.5
49	337830.4	731285.9	1.5	17.9	17.9	17.6	17.4
50	337831	731200.6	1.5	19.9	19.9	19.3	18.8
51	337832.6	731163.3	1.5	21.1	21.0	20.2	19.6
52	337832.8	731268.1	1.5	18.0	18.0	17.7	17.5
53L	337834.4	731473.4	1.5	22.0	21.9	21.2	20.7
54	337835	731216.4	1.5	18.8	18.8	18.4	18.0
55L	337838.4	731431.8	1.5	27.3	27.2	26.2	25.3
55_4.5L	337838.4	731431.8	4.5	23.9	23.9	23.1	22.4
55_10.5L	337838.4	731431.8	10.5	18.6	18.5	18.2	17.9
56	337840.6	731165.7	1.5	21.5	21.4	20.6	19.8
57	337846.9	731163.3	1.5	20.9	20.8	20.0	19.3
58	337851.7	731191.8	1.5	22.1	22.1	21.0	20.2
59L	337851.8	731417.5	1.5	28.5	28.4	27.1	25.9
60L	337854.6	731458.8	1.5	21.1	21.0	20.5	20.0
61	337855	731362.1	1.5	20.7	20.7	19.8	19.1
61_4.5	337855	731362.1	4.5	20.0	20.0	19.3	18.7
61_7.5	337855	731362.1	7.5	19.1	19.1	18.6	18.1
61_10.5	337855	731362.1	10.5	18.2	18.2	17.9	17.6
61_13.5	337855	731362.1	13.5	17.6	17.6	17.4	17.2
62L	337866.5	731419.1	1.5	24.9	24.8	23.8	22.8
63	337870.7	731197.4	1.5	21.7	21.7	20.7	19.8
64L	337874.8	731404.9	1.5	29.3	29.2	27.5	26.0
65L	337877.2	731459.6	1.5	20.1	20.1	19.6	19.1
66	337881.8	731250.5	1.5	18.7	18.8	18.4	18.1
67	337884.9	731233.8	1.5	19.0	19.1	18.6	18.3
68	337885.8	731197.4	1.5	22.8	22.7	21.5	20.4
69	337888.9	731219.6	1.5	19.8	19.8	19.2	18.7
70	337893.1	731280	1.5	19.0	19.1	18.7	18.4
71	337893.5	731251.1	1.5	19.3	19.3	18.9	18.6
72	337895.1	731236.4	1.5	19.6	19.7	19.2	18.8
73	337896.6	731226.5	1.5	19.9	20.0	19.5	19.0
74L	337897.2	731397	1.5	29.2	29.0	27.2	25.7
74_4.5L	337897.2	731397	4.5	25.2	25.1	23.8	22.7
74_10.5L	337897.2	731397	10.5	19.3	19.3	18.8	18.4
75L	337898.2	731406.4	1.5	25.1	25.0	23.8	22.7
76	337900.6	731280.8	1.5	18.9	18.9	18.5	18.2
77L	337900.6	731452	1.5	20.3	20.3	19.7	19.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
78	337901.6	731346.4	1.5	20.8	20.8	20.0	19.3
79L	337901.8	731467.9	1.5	19.3	19.3	18.9	18.5
80	337902	731326.6	1.5	19.4	19.4	18.9	18.4
81L	337903.8	731423.5	1.5	22.3	22.2	21.4	20.8
82	337906.2	731281.6	1.5	18.9	18.9	18.5	18.2
83L	337909.3	731435.4	1.5	21.8	21.8	21.0	20.5
84	337912.1	731282.4	1.5	18.9	18.9	18.5	18.3
85L	337914.2	731419.8	1.5	22.8	22.7	21.8	21.1
85_4.5L	337914.2	731419.8	4.5	21.8	21.8	21.0	20.4
85_10.5L	337914.2	731419.8	10.5	19.3	19.3	18.8	18.4
86	337917.6	731281.6	1.5	18.9	19.0	18.6	18.3
87	337918.8	731465.9	1.5	19.3	19.3	18.9	18.6
88	337918.8	731465.9	1.5	19.3	19.3	18.9	18.6
89	337918.8	731472.6	1.5	19.0	18.9	18.6	18.3
90	337918.8	731472.6	1.5	19.0	18.9	18.6	18.3
91	337919	731320.3	1.5	19.4	19.4	18.9	18.5
92L	337920	731391.9	1.5	27.6	27.6	25.8	24.3
92_4.5L	337920	731391.9	4.5	24.9	24.8	23.5	22.4
92_10.5L	337920	731391.9	10.5	19.7	19.7	19.2	18.7
93L	337920	731433.7	1.5	23.3	23.2	22.4	21.9
93_4.5L	337920	731433.7	4.5	21.4	21.4	20.8	20.2
93_10.5L	337920	731433.7	10.5	18.9	18.9	18.5	18.1
94	337921.2	731456	1.5	20.4	20.4	19.8	19.4
95	337921.6	731280.8	1.5	18.9	19.0	18.6	18.3
96	337922.6	731345.6	1.5	21.4	21.3	20.6	19.9
97	337926	731280	1.5	19.0	19.0	18.6	18.3
98L	337930	731409.4	1.5	24.0	23.9	22.9	22.0
98_4.5L	337930	731409.4	4.5	22.7	22.7	21.8	21.0
98_10.5L	337930	731409.4	10.5	19.5	19.5	19.0	18.6
99	337931.9	731448.4	1.5	22.2	22.2	21.5	21.0
100	337932.5	731161.7	1.5	20.6	20.6	19.8	19.1
101L	337938.6	731423.7	1.5	28.5	28.4	27.2	26.0
101_4.5L	337938.6	731423.7	4.5	23.0	22.9	22.1	21.4
101_10.5L	337938.6	731423.7	10.5	19.1	19.1	18.6	18.3
102L	337940.6	731401.7	1.5	25.0	24.9	23.8	22.7
102_4.5L	337940.6	731401.7	4.5	23.4	23.4	22.4	21.5
102_7.5L	337940.6	731401.7	7.5	21.4	21.3	20.6	20.0
102_10.5L	337940.6	731401.7	10.5	19.7	19.7	19.1	18.7
102_13.5L	337940.6	731401.7	13.5	18.5	18.5	18.1	17.8
103	337942.2	731439.3	1.5	24.8	24.6	23.8	23.1
103_4.5	337942.2	731439.3	4.5	21.7	21.7	21.0	20.5
103_7.5	337942.2	731439.3	7.5	19.7	19.7	19.2	18.8
104	337955.3	731210.3	1.5	21.5	21.5	20.7	19.9
105	337956.1	731430.2	1.5	26.4	26.3	25.3	24.3
105_4.5	337956.1	731430.2	4.5	22.9	22.8	22.1	21.4
105_7.5	337956.1	731430.2	7.5	20.2	20.2	19.6	19.2
106	337959.5	731165.7	1.5	20.8	20.8	20.0	19.3
107L	337962.4	731394.1	1.5	28.0	27.8	26.5	25.2
107_4.5L	337962.4	731394.1	4.5	25.1	25.0	23.9	22.9
107_7.5L	337962.4	731394.1	7.5	21.9	21.9	21.1	20.4
107_10.5L	337962.4	731394.1	10.5	19.8	19.8	19.3	18.8
107_13.5L	337962.4	731394.1	13.5	18.6	18.6	18.2	17.9
108	337964.6	731115.3	1.5	18.0	18.0	17.6	17.4
109	337964.6	731136.3	1.5	18.6	18.6	18.1	17.8
110	337967.8	731095.5	1.5	17.6	17.6	17.4	17.1
111	337970.2	731067.8	1.5	17.3	17.3	17.1	16.9
112	337971.3	731046.8	1.5	17.2	17.2	17.0	16.8
113	337973.5	731211.4	1.5	21.4	21.5	20.7	20.0
114	337976.9	731029.3	1.5	17.1	17.1	16.9	16.7
115	337977.1	731228.5	1.5	20.0	20.0	19.4	18.9
116	337982.7	731244.3	1.5	19.6	19.6	19.1	18.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
117	337984.8	731166.1	1.5	20.5	20.5	19.8	19.2
118	337986	731008.7	1.5	17.0	17.0	16.8	16.7
119	337988	731126.4	1.5	18.3	18.3	17.9	17.6
120	337988.8	731174.8	1.5	21.8	21.9	21.0	20.2
121	337990.2	731214.2	1.5	21.2	21.3	20.5	19.9
122	337990.4	731104.6	1.5	17.8	17.9	17.5	17.3
123	337992.8	730997.3	1.5	17.0	17.0	16.8	16.6
124	337993.8	731271.7	1.5	20.7	20.7	20.2	19.8
125	337994.3	731079.3	1.5	17.5	17.5	17.3	17.0
126	337996.3	731060.3	1.5	17.3	17.4	17.1	16.9
127	337996.9	731238.8	1.5	20.2	20.3	19.7	19.3
128	337997.5	731036.4	1.5	17.2	17.2	17.0	16.8
129	337997.7	731250.3	1.5	20.2	20.2	19.7	19.3
130	337998.1	731296.3	1.5	20.3	20.3	19.7	19.3
131	337998.5	731403.3	1.5	26.4	26.4	25.0	23.9
132	337999.7	731221.8	1.5	20.6	20.7	20.0	19.4
133	337999.9	730987.3	1.5	16.9	17.0	16.8	16.6
134	338003.1	731027.8	1.5	17.2	17.2	17.0	16.8
135	338004.4	731275.3	1.5	20.2	20.2	19.7	19.3
136	338005.3	731296.3	1.5	20.5	20.5	19.9	19.4
137	338006.6	731020.6	1.5	17.1	17.2	16.9	16.8
138	338007	731175.2	1.5	21.6	21.6	20.8	20.1
139	338007.6	731394.1	1.5	29.2	29.2	27.6	26.2
140	338009.8	730978.2	1.5	16.9	17.0	16.8	16.6
141	338011.2	731295.1	1.5	20.6	20.6	20.0	19.6
142	338011.4	731013.9	1.5	17.1	17.2	16.9	16.7
143	338013.2	731209.4	1.5	22.6	22.7	21.7	21.0
144	338013.4	731345.2	1.5	26.3	26.2	25.2	24.2
145	338015.2	731469.9	1.5	18.6	18.6	18.2	17.9
146	338016.5	731175.2	1.5	21.4	21.5	20.7	20.0
147	338017.7	731324.2	1.5	22.5	22.4	21.7	21.0
148	338019.1	731302.2	1.5	21.0	21.0	20.3	19.8
149	338022.9	731000.8	1.5	17.1	17.1	16.9	16.7
150	338023.1	731451.3	1.5	19.5	19.5	19.1	18.7
151	338026.4	731350.8	1.5	31.0	30.8	29.5	28.1
152	338026.6	731302.6	1.5	21.2	21.2	20.6	20.0
153	338027	731438.1	1.5	20.5	20.4	19.9	19.5
154	338028.6	731383.4	1.5	33.6	33.5	31.9	30.4
155	338028.8	730964.8	1.5	17.0	17.0	16.8	16.7
156	338031.2	730994.4	1.5	17.1	17.2	16.9	16.8
157	338031.4	731422.7	1.5	21.9	21.8	21.2	20.7
158	338034.8	731178.3	1.5	21.9	21.9	21.0	20.3
159	338036.5	731211.4	1.5	22.9	23.0	22.0	21.2
160	338037.2	730992.1	1.5	17.1	17.2	16.9	16.8
161	338037.3	731303.4	1.5	21.6	21.6	20.9	20.3
162	338038.5	731407.6	1.5	23.9	23.8	23.1	22.3
163	338038.7	730963.1	1.5	17.0	17.1	16.9	16.7
164	338040.5	731475.8	1.5	18.2	18.2	17.9	17.7
165	338044.7	730986.9	1.5	17.2	17.2	17.0	16.8
166	338044.9	731303.8	1.5	21.9	21.9	21.1	20.6
167	338045.9	731326.6	1.5	24.7	24.6	23.5	22.6
168	338045.9	730961.1	1.5	17.1	17.1	16.9	16.8
169	338046.4	731211.4	1.5	23.3	23.4	22.3	21.5
170	338046.9	731463.5	1.5	18.7	18.6	18.3	18.0
171	338047.4	731179.5	1.5	22.0	22.0	21.1	20.5
172	338049.2	731415.1	1.5	22.8	22.6	22.1	21.5
173	338053.6	731212.3	1.5	23.4	23.4	22.4	21.6
174	338053.6	731282.8	1.5	21.6	21.6	21.0	20.5
175	338055.8	731180.3	1.5	22.1	22.2	21.3	20.6
176	338056	731382.3	1.5	30.6	30.4	29.2	28.0
177	338056.2	730956.8	1.5	17.2	17.2	17.0	16.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
178	338056.2	731348	1.5	41.6	41.3	38.3	35.5
179	338059.5	731301.4	1.5	22.4	22.4	21.6	21.0
180	338061.9	731277.3	1.5	22.1	22.2	21.5	21.0
181	338062.3	731213.4	1.5	23.5	23.5	22.5	21.7
182	338068.1	731181.1	1.5	22.2	22.3	21.4	20.7
183	338069.8	731372.4	1.5	32.8	32.6	30.8	29.1
184	338072.2	731214.2	1.5	23.8	23.9	22.9	22.0
185	338072.4	730993.3	1.5	17.3	17.4	17.1	17.0
186	338073.8	731259.4	1.5	22.6	22.6	22.0	21.5
187	338074	730982.1	1.5	17.6	17.6	17.3	17.1
188	338076	730953.6	1.5	17.7	17.7	17.4	17.3
189	338076.4	731181.1	1.5	22.3	22.3	21.4	20.8
190	338077.4	731215	1.5	23.9	24.0	23.0	22.2
191	338078.2	731267.8	1.5	23.4	23.5	22.8	22.2
192	338079.3	731403.3	1.5	22.4	22.4	21.7	21.0
193	338080.1	731276.1	1.5	24.5	24.6	23.8	23.1
194	338080.5	731238.8	1.5	22.2	22.3	21.6	21.0
195	338082.1	731259.8	1.5	23.1	23.1	22.4	21.9
196	338083.9	730953.6	1.5	17.9	17.9	17.7	17.5
197	338084.9	731232.4	1.5	22.8	22.9	22.2	21.5
198	338086.9	731228.1	1.5	23.2	23.2	22.4	21.8
199	338087.7	731251.5	1.5	22.8	22.9	22.2	21.6
200	338088.1	731278.8	1.5	25.2	25.4	24.5	23.9
201	338088.1	731319.3	1.5	27.2	27.2	25.7	24.5
202	338088.3	731182.7	1.5	22.7	22.8	21.9	21.1
203	338094.2	731183.9	1.5	23.1	23.2	22.2	21.5
204	338096	731213	1.5	27.3	27.4	26.1	25.1
205	338098.2	731330.1	1.5	37.4	37.3	34.5	32.2
206	338101.6	731224.1	1.5	24.6	24.6	23.7	23.0
207	338104.5	730952	1.5	18.1	18.2	17.9	17.7
208	338105.1	731354.1	1.5	34.2	34.0	31.7	29.6
209	338105.1	731360.1	1.5	30.6	30.5	28.6	26.9
210	338105.1	731366	1.5	28.2	28.1	26.5	25.2
211	338105.9	731373.1	1.5	26.1	26.0	24.7	23.6
212	338107.7	731184.7	1.5	23.8	23.8	22.9	22.1
213	338107.7	730940.1	1.5	17.4	17.5	17.2	17.1
214	338109.1	731220.9	1.5	25.2	25.3	24.2	23.4
215	338110.9	731295.3	1.5	26.0	26.1	25.0	24.1
216	338116.8	731185.9	1.5	24.5	24.5	23.5	22.7
217	338117.2	731313.1	1.5	30.2	30.2	28.4	26.9
218	338118	730939.8	1.5	17.5	17.5	17.3	17.1
219	338122.6	731275.3	1.5	24.1	24.2	23.2	22.5
220	338124.9	731225.7	1.5	24.8	24.8	23.9	23.1
221	338125.5	730984.1	1.5	18.0	18.1	17.8	17.6
222	338125.5	730994.1	1.5	17.8	17.8	17.5	17.3
223	338131.3	731278.8	1.5	25.0	25.1	24.1	23.3
224	338133.5	730939.4	1.5	17.5	17.5	17.3	17.1
225	338133.5	731188.6	1.5	26.1	26.2	25.0	24.1
226	338140.2	730939.8	1.5	17.5	17.5	17.3	17.2
227	338141.2	731290.1	1.5	29.5	29.7	28.3	27.2
227_4.5	338141.2	731290.1	4.5	26.2	26.3	25.1	24.3
227_7.5	338141.2	731290.1	7.5	23.1	23.2	22.4	21.7
228	338143.4	730979.8	1.5	18.2	18.3	18.0	17.8
229	338144.2	731188.6	1.5	26.3	26.3	25.2	24.3
230	338148.7	731232.9	1.5	24.5	24.6	23.7	22.9
231	338149	731292.1	1.5	31.4	31.6	30.0	28.8
231_4.5	338149	731292.1	4.5	27.3	27.5	26.2	25.2
231_7.5	338149	731292.1	7.5	23.7	23.8	22.8	22.2
232	338151.3	730952.4	1.5	18.0	18.0	17.8	17.6
233	338154.1	731293.4	1.5	33.1	33.3	31.5	30.2
233_4.5	338154.1	731293.4	4.5	28.4	28.5	27.1	26.1

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
233_7.5	338154.1	731293.4	7.5	24.0	24.1	23.1	22.4
234	338154.5	730981.8	1.5	18.2	18.2	17.9	17.7
235	338158.9	731294.7	1.5	35.2	35.4	33.5	32.1
235_4.5	338158.9	731294.7	4.5	29.5	29.6	28.1	27.1
235_7.5	338158.9	731294.7	7.5	24.3	24.5	23.4	22.7
236	338159.6	730953.3	1.5	18.0	18.1	17.8	17.6
237	338159.8	731234.1	1.5	24.8	24.9	23.9	23.2
238	338163	731295.5	1.5	37.1	37.4	35.3	33.7
238_4.5	338163	731295.5	4.5	30.5	30.7	29.1	28.0
238_7.5	338163	731295.5	7.5	24.6	24.7	23.7	22.9
239	338163.8	731222.9	1.5	28.4	28.5	27.2	26.2
240	338164.8	730982.6	1.5	18.2	18.3	18.0	17.8
241	338165.8	731358.1	1.5	24.2	24.2	23.1	22.3
242	338165.8	731364	1.5	23.3	23.3	22.4	21.6
243	338166.9	731350.6	1.5	25.5	25.5	24.3	23.3
244	338167.2	731189.1	1.5	26.9	27.0	25.8	24.8
245	338169.1	730953.6	1.5	18.0	18.1	17.8	17.6
246	338172.9	731298.1	1.5	47.3	47.7	44.8	42.7
246_4.5	338172.9	731298.1	4.5	34.2	34.4	32.5	31.1
246_7.5	338172.9	731298.1	7.5	25.0	25.1	24.0	23.2
247	338173.1	731185.9	1.5	26.3	26.3	25.2	24.2
248	338173.9	730982.6	1.5	18.3	18.4	18.0	17.8
249	338178	731223.8	1.5	28.4	28.6	27.3	26.3
250	338180.2	730955.2	1.5	18.1	18.2	17.9	17.7
251	338180.8	731293.6	1.5	46.3	46.7	43.9	41.9
251_4.5	338180.8	731293.6	4.5	33.9	34.2	32.3	31.0
251_7.5	338180.8	731293.6	7.5	24.9	25.1	24.0	23.3
252	338182.2	731167.6	1.5	23.6	23.7	22.8	22.0
253	338183.8	730987.7	1.5	18.3	18.3	18.0	17.8
254	338187.3	731291	1.5	48.0	48.5	45.5	43.5
254_4.5	338187.3	731291	4.5	34.2	34.5	32.7	31.4
254_7.5	338187.3	731291	7.5	24.9	25.1	24.0	23.3
255	338187.8	731159.3	1.5	23.3	23.3	22.4	21.7
256	338194.1	731148.3	1.5	22.9	22.9	22.1	21.3
257	338194.5	730989.7	1.5	18.4	18.4	18.1	17.8
258	338194.8	731287.1	1.5	47.8	48.3	45.3	43.3
258_4.5	338194.8	731287.1	4.5	33.9	34.2	32.3	31.1
258_7.5	338194.8	731287.1	7.5	24.8	25.0	24.0	23.3
259	338201.2	731130.4	1.5	22.1	22.1	21.3	20.7
260	338201.3	731283.4	1.5	46.0	46.4	43.6	41.7
260_4.5	338201.3	731283.4	4.5	33.0	33.4	31.6	30.3
260_7.5	338201.3	731283.4	7.5	24.8	24.9	23.9	23.2
261	338202.2	731228.1	1.5	27.3	27.4	26.4	25.6
262	338202.4	731202.9	1.5	30.9	31.1	29.8	28.8
263	338202.8	730959.6	1.5	18.3	18.4	18.1	17.8
264	338203.2	730989.7	1.5	18.5	18.6	18.2	18.0
265	338203.2	731189.8	1.5	29.1	29.1	27.8	26.6
266	338205.2	731123.6	1.5	22.0	22.0	21.2	20.6
267	338206.6	731298.3	1.5	51.7	52.4	49.1	47.1
268	338208.6	731259.8	1.5	27.8	28.1	26.7	25.8
269	338211.1	730992.9	1.5	18.6	18.7	18.3	18.0
270	338213.5	730960.8	1.5	18.4	18.5	18.1	17.9
271	338213.5	731109	1.5	21.9	21.9	21.1	20.5
272	338216.7	731099.9	1.5	21.5	21.5	20.8	20.2
273	338218.7	731167.3	1.5	25.8	25.8	24.7	23.7
274	338220.1	731289.1	1.5	46.7	47.3	44.3	42.3
275	338221.4	731202.9	1.5	30.8	31.0	30.0	29.3
276	338223.8	731087.6	1.5	21.4	21.5	20.8	20.1
277	338223.8	730963.5	1.5	18.5	18.6	18.2	18.0
278	338226.2	730998.4	1.5	18.9	19.0	18.5	18.2
279	338227.2	731285.9	1.5	42.8	43.4	40.6	38.8

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
280	338228.2	731154.9	1.5	24.6	24.6	23.6	22.7
281	338231.3	731075.7	1.5	21.6	21.6	20.9	20.2
282	338232.1	731000.4	1.5	19.1	19.2	18.7	18.4
283	338232.1	731145.4	1.5	24.4	24.5	23.4	22.5
284	338232.9	731203.3	1.5	31.4	31.5	30.6	29.9
285	338234.1	730965.5	1.5	18.7	18.8	18.4	18.1
286	338234.9	731064.2	1.5	21.1	21.1	20.4	19.9
287	338235.1	731282.8	1.5	39.9	40.4	37.9	36.1
288	338238.3	731280.4	1.5	40.2	40.8	38.1	36.4
289	338238.9	731130.4	1.5	24.2	24.2	23.1	22.3
290	338239.5	731305	1.5	36.7	37.6	35.4	34.3
291	338244	731119.3	1.5	24.1	24.1	23.0	22.2
292	338245.2	731049.1	1.5	21.4	21.4	20.7	20.1
293	338245.6	730969.5	1.5	19.0	19.1	18.7	18.3
294	338246	731001.6	1.5	19.7	19.8	19.2	18.8
295	338246.2	731277.6	1.5	37.8	38.3	35.9	34.3
296	338247.8	731257.8	1.5	38.1	38.5	36.2	34.6
297	338253.6	731103.4	1.5	23.5	23.5	22.5	21.7
298	338253.9	731005.1	1.5	20.2	20.2	19.6	19.1
299	338254.3	731207.3	1.5	35.5	35.8	34.8	34.1
300	338255.1	730973.4	1.5	19.4	19.5	19.0	18.6
301	338257.5	731091.9	1.5	23.7	23.8	22.7	21.8
302	338262.7	730976.6	1.5	19.8	20.0	19.3	18.9
303	338264.8	731360.4	1.5	21.6	21.7	21.0	20.6
304	338266.6	731077.3	1.5	23.2	23.2	22.2	21.4
305	338269	731068.1	1.5	23.6	23.6	22.6	21.7
306	338274.2	730979.8	1.5	20.6	20.7	19.9	19.3
307	338276.9	731055.5	1.5	23.2	23.2	22.2	21.4
308	338277.1	731345.4	1.5	23.5	23.9	22.9	22.3
309	338283.7	731041.6	1.5	23.2	23.2	22.2	21.4
310	338292	731024.2	1.5	23.2	23.3	22.2	21.4
311	338293.6	730956.8	1.5	20.6	20.7	19.7	18.9
312	338297.5	731013.4	1.5	23.2	23.3	22.2	21.3
313	338302.3	730929.4	1.5	19.6	19.6	18.8	18.2
314	338305.9	730997.6	1.5	22.6	22.7	21.4	20.5
315	338308.6	730926.7	1.5	19.9	20.0	19.1	18.4
316	338308.8	731328.8	1.5	27.6	28.5	26.8	26.2
317	338313	730986.5	1.5	22.0	22.1	20.9	19.8
318	338319.3	730922.3	1.5	20.7	20.8	19.6	18.8
319	338321.3	730968.7	1.5	21.8	22.0	20.7	19.6
320	338322.3	731299.4	1.5	22.8	23.0	22.2	21.6
321	338326.5	730960.8	1.5	21.7	21.8	20.5	19.5
322	338338.4	730942.9	1.5	22.2	22.3	20.9	19.7
323	338342.9	731341.4	1.5	26.3	27.1	25.5	24.9
324	338343.9	730938.6	1.5	22.4	22.5	21.0	19.8
325	338345.7	731291.1	1.5	21.8	22.0	21.3	20.8
326	338350.1	731271.3	1.5	22.0	22.2	21.4	21.0
327	338350.3	731110.6	1.5	27.8	28.5	26.5	25.5
328	338351.8	731051.5	1.5	22.0	22.3	21.4	21.0
329	338353.4	731100.7	1.5	26.7	27.4	25.8	25.0
330	338353.6	731339.4	1.5	23.9	24.4	23.2	22.6
331	338356.8	730887.6	1.5	19.3	19.4	18.8	18.3
331_4.5	338356.8	730887.6	4.5	19.0	19.1	18.5	18.1
331_7.5	338356.8	730887.6	7.5	18.5	18.6	18.1	17.8
331_10.5	338356.8	730887.6	10.5	18.0	18.1	17.7	17.5
332	338360.2	731116.1	1.5	31.3	31.7	28.8	26.8
333	338361.8	730932.2	1.5	22.5	22.7	21.2	20.0
334	338362.3	731327.6	1.5	22.1	22.3	21.4	20.9
335	338364.5	731077.3	1.5	25.8	26.5	25.2	24.6
336	338365.1	731321.3	1.5	21.6	21.9	21.0	20.5
337	338367.5	731314.9	1.5	21.4	21.6	20.8	20.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
338	338367.9	730554.7	1.5	16.7	16.7	16.6	16.6
338_4.5	338368.7	730880.1	4.5	19.0	19.1	18.5	18.1
338_7.5	338368.7	730880.1	7.5	18.5	18.6	18.2	17.8
338_10.5	338368.7	730880.1	10.5	18.1	18.1	17.8	17.5
339	338371.3	731071.3	1.5	24.6	25.2	23.9	23.3
340	338371.5	731308.6	1.5	21.2	21.4	20.6	20.1
341	338373	730523	1.5	16.7	16.7	16.6	16.5
342	338373	730559.9	1.5	16.8	16.8	16.7	16.6
343	338375.8	730529.8	1.5	16.7	16.7	16.7	16.6
344	338375.8	731303.8	1.5	21.1	21.3	20.5	20.0
345	338379.6	731106.2	1.5	29.2	29.5	26.9	25.1
346	338380.2	730559.4	1.5	16.8	16.8	16.7	16.7
347	338380.2	731298.3	1.5	21.0	21.2	20.4	19.9
348	338381.8	731257	1.5	21.0	21.1	20.5	20.1
349	338382.9	731289.9	1.5	21.0	21.1	20.4	19.9
350	338384.7	730929.8	1.5	22.8	23.0	21.7	20.6
351	338385.3	731285.6	1.5	20.9	21.0	20.3	19.8
352	338385.5	731102.3	1.5	28.0	28.3	25.9	24.3
353	338386.1	731231.3	1.5	21.1	21.2	20.6	20.1
354	338387.3	731260.2	1.5	20.9	21.0	20.4	19.9
355	338390.9	730878.9	1.5	20.0	20.2	19.4	18.9
355_4.5	338390.9	730878.9	4.5	19.6	19.7	19.1	18.6
355_7.5	338390.9	730878.9	7.5	18.9	19.1	18.5	18.2
355_10.5	338390.9	730878.9	10.5	18.3	18.4	18.0	17.7
356	338390.9	731278	1.5	20.9	21.0	20.3	19.8
357	338392.1	730512.7	1.5	16.8	16.8	16.7	16.6
358	338392.1	730554.7	1.5	17.0	17.0	17.0	16.9
359	338392.5	730524.6	1.5	17.0	16.9	16.9	16.8
360	338393.7	731270.9	1.5	20.8	20.9	20.2	19.7
361	338393.8	731088	1.5	23.9	24.2	22.7	21.8
362	338394.3	731069.8	1.5	22.4	22.7	21.7	21.1
363	338396.4	731236.8	1.5	20.7	20.8	20.2	19.8
364	338397.2	731266.1	1.5	20.8	20.9	20.2	19.7
365	338398.4	731310.5	1.5	20.7	20.8	20.1	19.6
366	338398.4	731316.5	1.5	20.7	20.8	20.1	19.7
367	338398.8	731325.2	1.5	20.7	20.8	20.2	19.8
368	338399.6	731345.8	1.5	21.2	21.4	20.8	20.4
369	338400	731331.5	1.5	20.7	20.9	20.2	19.8
370	338400.6	730921.5	1.5	26.3	26.5	24.7	23.1
371	338400.8	731349.4	1.5	21.4	21.6	20.9	20.6
372	338400.8	731355.7	1.5	22.0	22.2	21.5	21.1
373	338401.2	731238.4	1.5	20.6	20.7	20.1	19.7
374	338402.4	731294.3	1.5	20.8	20.9	20.1	19.5
375	338405.5	731368.8	1.5	25.3	25.8	24.8	24.3
376	338406.5	730920.8	1.5	27.2	27.4	25.6	24.1
377	338406.7	730553.9	1.5	17.5	17.5	17.4	17.3
378	338408.3	730864.3	1.5	19.7	19.9	19.2	18.8
378_4.5	338408.3	730864.3	4.5	19.4	19.6	19.0	18.6
378_7.5	338408.3	730864.3	7.5	18.9	19.0	18.5	18.2
378_10.5	338408.3	730864.3	10.5	18.3	18.4	18.0	17.7
379	338410.7	731245.1	1.5	20.4	20.5	19.9	19.5
380	338415.3	730950.4	1.5	23.2	23.8	22.5	22.0
381	338415.6	731054.7	1.5	22.0	22.2	21.3	20.8
382	338416.3	731308.1	1.5	20.2	20.3	19.7	19.3
383	338417	731224.9	1.5	20.2	20.3	19.8	19.4
384	338417.2	730919.6	1.5	29.1	29.5	27.5	26.1
385	338417.2	730945.7	1.5	23.3	23.9	22.6	22.1
386	338421	730553.5	1.5	17.9	17.9	17.9	17.8
387	338421.2	730941.8	1.5	24.1	24.8	23.4	22.8
388	338422.2	730520.6	1.5	17.4	17.4	17.3	17.3
389	338425	730851.6	1.5	19.7	19.9	19.3	18.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
389_4.5	338425	730851.6	4.5	19.4	19.6	19.0	18.6
389_7.5	338425	730851.6	7.5	18.9	19.0	18.5	18.2
389_10.5	338425	730851.6	10.5	18.3	18.4	18.0	17.7
390	338426.3	731065.4	1.5	22.2	22.3	21.3	20.6
391	338426.9	731308.9	1.5	20.0	20.1	19.6	19.2
392	338427.7	730526.9	1.5	18.0	18.0	17.9	17.8
393	338427.9	730923.5	1.5	27.5	28.1	26.3	25.3
394	338428.5	731305.4	1.5	20.0	20.1	19.6	19.2
395	338429.3	731247.9	1.5	20.2	20.2	19.7	19.3
396	338434.1	731252.3	1.5	20.2	20.3	19.7	19.3
397	338434.3	731054.7	1.5	21.6	21.7	20.9	20.3
398	338434.5	731374.8	1.5	23.0	23.2	22.5	22.2
399	338436.8	730552.8	1.5	18.3	18.3	18.2	18.2
400	338440	730502	1.5	17.0	17.0	16.9	16.9
401	338440	730838.9	1.5	19.7	20.0	19.3	19.0
401_4.5	338440	730838.9	4.5	19.4	19.6	19.0	18.7
401_7.5	338440	730838.9	7.5	18.8	19.0	18.5	18.2
401_10.5	338440	730838.9	10.5	18.3	18.4	18.0	17.7
402	338440.4	731255.4	1.5	20.2	20.3	19.7	19.2
403	338444.4	730820.6	1.5	19.2	19.4	18.8	18.5
403_4.5	338444.4	730820.6	4.5	18.9	19.1	18.6	18.3
403_7.5	338444.4	730820.6	7.5	18.5	18.7	18.2	18.0
403_10.5	338444.4	730820.6	10.5	18.1	18.2	17.8	17.6
404	338445.2	731256.3	1.5	20.1	20.2	19.6	19.2
405_10.5	338446	731385	10.5	19.0	19.1	18.8	18.6
406	338446.4	730507.1	1.5	17.2	17.2	17.1	17.1
407	338446.8	730664.1	1.5	17.6	17.5	17.4	17.3
408	338448.3	731258.2	1.5	20.1	20.1	19.6	19.2
409_10.5	338450.3	731386.3	10.5	19.0	19.1	18.8	18.6
410	338450.7	731237.6	1.5	19.6	19.7	19.2	18.9
411	338451.1	731415.6	1.5	21.0	21.0	20.7	20.5
412	338452.3	730552.3	1.5	18.6	18.6	18.5	18.5
413	338452.7	731231.3	1.5	19.6	19.7	19.2	18.9
414	338453.5	731260.6	1.5	20.0	20.1	19.6	19.2
415	338453.9	731294.7	1.5	19.9	20.0	19.5	19.1
416_10.5	338456.7	731389	10.5	19.0	19.1	18.8	18.6
417	338456.7	730810.4	1.5	19.3	19.6	19.0	18.7
417_4.5	338456.7	730810.4	4.5	19.1	19.2	18.7	18.4
417_7.5	338456.7	730810.4	7.5	18.6	18.7	18.3	18.0
417_10.5	338456.7	730810.4	10.5	18.1	18.2	17.8	17.6
418	338457.1	730517.8	1.5	17.8	17.8	17.7	17.6
419_10.5	338463	731392.9	10.5	19.0	19.1	18.8	18.6
420	338463.4	730551.1	1.5	19.1	19.0	19.0	18.9
421	338463.8	730672.4	1.5	18.1	18.0	17.8	17.7
422	338465	730522.2	1.5	18.3	18.3	18.2	18.2
423	338469.8	730551.1	1.5	19.2	19.2	19.1	19.1
424	338470.1	731095.7	1.5	26.2	26.3	24.4	22.9
425	338471.7	731395.3	1.5	28.4	28.8	28.0	27.7
426	338474.1	731273.3	1.5	20.2	20.2	19.7	19.3
427	338474.5	730525.8	1.5	19.1	19.0	19.0	18.9
428	338475.7	731305.4	1.5	19.9	20.0	19.6	19.2
429_10.5	338475.7	731397.3	10.5	19.1	19.1	18.8	18.7
430	338479.3	730551.1	1.5	19.4	19.3	19.3	19.2
431	338480.4	731415.1	1.5	24.9	25.1	24.6	24.4
432_10.5	338480.8	731398.1	10.5	19.1	19.1	18.8	18.7
433	338482.8	730682.3	1.5	19.0	18.9	18.7	18.5
434_10.5	338485.6	731400.1	10.5	19.0	19.1	18.8	18.7
435	338486.4	731584.8	1.5	17.8	17.8	17.7	17.6
436	338486.8	730525.8	1.5	19.4	19.3	19.3	19.2
437	338489.2	731311.7	1.5	20.1	20.1	19.8	19.4
438	338489.2	731249.9	1.5	19.4	19.4	19.0	18.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
439	338489.2	731475	1.5	22.1	22.1	21.9	21.8
440	338489.6	731599.4	1.5	17.3	17.3	17.2	17.1
441	338490.3	731090.2	1.5	31.1	31.2	28.4	26.1
442	338491.6	730784.2	1.5	20.7	21.0	20.2	19.8
443	338492.7	731437.8	1.5	24.8	24.8	24.6	24.4
444	338495.5	730776.6	1.5	20.6	20.9	20.2	19.8
445	338496.7	730690.6	1.5	19.9	19.9	19.5	19.3
446	338497.1	730549.9	1.5	19.8	19.7	19.7	19.6
447	338499.1	730769.9	1.5	20.6	20.9	20.2	19.8
448	338499.9	730525.4	1.5	19.5	19.5	19.4	19.4
449	338499.9	730880.1	1.5	24.2	25.0	23.3	22.6
450	338502.3	730852.4	1.5	23.8	24.4	23.0	22.3
451	338502.7	730697.4	1.5	20.3	20.3	20.0	19.7
452	338502.7	730765.2	1.5	20.8	21.0	20.3	19.9
453	338508.2	730757.6	1.5	21.0	21.3	20.5	20.1
454	338509.8	731270.9	1.5	19.7	19.7	19.3	19.0
455	338510.2	730705.7	1.5	21.0	21.0	20.6	20.3
456	338510.2	730753.3	1.5	21.0	21.2	20.5	20.1
457	338510.6	731320.8	1.5	21.0	20.9	20.6	20.3
458	338511.4	731283.2	1.5	20.3	20.3	19.8	19.5
459	338511.4	730709.7	1.5	21.0	21.0	20.6	20.3
460	338511.8	731360.9	1.5	23.3	23.1	23.1	22.9
461	338512.9	731506.7	1.5	32.9	33.0	32.8	32.7
462	338513.3	731103.6	1.5	23.5	23.5	22.2	21.1
463	338513.8	730525.8	1.5	19.9	19.8	19.8	19.7
464	338514.9	730741.8	1.5	21.1	21.3	20.7	20.3
465	338514.9	731097.7	1.5	25.4	25.5	23.8	22.4
466	338515.3	731256.3	1.5	19.3	19.4	19.0	18.7
467	338516.1	730719.6	1.5	21.3	21.3	20.9	20.6
468	338516.1	730733.4	1.5	21.1	21.2	20.7	20.3
469	338516.5	730723.6	1.5	21.2	21.3	20.8	20.5
470	338519.7	731346.2	1.5	23.5	23.3	23.2	23.0
471	338520.9	730857.9	1.5	21.8	22.2	21.1	20.6
472	338522.5	730549.9	1.5	19.8	19.7	19.7	19.6
473	338523.7	731091.4	1.5	29.4	29.4	27.0	25.0
474	338526	731539.2	1.5	22.3	22.4	22.2	22.2
475_10.5	338526.4	731433	10.5	19.0	19.0	18.8	18.7
476	338526.8	731114.8	1.5	21.5	21.5	20.6	19.9
477	338528	731393.4	1.5	26.9	26.6	26.7	26.5
478	338529.6	731579.6	1.5	19.4	19.5	19.3	19.3
479	338530.4	731507.9	1.5	22.5	22.5	22.4	22.3
480	338531.2	731384.6	1.5	26.7	26.3	26.4	26.3
481	338533.2	731091.8	1.5	28.8	28.9	26.6	24.6
482	338533.2	730549.9	1.5	19.8	19.7	19.7	19.6
483	338534.3	731496.4	1.5	22.0	22.1	21.9	21.8
484	338534.8	731435.4	1.5	26.3	26.3	26.0	25.7
485	338534.8	730521.8	1.5	19.3	19.2	19.2	19.2
486	338535.1	731291.9	1.5	21.1	21.1	20.7	20.3
487_10.5	338537.5	731436.2	10.5	19.1	19.1	19.0	18.8
488	338537.9	731372.8	1.5	25.7	25.4	25.5	25.3
489	338539.5	731161.1	1.5	19.3	19.3	18.9	18.5
490	338539.5	731416.8	1.5	25.6	25.5	25.3	25.1
491	338541.1	731091.4	1.5	28.9	29.0	26.7	24.7
492	338541.5	731206.3	1.5	19.1	19.1	18.7	18.5
493	338542.3	731362.8	1.5	25.5	25.2	25.3	25.1
494	338543.1	730521	1.5	19.3	19.2	19.2	19.1
495	338543.1	730548.4	1.5	20.1	20.0	20.0	19.9
496	338544.7	731437.8	1.5	26.1	26.1	25.8	25.5
497	338545.4	731165.1	1.5	19.3	19.3	18.9	18.6
498	338546.3	730880.5	1.5	22.6	23.1	21.8	21.0
499	338547.8	730521	1.5	19.3	19.3	19.2	19.2

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
500	338549	731186.5	1.5	19.2	19.2	18.8	18.6
501	338549.8	731163.5	1.5	19.3	19.3	18.9	18.6
502	338551	731421.1	1.5	24.6	24.5	24.3	24.0
503	338553	731166.3	1.5	19.3	19.3	18.9	18.6
504	338553.8	731348.9	1.5	24.0	23.8	23.8	23.5
505	338555.4	731090.9	1.5	28.7	28.8	26.5	24.6
506	338555.4	731278.4	1.5	21.4	21.3	21.1	20.9
507	338556.2	730521	1.5	19.4	19.4	19.3	19.3
508	338558.9	731168.3	1.5	19.3	19.3	18.9	18.6
509	338559.7	730547.6	1.5	20.3	20.2	20.2	20.1
510	338560.1	731190.4	1.5	19.3	19.3	19.0	18.7
511	338561.3	731341.8	1.5	23.4	23.2	23.1	22.8
512	338562.5	731118.7	1.5	20.8	20.8	20.0	19.4
513	338562.5	731426.6	1.5	24.2	24.1	23.9	23.7
514	338563.7	731262.6	1.5	21.2	21.1	20.9	20.7
515	338564.9	731192	1.5	19.4	19.4	19.1	18.8
516	338564.9	731447.6	1.5	24.2	24.2	23.9	23.7
517	338565.3	731171	1.5	19.3	19.3	19.0	18.7
518	338565.7	731151.6	1.5	19.4	19.5	19.0	18.7
519	338567.6	730881.3	1.5	23.3	23.7	22.3	21.3
520	338568.8	730548	1.5	20.2	20.1	20.1	20.0
521	338570.4	731247.1	1.5	20.9	20.8	20.6	20.4
522	338570.4	731090.6	1.5	27.6	27.6	25.6	23.9
523	338571.2	731157.5	1.5	19.4	19.4	19.0	18.7
524	338571.6	731194.4	1.5	19.6	19.6	19.3	19.1
525	338572.4	730903.5	1.5	24.8	25.2	23.6	22.4
526	338572.4	731429.8	1.5	23.6	23.6	23.3	23.1
527	338572.4	730721.6	1.5	23.1	23.1	22.7	22.4
528	338574.4	731123.1	1.5	20.4	20.4	19.7	19.2
529	338577.9	731230.9	1.5	20.8	20.7	20.5	20.3
530	338577.9	731347.4	1.5	21.8	21.7	21.5	21.2
531	338578.8	731302.6	1.5	21.6	21.5	21.2	21.0
532	338579.1	730706.5	1.5	22.6	22.6	22.3	22.0
533	338579.5	731198.4	1.5	20.0	19.9	19.7	19.4
534	338579.9	730548	1.5	20.2	20.1	20.1	20.0
535	338580.7	731285.6	1.5	21.2	21.1	20.9	20.7
536	338583.1	731088.2	1.5	26.1	26.1	24.5	23.1
537	338583.1	731309.8	1.5	21.7	21.6	21.3	21.0
538	338583.5	730548.4	1.5	20.2	20.0	20.1	20.0
539	338583.5	731128.6	1.5	20.1	20.1	19.5	19.1
540_7.5	338584.7	731186.9	7.5	18.8	18.8	18.5	18.3
541	338585.1	731276.1	1.5	21.0	20.9	20.7	20.5
542	338585.9	730527.4	1.5	21.9	21.8	21.8	21.7
543	338587.5	731165.4	1.5	19.6	19.6	19.2	18.9
544	338587.5	731215.8	1.5	21.2	21.1	21.0	20.8
545	338587.9	731353.8	1.5	21.1	21.0	20.8	20.6
546	338588.3	730901.5	1.5	25.8	26.1	24.4	23.1
547	338589.4	731442.1	1.5	25.5	25.3	25.1	24.8
548	338591	731264.9	1.5	20.8	20.7	20.5	20.3
549	338591.4	731204.7	1.5	21.2	21.1	21.0	20.8
550	338592.2	730548.4	1.5	20.2	20.1	20.1	20.0
551	338592.6	730671.6	1.5	23.5	23.3	23.2	23.0
552	338592.6	730695.8	1.5	21.1	21.0	20.8	20.6
553	338595.4	731251.9	1.5	20.9	20.8	20.6	20.4
553_7.5	338595.8	731192.8	7.5	18.8	18.8	18.5	18.3
554	338597.4	731316.9	1.5	21.2	21.1	20.8	20.5
555	338598.6	731242.8	1.5	21.0	20.9	20.8	20.6
556	338598.6	731358.5	1.5	20.8	20.7	20.5	20.2
557	338600.1	730675.2	1.5	21.1	21.0	20.9	20.7
558	338601.7	731079.1	1.5	25.3	25.3	24.0	22.9
559	338603.3	731232.8	1.5	21.0	21.0	20.8	20.6

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
560	338603.7	730926.1	1.5	27.1	27.2	25.7	24.5
561	338604.5	730546.4	1.5	20.7	20.6	20.6	20.5
562	338606.5	731361.6	1.5	20.7	20.6	20.3	20.1
563	338607.3	730680.8	1.5	20.2	20.1	20.0	19.8
563_7.5	338607.3	731178.6	7.5	18.8	18.7	18.5	18.2
564	338607.7	731324.4	1.5	21.2	21.1	20.9	20.6
565_10.5	338607.7	730646.3	10.5	17.8	17.7	17.7	17.5
566	338609.7	731440.1	1.5	22.1	22.0	21.8	21.6
566_7.5	338612	731167.4	7.5	18.8	18.8	18.5	18.2
567	338612.8	731062.8	1.5	26.0	25.9	24.6	23.5
568_10.5	338615.6	730635.2	10.5	17.8	17.7	17.6	17.5
569_10.5	338618	730600.3	10.5	17.7	17.6	17.6	17.5
570_7.5	338618	731154.4	7.5	18.9	18.9	18.5	18.3
571	338618.4	731042.2	1.5	31.9	31.8	29.5	27.6
572	338619.2	731328.8	1.5	20.9	20.8	20.6	20.2
573	338621.2	730879.7	1.5	26.8	27.2	25.4	24.3
574_10.5	338621.6	730595.9	10.5	17.7	17.6	17.6	17.5
575	338621.9	730541.3	1.5	22.3	22.2	22.2	22.2
576	338622.3	730502.4	1.5	18.3	18.3	18.2	18.1
577	338623.1	731143.7	1.5	21.9	21.8	21.6	21.2
578	338624.3	730655	1.5	19.9	19.7	19.7	19.6
579	338625.5	731223.8	1.5	20.0	19.9	19.7	19.5
580_10.5	338627.1	730588.4	10.5	17.7	17.6	17.6	17.5
581	338628.7	730851.9	1.5	21.8	22.0	21.0	20.5
581_7.5	338628.7	731131.8	7.5	19.1	19.1	18.7	18.4
582	338629.5	731332.8	1.5	20.7	20.6	20.3	20.0
583	338630.7	731366.4	1.5	21.0	20.9	20.7	20.3
584	338632.3	730878.5	1.5	27.8	28.3	26.4	25.2
585_10.5	338632.7	730579.7	10.5	17.7	17.6	17.6	17.5
586_7.5	338633.4	731122.7	7.5	19.2	19.2	18.8	18.4
587	338633.8	730508.8	1.5	18.9	18.8	18.8	18.7
588	338633.8	731228.9	1.5	19.6	19.5	19.3	19.1
589_10.5	338635	730618.1	10.5	20.3	19.0	20.1	20.0
590_7.5	338637	731114.8	7.5	19.3	19.3	18.9	18.5
591	338637	731339.4	1.5	21.0	21.0	20.7	20.3
592_7.5	338640.6	731106.4	7.5	19.4	19.4	18.9	18.6
593_10.5	338642.2	730569.8	10.5	17.7	17.7	17.6	17.5
594_10.5	338642.6	730624.9	10.5	20.4	19.2	20.3	20.2
595_10.5	338645.3	730605.1	10.5	20.3	19.1	20.2	20.0
596	338645.7	731013.3	1.5	30.2	30.1	28.6	27.3
597_7.5	338645.7	731095.7	7.5	19.5	19.5	19.1	18.7
598	338646.5	731008.5	1.5	30.2	30.0	28.6	27.3
599	338647.3	730511.5	1.5	19.4	19.3	19.3	19.2
600_10.5	338648.1	730561.4	10.5	17.7	17.7	17.6	17.5
601	338648.5	731234.4	1.5	19.3	19.2	19.1	18.9
602	338649.3	730540.1	1.5	23.8	23.5	23.6	23.5
603_7.5	338649.7	731085.8	7.5	19.6	19.6	19.2	18.8
604	338650.1	731342.3	1.5	20.5	20.4	20.2	19.9
605_10.5	338650.5	730632.4	10.5	18.0	17.9	17.8	17.7
606_10.5	338651.3	730609.4	10.5	20.4	19.1	20.3	20.1
607	338652.1	731021.6	1.5	31.1	30.9	29.8	28.7
608	338652.5	731482.9	1.5	26.3	26.2	25.9	25.6
609_10.5	338652.8	730552.8	10.5	17.7	17.7	17.6	17.5
610	338653.3	731030.7	1.5	30.8	30.7	29.6	28.5
611	338654.1	731001	1.5	30.8	30.6	29.5	28.4
612	338654.4	731238	1.5	19.2	19.1	18.9	18.8
613	338654.4	730511.5	1.5	19.5	19.5	19.4	19.3
614	338654.8	730871	1.5	28.3	28.8	26.8	25.5
615	338655.6	731035.9	1.5	31.3	31.1	30.2	29.2
616	338656	731043.4	1.5	29.9	29.7	28.8	27.8
617_7.5	338656	731072.3	7.5	19.8	19.8	19.3	18.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
618_7.5	338656.8	731049.8	7.5	23.4	23.4	22.5	21.8
619_7.5	338657.2	731057.7	7.5	23.2	23.2	22.3	21.6
620	338657.2	731345.8	1.5	20.5	20.4	20.2	19.9
621	338657.6	730574.5	1.5	25.7	24.8	25.5	25.4
622_10.5	338658.4	730637.9	10.5	18.0	17.9	17.9	17.8
623	338658.4	730985.5	1.5	29.6	29.5	28.3	27.3
624_10.5	338659.6	730717.6	10.5	18.3	18.2	18.1	17.9
625_10.5	338660	730545.6	10.5	17.7	17.7	17.6	17.5
626	338660.4	731442.5	1.5	23.0	22.8	22.6	22.3
627	338661.6	730919.3	1.5	26.8	27.0	25.4	24.3
628_10.5	338662	730614.6	10.5	18.0	17.9	17.9	17.8
629	338664.3	731381.4	1.5	21.3	21.2	21.0	20.6
630_10.5	338664.8	730719.6	10.5	18.3	18.2	18.1	17.9
631	338665.9	730580.1	1.5	21.9	21.4	21.7	21.6
632	338666.7	730642.7	1.5	20.7	19.8	20.5	20.4
633	338667.1	730973.3	1.5	29.5	29.3	28.3	27.3
634_10.5	338667.5	730620.1	10.5	20.5	19.3	20.4	20.3
635	338668.3	731350.9	1.5	20.5	20.4	20.2	19.9
636	338669.1	731246.3	1.5	19.0	18.9	18.7	18.6
637_10.5	338670.3	730723.1	10.5	18.3	18.3	18.1	17.9
638	338670.7	731501.6	1.5	23.0	22.9	22.7	22.4
639	338672.3	731412	1.5	23.6	23.3	23.2	22.9
640_10.5	338675.1	730624.4	10.5	20.5	19.3	20.4	20.3
641_10.5	338677	730688.7	10.5	18.2	18.1	18.0	17.8
642	338677.8	730960.9	1.5	29.6	29.5	28.5	27.6
643	338678.6	731167.1	1.5	18.9	18.8	18.6	18.4
644_10.5	338679.8	730649.8	10.5	20.6	19.3	20.5	20.3
645	338679.8	731033.1	1.5	23.0	22.9	22.5	22.0
646	338680.2	730869.8	1.5	32.2	32.7	30.2	28.7
647	338680.2	731249.5	1.5	19.0	18.9	18.8	18.6
648_10.5	338680.6	730747.3	10.5	18.4	18.4	18.2	18.0
649_10.5	338681.4	730514.3	10.5	17.5	17.5	17.4	17.3
650	338681.8	731505.1	1.5	23.7	23.5	23.3	23.1
651	338683	731443.7	1.5	22.6	22.4	22.3	22.1
652_10.5	338683.4	730632.4	10.5	20.5	19.3	20.3	20.2
653_10.5	338683.8	730741.8	10.5	18.4	18.4	18.2	18.0
654	338684.6	730989.9	1.5	29.2	29.0	28.3	27.5
655	338685.4	731435.4	1.5	22.2	22.0	21.9	21.6
656_10.5	338686.2	730702.9	10.5	18.2	18.2	18.0	17.9
657_10.5	338686.5	730506.4	10.5	17.4	17.4	17.3	17.2
658	338686.9	730491.3	1.5	18.6	18.9	18.5	18.4
659	338687.7	731341.1	1.5	19.6	19.5	19.3	19.1
660_10.5	338688.5	730656.9	10.5	18.1	18.0	17.9	17.8
661	338688.5	730951.4	1.5	30.6	30.5	29.5	28.6
662	338688.5	730999	1.5	27.1	26.9	26.2	25.4
663	338689.7	730486.9	1.5	18.4	18.7	18.3	18.2
664	338689.7	731253.4	1.5	19.0	19.0	18.8	18.7
665	338690.5	731329.6	1.5	19.2	19.2	19.0	18.8
666_10.5	338690.9	730637.6	10.5	20.5	19.3	20.3	20.2
667	338691.1	730527.6	1.5	23.5	24.6	23.6	23.5
668_10.5	338691.7	730733.1	10.5	18.4	18.3	18.1	17.9
669	338692.1	731213	1.5	18.6	18.6	18.4	18.2
670_10.5	338693.7	730695.8	10.5	18.2	18.1	18.0	17.8
671	338694.5	730482.9	1.5	18.3	18.5	18.2	18.1
672_10.5	338694.5	730662.1	10.5	18.1	18.0	18.0	17.8
673	338694.5	731016.1	1.5	21.7	21.6	21.2	20.8
674	338694.9	731474.6	1.5	26.0	25.8	25.6	25.2
675	338695.5	730530.3	1.5	21.9	22.3	21.8	21.7
676	338697.3	730548	1.5	20.6	20.5	20.5	20.4
677	338697.6	731001.4	1.5	21.6	21.6	21.1	20.7
678	338698.4	731312.1	1.5	19.1	19.0	18.9	18.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
679	338698.8	730976	1.5	28.1	28.0	27.2	26.5
680	338698.8	731516.6	1.5	22.0	21.9	21.7	21.5
681	338699	730514.1	1.5	23.8	27.3	25.2	25.1
682_10.5	338699.2	730642.7	10.5	20.5	19.3	20.4	20.2
683_10.5	338699.6	730685.1	10.5	18.2	18.1	18.0	17.8
684	338699.8	730533.1	1.5	21.0	21.2	20.9	20.7
685	338700.8	731259.8	1.5	19.1	19.0	18.9	18.7
686	338701.2	731303.8	1.5	19.0	19.0	18.8	18.7
687_10.5	338701.6	730736.6	10.5	18.4	18.4	18.2	18.0
688	338702	731525.8	1.5	20.3	20.2	20.0	19.9
689	338704	731417.5	1.5	20.2	20.1	20.0	19.8
690	338704.2	730535.1	1.5	20.3	20.5	20.2	20.1
691	338704.4	731288.8	1.5	18.9	18.9	18.7	18.6
692	338704.8	730933.6	1.5	30.9	30.9	29.7	28.7
693_10.5	338705.2	730664.1	10.5	20.6	19.3	20.4	20.3
694_10.5	338706.8	730673.2	10.5	18.2	18.1	18.0	17.8
695	338706.8	731282	1.5	19.0	19.0	18.8	18.6
696	338707.6	731478.2	1.5	25.1	24.9	24.8	24.4
697_10.5	338708.3	730477.4	10.5	17.1	17.2	17.0	17.0
698	338708.8	730967.7	1.5	27.7	27.6	26.8	26.1
699	338708.9	730538.3	1.5	19.8	19.9	19.7	19.6
700_10.5	338709.1	730718	10.5	18.4	18.3	18.1	17.9
701	338709.1	730871	1.5	37.6	38.1	35.3	33.5
702	338710.7	731358.5	1.5	19.5	19.5	19.3	19.1
703	338711.1	731379.1	1.5	19.9	19.8	19.7	19.5
704	338711.9	730846.8	1.5	23.9	24.1	23.0	22.2
705	338711.9	731426.3	1.5	19.8	19.7	19.6	19.4
706	338713.5	731348.2	1.5	19.2	19.2	19.0	18.9
707	338715.1	731229.7	1.5	19.0	19.0	18.8	18.6
708	338715.7	730539.4	1.5	19.4	19.4	19.2	19.1
709	338715.9	731336.3	1.5	19.1	19.1	18.9	18.7
710	338717.9	731325.2	1.5	19.0	19.0	18.9	18.7
711	338718.7	731435.8	1.5	19.6	19.5	19.4	19.2
712_10.5	338718.8	730772.9	10.5	18.8	18.7	18.5	18.2
713	338719.4	730870.2	1.5	36.8	37.3	34.5	32.8
714	338719.4	730953.8	1.5	28.7	28.6	27.8	27.1
715	338719.8	731386.3	1.5	19.4	19.3	19.2	19.0
716	338721.4	730846	1.5	24.1	24.3	23.1	22.3
717_10.5	338723	730613.4	10.5	18.1	18.0	17.9	17.8
718	338723.4	730923.7	1.5	32.7	32.7	31.5	30.5
719_10.5	338723.6	730753.4	10.5	18.7	18.6	18.4	18.1
720	338723.8	731314.9	1.5	18.8	18.8	18.6	18.5
721	338724.2	731441.3	1.5	19.6	19.5	19.3	19.2
722	338724.6	731213	1.5	18.8	18.8	18.6	18.4
723	338725	731305.8	1.5	18.9	18.9	18.7	18.6
724_10.5	338726.8	730762.6	10.5	18.8	18.7	18.5	18.2
725	338727.8	730844.8	1.5	24.1	24.3	23.1	22.3
726	338727.8	731292.3	1.5	19.0	19.0	18.9	18.7
727	338729.8	731182.5	1.5	18.2	18.2	18.0	17.8
728_10.5	338730.1	730658.1	10.5	18.3	18.1	18.1	17.9
729	338730.9	730869.8	1.5	36.2	36.7	34.0	32.2
730	338730.9	730918.6	1.5	33.4	33.4	32.1	31.0
731	338730.9	731395.3	1.5	18.9	18.9	18.7	18.6
732_10.5	338732.1	730634.4	10.5	18.2	18.0	18.0	17.9
733	338732.9	731282.4	1.5	19.2	19.1	19.0	18.8
734	338733.3	731537.6	1.5	19.6	19.6	19.4	19.3
735_10.5	338734.1	730667.7	10.5	18.3	18.1	18.1	18.0
736_10.5	338734.9	730684.3	10.5	18.4	18.2	18.2	18.0
737	338735.7	731402.9	1.5	18.8	18.8	18.6	18.5
738_10.5	338735.9	730786.4	10.5	19.1	19.0	18.7	18.4
739_10.5	338736.5	730649.4	10.5	18.3	18.1	18.1	17.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (μg/m^3)			
				BC	SC1	SC3	SC4
740	338736.5	730943.1	1.5	28.9	28.8	28.0	27.2
741_10.5	338737.7	730624.4	10.5	18.1	18.0	17.9	17.8
742	338739.7	730836.1	1.5	23.4	23.5	22.4	21.7
743_10.5	338740.8	730600.3	10.5	18.0	17.9	17.8	17.7
744	338741.3	731249.5	1.5	20.0	20.0	19.9	19.7
745	338742	731484.9	1.5	22.0	21.9	21.7	21.5
746_10.5	338742.4	730640.8	10.5	18.2	18.1	18.0	17.9
747	338742.4	731532.9	1.5	20.8	20.7	20.5	20.4
748_10.5	338742.8	730673.6	10.5	18.4	18.2	18.2	18.0
749_10.5	338744.4	730741	10.5	18.8	18.6	18.5	18.2
750	338744.8	731413.9	1.5	18.6	18.6	18.4	18.3
751_10.5	338745	730774.5	10.5	19.0	18.9	18.7	18.4
752	338745.6	731241.9	1.5	19.5	19.5	19.4	19.2
753_10.5	338746	730603.9	10.5	18.0	17.9	17.8	17.7
754	338746.4	730993.8	1.5	20.1	20.1	19.7	19.4
755	338749.2	731226.5	1.5	19.3	19.3	19.1	19.0
756	338750.3	730628	1.5	18.9	18.9	18.7	18.6
757	338750.3	730909.4	1.5	36.5	36.5	35.1	33.9
758	338750.8	731421.1	1.5	18.5	18.5	18.4	18.2
759_10.5	338751.1	730695.8	10.5	18.5	18.3	18.3	18.1
760	338751.1	730934.4	1.5	29.2	29.2	28.3	27.5
761	338751.6	730864.6	1.5	35.8	36.3	33.3	31.4
762	338751.9	731217	1.5	19.0	18.9	18.8	18.6
763_10.5	338751.9	730679.1	10.5	18.5	18.3	18.2	18.1
764_10.5	338753.3	730765.8	10.5	19.0	18.9	18.7	18.4
765_10.5	338753.5	730608.2	10.5	18.0	17.9	17.9	17.7
766	338755.9	730905.4	1.5	36.7	36.8	35.2	34.1
767	338757.5	731011.3	1.5	19.6	19.6	19.3	19.0
768_10.5	338758.3	730729.5	10.5	18.8	18.6	18.5	18.3
769_10.5	338758.7	730612.9	10.5	18.1	17.9	17.9	17.7
770	338758.7	731197.6	1.5	18.2	18.2	18.0	17.9
771_10.5	338759.9	730682.8	10.5	18.5	18.3	18.3	18.1
772	338761.4	731289.1	1.5	18.5	18.5	18.4	18.2
773	338762.3	730750.1	1.5	20.2	19.7	19.8	19.4
774	338763.8	730902.7	1.5	38.8	38.8	37.3	36.2
775	338764.2	730927.3	1.5	29.4	29.4	28.4	27.6
776_10.5	338764.4	730774.1	10.5	19.2	19.1	18.9	18.6
777	338764.6	730853.9	1.5	34.6	35.0	32.1	30.1
778_10.5	338765.4	730686.3	10.5	18.6	18.4	18.4	18.2
779	338766.6	731542.4	1.5	19.4	19.3	19.2	19.1
780	338768.6	730709.3	1.5	21.0	19.4	20.7	20.4
781	338768.6	730986.3	1.5	19.8	19.8	19.4	19.1
782_10.5	338770	730756.3	10.5	19.1	18.9	18.8	18.5
783	338770.2	730738.2	1.5	20.7	19.7	20.3	20.0
784	338771.4	731550.7	1.5	18.5	18.4	18.3	18.2
785	338771.8	730922.5	1.5	29.7	29.7	28.7	27.8
786_10.5	338773.3	730692.3	10.5	18.7	18.5	18.4	18.2
787	338774.5	730844	1.5	32.3	32.6	30.0	28.1
788	338777.7	730728.3	1.5	21.4	19.7	21.1	20.8
789	338778.1	730366.8	1.5	16.7	16.7	16.6	16.5
790	338778.5	731005.8	1.5	19.2	19.2	18.9	18.6
791	338783.7	730919.3	1.5	28.8	28.8	27.8	26.9
792	338784	730836.5	1.5	31.6	31.9	29.3	27.3
793	338784.8	731300.3	1.5	17.9	17.9	17.8	17.6
794	338784.8	731317.3	1.5	17.8	17.8	17.6	17.5
795	338786	730978	1.5	19.5	19.6	19.2	18.9
796_10.5	338788.4	730689.1	10.5	18.8	18.5	18.5	18.3
797	338788.4	731275.6	1.5	18.2	18.2	18.0	17.9
798	338789.2	730915.4	1.5	29.1	29.2	28.1	27.2
799	338790	731256.3	1.5	18.0	18.0	17.8	17.7
800	338790.4	730412	1.5	17.0	17.1	16.9	16.8

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
801	338791.2	730831.4	1.5	31.4	31.6	28.8	26.5
802_10.5	338792.8	730721.2	10.5	19.1	18.8	18.8	18.5
803	338793.2	730399.8	1.5	16.9	17.0	16.8	16.7
804_10.5	338795.1	730678.4	10.5	18.7	18.5	18.5	18.3
805_10.5	338796.3	730672	10.5	18.7	18.5	18.4	18.2
806_10.5	338797.5	730641.9	10.5	18.4	18.2	18.2	18.0
807	338798.3	730907.4	1.5	30.2	30.3	29.1	28.2
808	338799.5	730998.2	1.5	19.0	19.0	18.6	18.4
809_10.5	338799.9	730379.9	10.5	16.7	16.7	16.6	16.5
810_10.5	338800.7	730645.1	10.5	18.4	18.3	18.2	18.0
811_10.5	338800.7	730667.3	10.5	18.7	18.5	18.4	18.2
812_10.5	338801.1	730367.6	10.5	16.6	16.6	16.5	16.5
813	338801.1	730970.9	1.5	19.4	19.5	19.1	18.8
814_10.5	338801.9	730471.1	10.5	17.3	17.4	17.2	17.1
815	338801.9	730820.6	1.5	37.8	38.2	34.2	30.8
816_10.5	338802.3	730452.1	10.5	17.1	17.2	17.0	16.9
817_10.5	338802.3	730707.3	10.5	19.1	18.8	18.8	18.6
818	338802.7	730903.9	1.5	30.9	31.1	29.8	28.9
819_10.5	338803.9	730356.9	10.5	16.6	16.6	16.5	16.4
820_10.5	338803.9	730435.4	10.5	17.0	17.1	16.9	16.8
821_10.5	338803.9	730445.3	10.5	17.1	17.2	17.0	16.9
822_10.5	338803.9	730691.8	10.5	19.0	18.7	18.7	18.5
823_10.5	338805.1	730647.8	10.5	18.5	18.3	18.3	18.1
824	338805.4	730495.6	1.5	17.9	18.1	17.8	17.7
825_10.5	338807	730420.8	10.5	16.9	17.0	16.8	16.7
826_10.5	338807	730730.7	10.5	19.4	19.1	19.1	18.8
827_10.5	338807.4	730342.7	10.5	16.5	16.5	16.4	16.4
828	338807.8	730994.6	1.5	18.9	18.9	18.6	18.3
829_10.5	338808.2	730410.4	10.5	16.8	16.9	16.7	16.7
830_10.5	338808.6	730327.2	10.5	16.4	16.5	16.4	16.3
831_10.5	338809	730456.8	10.5	17.2	17.3	17.1	17.0
832_10.5	338809.8	730684.7	10.5	19.0	18.7	18.7	18.5
834_10.5	338810.6	730398.1	10.5	16.8	16.8	16.7	16.6
835_10.5	338810.6	730651.4	10.5	18.6	18.4	18.3	18.1
836_10.5	338811.8	730388.3	10.5	16.7	16.8	16.6	16.6
837	338812.2	730814.7	1.5	40.1	40.5	35.9	31.9
838_10.5	338812.6	730467.1	10.5	17.3	17.4	17.1	17.1
839_10.5	338812.6	730680.3	10.5	19.0	18.7	18.7	18.5
841	338813.8	730896.4	1.5	31.9	32.1	30.8	29.8
842_10.5	338815	730716.4	10.5	19.5	19.1	19.1	18.9
843	338815	731305.8	1.5	17.6	17.6	17.4	17.3
844_10.5	338815.8	730377.9	10.5	16.7	16.7	16.6	16.5
846_10.5	338816.2	730736.3	10.5	19.7	19.3	19.3	19.0
847_10.5	338816.5	730367.6	10.5	16.6	16.7	16.5	16.5
848	338816.5	731282.8	1.5	17.6	17.6	17.5	17.3
849	338816.9	731323.6	1.5	17.5	17.5	17.4	17.2
850	338818.5	730892.4	1.5	32.4	32.6	31.2	30.3
851_10.5	338819.3	730672.8	10.5	18.9	18.7	18.7	18.4
852_10.5	338819.7	730360.1	10.5	16.6	16.6	16.5	16.5
853_10.5	338821.3	730345.1	10.5	16.5	16.6	16.5	16.4
854	338821.3	730805.2	1.5	38.5	38.7	34.9	31.4
855	338821.7	730989.5	1.5	18.8	18.8	18.5	18.2
856_10.5	338822.5	730465.5	10.5	17.3	17.4	17.2	17.1
857	338822.9	730490.5	1.5	17.9	18.1	17.8	17.6
858_10.5	338823.3	730633.6	10.5	18.4	18.3	18.2	18.0
859_10.5	338824.1	730744.9	10.5	19.9	19.6	19.5	19.2
860	338824.9	730446.9	1.5	18.3	18.6	18.1	17.9
861_10.5	338825.7	730334.3	10.5	16.5	16.5	16.4	16.4
862	338826.8	730884.1	1.5	33.4	33.6	32.2	31.2
866	338831.2	730798.9	1.5	41.6	41.6	37.6	33.9
867_10.5	338832.8	730654.6	10.5	18.8	18.6	18.5	18.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
869_10.5	338833.2	730750.9	10.5	20.1	19.8	19.7	19.3
870	338833.6	730877.8	1.5	33.5	33.8	32.3	31.3
871_10.5	338834.8	730464.3	10.5	17.3	17.4	17.2	17.1
872_10.5	338834.8	730661.3	10.5	18.9	18.7	18.7	18.4
873	338838.3	730790.9	1.5	41.6	41.3	38.3	35.2
874_10.5	338841.9	730641.1	10.5	18.7	18.6	18.4	18.2
875	338842.7	730486.9	1.5	17.9	18.1	17.8	17.6
876_10.5	338845.9	730666.1	10.5	19.2	19.0	18.9	18.6
877	338847.9	730781	1.5	42.6	41.3	39.7	37.1
878_10.5	338848.3	730460.8	10.5	17.3	17.4	17.2	17.1
879_10.5	338851	730739.8	10.5	20.4	19.9	20.0	19.6
880_10.5	338851.8	730762.8	10.5	23.5	23.0	22.8	22.2
881	338855.8	730725.5	1.5	25.0	23.1	24.3	23.7
882_10.5	338857.4	730743.4	10.5	23.8	23.1	23.1	22.5
883_10.5	338862.1	730459.6	10.5	17.3	17.5	17.2	17.1
884	338865.7	730482.6	1.5	18.0	18.2	17.8	17.7
885_10.5	338866.1	730749.3	10.5	23.7	23.0	23.0	22.4
886	338875.6	730482.6	1.5	18.0	18.2	17.8	17.7
887_10.5	338876.4	730456	10.5	17.4	17.5	17.2	17.1
888_10.5	338881.1	730743.4	10.5	23.6	22.8	22.9	22.3
889	338882.3	730481	1.5	18.0	18.2	17.8	17.7
890_10.5	338885.1	730734.6	10.5	23.7	22.9	23.0	22.5
891_10.5	338887.9	730452.4	10.5	17.4	17.5	17.3	17.2
892	338887.9	730476.6	1.5	18.1	18.3	17.9	17.8
893_10.5	338893	730726.3	10.5	23.7	23.0	23.0	22.4
894_10.5	338895	730450.9	10.5	17.4	17.5	17.3	17.2
895	338903.7	730433.4	1.5	19.8	20.4	19.6	19.4
896_10.5	338904.9	730448.9	10.5	17.4	17.6	17.3	17.2
897	338910.5	730700.2	1.5	50.8	49.3	48.6	46.8
898	338913.7	730433.4	1.5	20.6	21.4	20.3	20.1
899_10.5	338914	730447.7	10.5	17.5	17.6	17.3	17.2
900	338916.4	730694.3	1.5	51.5	50.3	49.2	47.3
901_10.5	338918.4	730471.9	10.5	17.6	17.7	17.4	17.3
902_10.5	338921.2	730463.1	10.5	17.6	17.7	17.4	17.3
903	338922.8	730394.6	1.5	18.1	18.3	18.0	17.9
904	338922.8	730687.5	1.5	51.8	51.1	49.5	47.5
905	338923.6	730412.4	1.5	18.6	19.0	18.5	18.4
906	338928.7	730683.1	1.5	55.4	55.0	52.8	50.6
907_10.5	338929.5	730452.8	10.5	17.6	17.7	17.4	17.3
908	338932.7	730511.1	1.5	18.3	18.4	18.1	17.9
909	338933.8	730431.1	1.5	21.5	22.6	21.3	21.0
910	338935.8	730538.4	1.5	18.7	18.8	18.4	18.2
911	338938.6	730676	1.5	62.8	62.8	59.3	56.2
912	338940.2	730370.4	1.5	19.3	19.5	19.2	19.1
913	338941	730354.9	1.5	19.6	19.7	19.5	19.4
914	338941.4	730380.3	1.5	19.7	20.0	19.6	19.5
915	338942.2	730341.5	1.5	17.8	17.9	17.7	17.6
916_10.5	338943	730442.6	10.5	17.5	17.7	17.4	17.3
917	338944.6	730331.9	1.5	17.6	17.7	17.5	17.4
918	338945.8	730521.8	1.5	18.5	18.7	18.3	18.1
919	338948.9	730546	1.5	19.1	19.2	18.8	18.6
920	338949.3	730319.7	1.5	18.3	18.4	18.3	18.2
921	338950.1	730667.3	1.5	63.4	63.7	59.6	56.1
923	338953.3	730511.5	1.5	18.5	18.6	18.2	18.1
924	338954.1	730555.5	1.5	19.5	19.6	19.2	18.9
926_10.5	338956.8	730441.4	10.5	17.6	17.8	17.5	17.4
928	338958	730503.6	1.5	18.4	18.6	18.2	18.1
929	338959.2	730354.9	1.5	19.0	19.1	18.9	18.8
930	338960.4	730568.2	1.5	20.1	20.2	19.7	19.4
931	338962.8	730531.8	1.5	19.0	19.2	18.8	18.6
932	338964.8	730335.5	1.5	17.9	18.0	17.8	17.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
933	338966.8	730540.1	1.5	19.6	19.7	19.3	19.1
935_10.5	338969.5	730441.4	10.5	17.7	17.9	17.6	17.5
936	338971.5	730399.8	1.5	19.7	20.1	19.5	19.4
937	338972.7	730428.3	1.5	23.8	25.9	23.5	23.4
938	338975.1	730540.4	1.5	19.7	19.9	19.4	19.2
940_10.5	338977.8	730442.1	10.5	17.8	18.0	17.7	17.6
941	338978.6	730473.1	1.5	18.8	19.3	18.6	18.5
942	338978.7	730547.6	1.5	20.9	21.0	20.6	20.3
943	338981.8	730665.3	1.5	58.0	58.4	54.4	51.1
944	338983.4	730466.3	1.5	19.1	19.7	18.9	18.8
945_10.5	338983.8	730628.4	10.5	20.4	20.4	20.0	19.6
946	338984.6	730571.4	1.5	21.5	21.7	21.1	20.8
947	338985.4	730548.8	1.5	20.8	21.0	20.4	20.2
948	338986.2	730460.4	1.5	19.5	20.3	19.3	19.2
949	338990.1	730455.3	1.5	20.1	21.0	19.9	19.7
950	338990.1	730550.8	1.5	21.0	21.1	20.6	20.3
952	338994.5	730450.1	1.5	20.9	22.2	20.7	20.5
953_10.5	338995.7	730618.5	10.5	20.2	20.3	19.8	19.5
954_10.5	338998.5	730557.5	10.5	18.8	18.9	18.5	18.3
955	339002	730445.7	1.5	21.9	23.7	21.7	21.5
956_10.5	339002.4	730604.6	10.5	20.0	20.1	19.6	19.3
957_10.5	339003.2	730582.1	10.5	19.4	19.5	19.1	18.8
958	339004	730431.1	1.5	27.4	31.4	27.1	26.9
959_10.5	339006.4	730595.1	10.5	19.8	19.8	19.4	19.1
960_10.5	339014.7	730559.4	10.5	18.9	19.0	18.6	18.4
961	339019.1	730465.5	1.5	19.5	20.2	19.3	19.2
962_10.5	339024.6	730554.7	10.5	18.8	18.9	18.5	18.3
963_10.5	339027.4	730545.6	10.5	18.6	18.8	18.4	18.1
964_10.5	339029.8	730539.6	10.5	18.5	18.6	18.3	18.1
965	339031.8	730425.5	1.5	23.5	26.1	23.3	23.1
966_10.5	339032.2	730532.5	10.5	18.4	18.5	18.2	18.0
967_10.5	339034.5	730437	10.5	18.0	18.4	17.9	17.8
968_10.5	339034.5	730526.6	10.5	18.3	18.5	18.1	17.9
969_10.5	339038.5	730519	10.5	18.2	18.4	18.0	17.8
970	339039.7	730509.5	1.5	22.0	22.9	21.7	21.5
971_4.5	339039.7	730650.3	4.5	27.2	27.2	26.2	25.4
972	339040.5	730712.8	1.5	23.4	23.3	22.9	22.4
973_10.5	339043.3	730499.3	10.5	18.1	18.2	17.9	17.7
974_10.5	339043.6	730436.2	10.5	18.0	18.4	17.9	17.8
975_10.5	339047.6	730436.2	10.5	18.1	18.4	17.9	17.8
976_10.5	339049.6	730488.9	10.5	18.0	18.2	17.8	17.7
977	339049.6	730721.6	1.5	22.6	22.5	22.2	21.8
978_10.5	339052.4	730435.8	10.5	18.1	18.4	17.9	17.8
979_10.5	339053.6	730473.9	10.5	18.0	18.3	17.9	17.7
980	339058.7	730423.5	1.5	23.4	25.8	23.2	23.1
981	339058.7	730435.8	1.5	27.8	31.9	27.5	27.3
981_4.5	339058.7	730636.4	4.5	26.8	27.0	25.8	25.1
982_10.5	339059.5	730467.9	10.5	18.0	18.3	17.9	17.7
983_10.5	339064.3	730458.4	10.5	18.1	18.4	17.9	17.8
984_10.5	339064.3	730518.3	10.5	18.4	18.5	18.1	17.9
985_10.5	339064.3	730532.9	10.5	18.7	18.8	18.4	18.2
986_10.5	339069.8	730449.3	10.5	18.1	18.4	17.9	17.8
987_10.5	339071.8	730544.8	10.5	19.0	19.1	18.6	18.4
988_10.5	339076.2	730435.4	10.5	18.0	18.3	17.9	17.8
989_10.5	339076.9	730482.9	10.5	18.1	18.3	17.9	17.8
990	339079.3	730618.9	1.5	29.5	29.7	28.1	26.9
991_10.5	339081.7	730423.1	10.5	18.0	18.3	17.8	17.7
992_10.5	339086.8	730406.9	10.5	17.9	18.1	17.7	17.6
993_10.5	339090	730475.8	10.5	18.1	18.4	17.9	17.8
994	339099.5	730571.8	1.5	24.6	24.8	23.4	22.4
995_10.5	339103.1	730450.1	10.5	18.1	18.4	17.9	17.8

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (μg/m^3)			
				BC	SC1	SC3	SC4
996	339105.1	730612.9	1.5	27.3	27.5	25.9	24.7
997	339108.3	730755.6	1.5	20.9	20.8	20.6	20.3
998	339110.2	730580.5	1.5	29.8	29.9	27.6	25.6
999_10.5	339111.8	730442.6	10.5	18.1	18.4	17.9	17.8
1000	339115.8	730758.8	1.5	20.9	20.8	20.6	20.3
1001	339128.1	730574.9	1.5	27.6	27.6	25.5	23.8
1002	339134	730757.6	1.5	20.3	20.2	20.0	19.7
1003_10.5	339135.2	730427.5	10.5	18.1	18.4	17.9	17.8
1004_10.5	339136.4	730407.3	10.5	17.8	18.0	17.7	17.6
1005	339141.5	730568.2	1.5	24.8	24.8	23.2	21.9
1006	339145.1	730613.4	1.5	23.8	23.9	22.6	21.6
1007	339145.9	730772.7	1.5	21.3	21.2	21.0	20.8
1008	339155	730605.8	1.5	25.1	25.0	23.5	22.2
1009_10.5	339175.3	730387.9	10.5	17.7	17.9	17.6	17.5
1010	339178	730781.4	1.5	21.1	21.0	20.9	20.7
1011	339190.7	730605.4	1.5	25.2	25.1	23.5	22.0
1012	339190.7	730614.6	1.5	23.0	22.9	21.7	20.7
1013	339220.4	730373.6	1.5	19.4	19.5	19.2	19.1
1014	339233.9	730567.4	1.5	21.5	21.5	20.5	19.6
1015	339241.4	730570.9	1.5	21.6	21.6	20.6	19.6
1016	339250.5	730572.9	1.5	21.4	21.4	20.4	19.5
1017	339253.3	730574.5	1.5	21.4	21.4	20.4	19.6
1018	339267.6	730578.5	1.5	21.2	21.2	20.2	19.4
1019	339275.1	730582.1	1.5	21.2	21.2	20.3	19.5
1020	339291	730584	1.5	20.9	20.9	20.0	19.3
1021	339333	730607.8	1.5	25.1	25.1	23.4	22.2
1022	339344.5	730609	1.5	25.2	25.2	23.5	22.2
1023	339348.8	730610.2	1.5	25.8	25.8	23.9	22.5
1024	339370.2	730610.6	1.5	27.5	27.4	24.9	22.7
1025	339401.5	730612.9	1.5	31.7	31.5	28.0	24.6
1026_10.5	339437.2	730611.8	10.5	18.8	18.8	18.2	17.7
1027_10.5	339455.8	730611	10.5	18.9	18.8	18.3	17.8
1028_10.5	339461	730664.1	10.5	18.3	18.3	17.9	17.5
1029_10.5	339578.3	730606.3	10.5	18.7	18.7	18.2	17.9
46_7.5	337825.6	731446.1	7.5	20.4	20.4	19.8	19.4
55_7.5	337838.4	731431.8	7.5	20.6	20.5	20.0	19.5
74_7.5	337897.2	731397	7.5	21.5	21.4	20.7	20.0
85_7.5	337914.2	731419.8	7.5	20.5	20.5	19.9	19.4
92_7.5	337920	731391.9	7.5	21.8	21.8	21.0	20.3
93_7.5	337920	731433.7	7.5	19.9	19.9	19.4	18.9
98_7.5	337930	731409.4	7.5	21.0	21.0	20.3	19.7
101_7.5	337938.6	731423.7	7.5	20.3	20.3	19.7	19.2
405_7.5	338446	731385	7.5	20.0	20.1	19.7	19.5
409_7.5	338450.3	731386.3	7.5	20.0	20.1	19.7	19.5
416_7.5	338456.7	731389	7.5	20.1	20.1	19.8	19.6
419_7.5	338463	731392.9	7.5	20.1	20.2	19.9	19.7
429_7.5	338475.7	731397.3	7.5	20.4	20.4	20.1	19.9
432_7.5	338480.8	731398.1	7.5	20.5	20.5	20.2	20.0
434_7.5	338485.6	731400.1	7.5	20.6	20.6	20.3	20.1
475_7.5	338526.4	731433	7.5	20.9	20.9	20.7	20.5
487_7.5	338537.5	731436.2	7.5	20.7	20.7	20.5	20.4
565_7.5	338607.7	730646.3	7.5	18.4	18.3	18.2	18.1
568_7.5	338615.6	730635.2	7.5	18.4	18.3	18.3	18.1
569_7.5	338618	730600.3	7.5	18.4	18.3	18.3	18.2
574_7.5	338621.6	730595.9	7.5	18.4	18.3	18.3	18.2
580_7.5	338627.1	730588.4	7.5	18.4	18.3	18.3	18.2
585_7.5	338632.7	730579.7	7.5	18.5	18.4	18.4	18.3
589_7.5	338635	730618.1	7.5	21.0	19.7	20.8	20.7
593_7.5	338642.2	730569.8	7.5	18.5	18.4	18.4	18.3
594_7.5	338642.6	730624.9	7.5	21.1	19.8	20.9	20.8
595_7.5	338645.3	730605.1	7.5	21.1	19.8	21.0	20.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
600_7.5	338648.1	730561.4	7.5	18.6	18.5	18.5	18.4
605_7.5	338650.5	730632.4	7.5	18.7	18.5	18.5	18.4
606_7.5	338651.3	730609.4	7.5	21.1	19.9	21.0	20.9
609_7.5	338652.8	730552.8	7.5	18.7	18.6	18.5	18.5
622_7.5	338658.4	730637.9	7.5	18.6	18.4	18.5	18.3
624_7.5	338659.6	730717.6	7.5	18.6	18.5	18.3	18.1
625_7.5	338660	730545.6	7.5	18.7	18.6	18.6	18.5
628_7.5	338662	730614.6	7.5	18.8	18.6	18.7	18.5
630_7.5	338664.8	730719.6	7.5	18.6	18.5	18.3	18.1
634_7.5	338667.5	730620.1	7.5	21.0	19.7	20.9	20.8
637_7.5	338670.3	730723.1	7.5	18.6	18.5	18.3	18.1
640_7.5	338675.1	730624.4	7.5	21.0	19.7	20.9	20.7
641_7.5	338677	730688.7	7.5	18.5	18.4	18.3	18.1
644_7.5	338679.8	730649.8	7.5	21.0	19.7	20.8	20.7
648_7.5	338680.6	730747.3	7.5	18.7	18.6	18.4	18.2
649_7.5	338681.4	730514.3	7.5	18.2	18.2	18.1	18.0
652_7.5	338683.4	730632.4	7.5	20.9	19.6	20.8	20.6
653_7.5	338683.8	730741.8	7.5	18.7	18.6	18.4	18.2
656_7.5	338686.2	730702.9	7.5	18.5	18.4	18.3	18.1
657_7.5	338686.5	730506.4	7.5	18.0	18.0	17.9	17.8
660_7.5	338688.5	730656.9	7.5	18.6	18.4	18.4	18.2
666_7.5	338690.9	730637.6	7.5	20.9	19.6	20.7	20.6
668_7.5	338691.7	730733.1	7.5	18.6	18.5	18.4	18.1
670_7.5	338693.7	730695.8	7.5	18.5	18.4	18.3	18.1
672_7.5	338694.5	730662.1	7.5	18.6	18.4	18.4	18.2
682_7.5	338699.2	730642.7	7.5	20.9	19.6	20.7	20.6
683_7.5	338699.6	730685.1	7.5	18.5	18.4	18.3	18.1
687_7.5	338701.6	730736.6	7.5	18.7	18.6	18.4	18.2
693_7.5	338705.2	730664.1	7.5	21.0	19.7	20.8	20.6
694_7.5	338706.8	730673.2	7.5	18.6	18.4	18.4	18.2
697_7.5	338708.3	730477.4	7.5	17.5	17.6	17.4	17.3
700_7.5	338709.1	730718	7.5	18.6	18.5	18.4	18.2
712_7.5	338718.8	730772.9	7.5	19.2	19.1	18.8	18.5
717_7.5	338723	730613.4	7.5	18.4	18.2	18.2	18.1
719_7.5	338723.6	730753.4	7.5	19.0	18.8	18.7	18.4
724_7.5	338726.8	730762.6	7.5	19.1	19.0	18.8	18.5
728_7.5	338730.1	730658.1	7.5	18.7	18.5	18.5	18.4
732_7.5	338732.1	730634.4	7.5	18.5	18.3	18.3	18.2
735_7.5	338734.1	730667.7	7.5	19.3	19.1	19.1	18.9
736_7.5	338734.9	730684.3	7.5	18.8	18.5	18.5	18.4
738_7.5	338735.9	730786.4	7.5	19.5	19.5	19.1	18.8
739_7.5	338736.5	730649.4	7.5	18.7	18.4	18.5	18.3
741_7.5	338737.7	730624.4	7.5	18.4	18.2	18.2	18.1
743_7.5	338740.8	730600.3	7.5	18.3	18.1	18.1	18.0
746_7.5	338742.4	730640.8	7.5	18.6	18.4	18.4	18.2
748_7.5	338742.8	730673.6	7.5	19.4	19.1	19.2	19.0
749_7.5	338744.4	730741	7.5	19.1	18.9	18.8	18.5
751_7.5	338745	730774.5	7.5	19.5	19.3	19.1	18.7
753_7.5	338746	730603.9	7.5	18.2	18.1	18.1	17.9
759_7.5	338751.1	730695.8	7.5	19.0	18.6	18.7	18.5
763_7.5	338751.9	730679.1	7.5	19.5	19.1	19.2	19.0
764_7.5	338753.3	730765.8	7.5	19.5	19.3	19.1	18.7
765_7.5	338753.5	730608.2	7.5	18.3	18.1	18.1	17.9
768_7.5	338758.3	730729.5	7.5	19.5	19.2	19.2	19.0
769_7.5	338758.7	730612.9	7.5	18.3	18.2	18.1	18.0
771_7.5	338759.9	730682.8	7.5	19.5	19.2	19.3	19.1
776_7.5	338764.4	730774.1	7.5	19.8	19.6	19.3	19.0
778_7.5	338765.4	730686.3	7.5	19.6	19.2	19.4	19.1
782_7.5	338770	730756.3	7.5	19.6	19.4	19.3	18.9
786_7.5	338773.3	730692.3	7.5	19.8	19.3	19.5	19.3
796_7.5	338788.4	730689.1	7.5	19.8	19.2	19.5	19.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
802_7.5	338792.8	730721.2	7.5	20.5	19.2	20.2	19.9
804_7.5	338795.1	730678.4	7.5	19.6	19.1	19.4	19.1
805_7.5	338796.3	730672	7.5	19.1	18.8	18.8	18.6
806_7.5	338797.5	730641.9	7.5	18.7	18.5	18.4	18.2
809_7.5	338799.9	730379.9	7.5	16.7	16.8	16.6	16.6
810_7.5	338800.7	730645.1	7.5	18.7	18.5	18.5	18.3
811_7.5	338800.7	730667.3	7.5	19.1	18.7	18.8	18.6
812_7.5	338801.1	730367.6	7.5	16.6	16.7	16.6	16.5
814_7.5	338801.9	730471.1	7.5	17.6	17.8	17.5	17.4
816_7.5	338802.3	730452.1	7.5	17.4	17.5	17.3	17.2
817_7.5	338802.3	730707.3	7.5	20.0	19.2	19.7	19.4
819_7.5	338803.9	730356.9	7.5	16.6	16.6	16.5	16.5
820_7.5	338803.9	730435.4	7.5	17.2	17.3	17.1	17.0
821_7.5	338803.9	730445.3	7.5	17.3	17.4	17.2	17.1
822_7.5	338803.9	730691.8	7.5	20.0	19.3	19.7	19.4
823_7.5	338805.1	730647.8	7.5	18.8	18.6	18.5	18.3
825_7.5	338807	730420.8	7.5	17.0	17.1	16.9	16.8
826_7.5	338807	730730.7	7.5	21.0	19.6	20.6	20.3
827_7.5	338807.4	730342.7	7.5	16.5	16.6	16.5	16.4
829_7.5	338808.2	730410.4	7.5	16.9	17.0	16.8	16.8
830_7.5	338808.6	730327.2	7.5	16.5	16.5	16.4	16.4
831_7.5	338809	730456.8	7.5	17.5	17.6	17.3	17.2
832_7.5	338809.8	730684.7	7.5	19.6	19.1	19.2	19.0
834_7.5	338810.6	730398.1	7.5	16.9	16.9	16.8	16.7
835_7.5	338810.6	730651.4	7.5	18.9	18.7	18.6	18.4
836_7.5	338811.8	730388.3	7.5	16.8	16.8	16.7	16.6
838_7.5	338812.6	730467.1	7.5	17.6	17.8	17.5	17.3
839_7.5	338812.6	730680.3	7.5	19.5	19.0	19.2	18.9
842_7.5	338815	730716.4	7.5	20.5	19.6	20.2	19.8
844_7.5	338815.8	730377.9	7.5	16.7	16.8	16.7	16.6
846_7.5	338816.2	730736.3	7.5	21.3	19.9	20.9	20.5
847_7.5	338816.5	730367.6	7.5	16.7	16.7	16.6	16.5
851_7.5	338819.3	730672.8	7.5	19.4	19.0	19.1	18.9
852_7.5	338819.7	730360.1	7.5	16.6	16.7	16.6	16.5
853_7.5	338821.3	730345.1	7.5	16.6	16.6	16.5	16.4
856_7.5	338822.5	730465.5	7.5	17.6	17.8	17.5	17.3
858_7.5	338823.3	730633.6	7.5	18.7	18.6	18.5	18.3
859_7.5	338824.1	730744.9	7.5	21.1	20.4	20.7	20.3
861_7.5	338825.7	730334.3	7.5	16.5	16.6	16.5	16.4
867_7.5	338832.8	730654.6	7.5	19.2	19.0	18.9	18.7
869_7.5	338833.2	730750.9	7.5	21.6	20.8	21.1	20.6
871_7.5	338834.8	730464.3	7.5	17.6	17.8	17.5	17.3
872_7.5	338834.8	730661.3	7.5	19.4	19.1	19.1	18.8
874_7.5	338841.9	730641.1	7.5	19.1	18.9	18.8	18.5
876_7.5	338845.9	730666.1	7.5	19.7	19.4	19.4	19.1
878_7.5	338848.3	730460.8	7.5	17.6	17.8	17.5	17.4
879_7.5	338851	730739.8	7.5	22.3	21.3	21.8	21.3
880_7.5	338851.8	730762.8	7.5	27.3	26.2	26.3	25.4
882_7.5	338857.4	730743.4	7.5	27.5	25.8	26.5	25.8
883_7.5	338862.1	730459.6	7.5	17.7	17.8	17.5	17.4
885_7.5	338866.1	730749.3	7.5	28.2	26.5	27.2	26.3
887_7.5	338876.4	730456	7.5	17.7	17.9	17.6	17.5
888_7.5	338881.1	730743.4	7.5	28.1	26.8	27.2	26.3
890_7.5	338885.1	730734.6	7.5	28.3	27.1	27.3	26.5
891_7.5	338887.9	730452.4	7.5	17.8	18.0	17.6	17.5
893_7.5	338893	730726.3	7.5	28.4	27.4	27.4	26.6
894_7.5	338895	730450.9	7.5	17.8	18.0	17.7	17.6
896_7.5	338904.9	730448.9	7.5	17.9	18.1	17.8	17.6
899_7.5	338914	730447.7	7.5	18.0	18.3	17.8	17.7
901_7.5	338918.4	730471.9	7.5	17.9	18.1	17.7	17.6
902_7.5	338921.2	730463.1	7.5	17.9	18.2	17.8	17.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration ($\mu g/m^3$)			
				BC	SC1	SC3	SC4
907_7.5	338929.5	730452.8	7.5	18.1	18.4	17.9	17.8
916_7.5	338943	730442.6	7.5	18.2	18.6	18.1	18.0
926_7.5	338956.8	730441.4	7.5	18.3	18.7	18.2	18.1
935_7.5	338969.5	730441.4	7.5	18.6	19.0	18.4	18.3
940_7.5	338977.8	730442.1	7.5	18.7	19.2	18.5	18.4
945_7.5	338983.8	730628.4	7.5	23.3	23.4	22.7	22.1
953_7.5	338995.7	730618.5	7.5	23.1	23.2	22.5	22.0
954_7.5	338998.5	730557.5	7.5	19.7	19.9	19.4	19.1
956_7.5	339002.4	730604.6	7.5	22.4	22.5	21.8	21.4
957_7.5	339003.2	730582.1	7.5	20.9	21.1	20.5	20.1
959_7.5	339006.4	730595.1	7.5	21.8	22.0	21.3	20.9
960_7.5	339014.7	730559.4	7.5	20.0	20.2	19.7	19.4
962_7.5	339024.6	730554.7	7.5	19.9	20.1	19.5	19.2
963_7.5	339027.4	730545.6	7.5	19.5	19.7	19.2	19.0
964_7.5	339029.8	730539.6	7.5	19.4	19.6	19.1	18.8
966_7.5	339032.2	730532.5	7.5	19.2	19.4	18.9	18.7
967_7.5	339034.5	730437	7.5	18.9	19.6	18.8	18.6
968_7.5	339034.5	730526.6	7.5	19.1	19.3	18.8	18.6
969_7.5	339038.5	730519	7.5	18.9	19.1	18.6	18.4
973_7.5	339043.3	730499.3	7.5	18.7	19.0	18.5	18.3
974_7.5	339043.6	730436.2	7.5	19.0	19.6	18.8	18.7
975_7.5	339047.6	730436.2	7.5	19.0	19.7	18.8	18.7
976_7.5	339049.6	730488.9	7.5	18.6	18.9	18.4	18.2
978_7.5	339052.4	730435.8	7.5	19.0	19.7	18.9	18.7
979_7.5	339053.6	730473.9	7.5	18.7	19.1	18.5	18.3
982_7.5	339059.5	730467.9	7.5	18.7	19.1	18.5	18.4
983_7.5	339064.3	730458.4	7.5	18.8	19.3	18.7	18.5
984_7.5	339064.3	730518.3	7.5	19.2	19.5	19.0	18.7
985_7.5	339064.3	730532.9	7.5	19.6	19.8	19.2	19.0
986_7.5	339069.8	730449.3	7.5	19.0	19.6	18.8	18.7
987_7.5	339071.8	730544.8	7.5	19.9	20.1	19.5	19.2
988_7.5	339076.2	730435.4	7.5	19.2	19.8	19.0	18.9
989_7.5	339076.9	730482.9	7.5	18.9	19.2	18.6	18.5
991_7.5	339081.7	730423.1	7.5	19.1	19.7	19.0	18.8
992_7.5	339086.8	730406.9	7.5	18.8	19.2	18.6	18.5
993_7.5	339090	730475.8	7.5	18.8	19.2	18.6	18.4
995_7.5	339103.1	730450.1	7.5	19.0	19.6	18.8	18.7
999_7.5	339111.8	730442.6	7.5	19.1	19.7	18.9	18.8
1003_7.5	339135.2	730427.5	7.5	19.3	19.7	19.1	19.0
1004_7.5	339136.4	730407.3	7.5	19.4	19.8	19.3	19.2
1009_7.5	339175.3	730387.9	7.5	19.2	19.3	19.0	18.9
1026_7.5	339437.2	730611.8	7.5	20.7	20.6	19.6	18.7
1027_7.5	339455.8	730611	7.5	20.6	20.6	19.6	18.7
1028_7.5	339461	730664.1	7.5	18.9	18.9	18.3	17.8
1029_7.5	339578.3	730606.3	7.5	20.7	20.6	19.9	19.3
405_4.5	338446	731385	4.5	22.1	22.2	21.7	21.4
409_4.5	338450.3	731386.3	4.5	22.2	22.3	21.8	21.5
416_4.5	338456.7	731389	4.5	22.4	22.5	22.1	21.8
419_4.5	338463	731392.9	4.5	22.9	23.0	22.5	22.2
429_4.5	338475.7	731397.3	4.5	23.3	23.5	23.0	22.8
432_4.5	338480.8	731398.1	4.5	23.4	23.5	23.1	22.9
434_4.5	338485.6	731400.1	4.5	23.7	23.8	23.4	23.2
475_4.5	338526.4	731433	4.5	24.0	24.0	23.8	23.6
487_4.5	338537.5	731436.2	4.5	23.2	23.2	23.0	22.8
565_4.5	338607.7	730646.3	4.5	20.1	19.9	19.9	19.8
568_4.5	338615.6	730635.2	4.5	20.1	19.9	19.9	19.8
569_4.5	338618	730600.3	4.5	19.8	19.5	19.7	19.5
574_4.5	338621.6	730595.9	4.5	20.0	19.7	19.8	19.7
580_4.5	338627.1	730588.4	4.5	20.1	19.8	20.0	19.9
585_4.5	338632.7	730579.7	4.5	20.2	19.9	20.1	20.0
589_4.5	338635	730618.1	4.5	22.4	21.0	22.2	22.2

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
593_4.5	338642.2	730569.8	4.5	20.5	20.2	20.4	20.3
594_4.5	338642.6	730624.9	4.5	22.1	20.7	21.9	21.8
595_4.5	338645.3	730605.1	4.5	22.8	21.4	22.7	22.5
600_4.5	338648.1	730561.4	4.5	20.7	20.4	20.6	20.5
605_4.5	338650.5	730632.4	4.5	19.7	19.2	19.5	19.4
606_4.5	338651.3	730609.4	4.5	22.4	21.0	22.2	22.1
609_4.5	338652.8	730552.8	4.5	20.9	20.6	20.7	20.6
622_4.5	338658.4	730637.9	4.5	19.5	19.1	19.3	19.2
624_4.5	338659.6	730717.6	4.5	18.8	18.7	18.5	18.3
625_4.5	338660	730545.6	4.5	21.2	21.0	21.1	21.0
628_4.5	338662	730614.6	4.5	20.0	19.5	19.9	19.7
630_4.5	338664.8	730719.6	4.5	18.8	18.7	18.5	18.3
634_4.5	338667.5	730620.1	4.5	21.8	20.3	21.6	21.5
637_4.5	338670.3	730723.1	4.5	18.8	18.7	18.5	18.3
640_4.5	338675.1	730624.4	4.5	21.6	20.2	21.4	21.3
641_4.5	338677	730688.7	4.5	18.7	18.6	18.5	18.3
644_4.5	338679.8	730649.8	4.5	21.4	20.0	21.2	21.1
648_4.5	338680.6	730747.3	4.5	18.9	18.8	18.6	18.3
649_4.5	338681.4	730514.3	4.5	19.7	19.9	19.5	19.4
652_4.5	338683.4	730632.4	4.5	21.5	20.1	21.3	21.2
653_4.5	338683.8	730741.8	4.5	18.9	18.8	18.6	18.3
656_4.5	338686.2	730702.9	4.5	18.7	18.6	18.5	18.3
657_4.5	338686.5	730506.4	4.5	19.1	19.4	19.0	18.9
660_4.5	338688.5	730656.9	4.5	19.3	18.9	19.1	19.0
666_4.5	338690.9	730637.6	4.5	21.4	20.0	21.2	21.1
668_4.5	338691.7	730733.1	4.5	18.8	18.7	18.5	18.3
670_4.5	338693.7	730695.8	4.5	18.8	18.7	18.5	18.3
672_4.5	338694.5	730662.1	4.5	19.3	18.9	19.1	18.9
682_4.5	338699.2	730642.7	4.5	21.4	20.0	21.2	21.1
683_4.5	338699.6	730685.1	4.5	18.9	18.8	18.6	18.5
687_4.5	338701.6	730736.6	4.5	18.9	18.8	18.6	18.4
693_4.5	338705.2	730664.1	4.5	21.4	20.1	21.2	21.0
694_4.5	338706.8	730673.2	4.5	19.1	18.9	18.9	18.8
697_4.5	338708.3	730477.4	4.5	18.0	18.2	17.8	17.7
700_4.5	338709.1	730718	4.5	18.9	18.7	18.6	18.4
712_4.5	338718.8	730772.9	4.5	19.4	19.3	19.0	18.7
717_4.5	338723	730613.4	4.5	18.7	18.5	18.5	18.3
719_4.5	338723.6	730753.4	4.5	19.2	19.1	18.9	18.6
724_4.5	338726.8	730762.6	4.5	19.4	19.2	19.0	18.7
728_4.5	338730.1	730658.1	4.5	19.6	19.4	19.4	19.3
732_4.5	338732.1	730634.4	4.5	18.9	18.8	18.7	18.6
735_4.5	338734.1	730667.7	4.5	20.0	19.6	19.8	19.6
736_4.5	338734.9	730684.3	4.5	19.3	18.9	19.1	18.9
738_4.5	338735.9	730786.4	4.5	19.9	19.8	19.4	19.0
739_4.5	338736.5	730649.4	4.5	19.3	19.2	19.1	18.9
741_4.5	338737.7	730624.4	4.5	18.7	18.5	18.5	18.3
743_4.5	338740.8	730600.3	4.5	18.4	18.3	18.3	18.1
746_4.5	338742.4	730640.8	4.5	18.9	18.8	18.7	18.5
748_4.5	338742.8	730673.6	4.5	19.9	19.5	19.7	19.5
749_4.5	338744.4	730741	4.5	19.4	19.1	19.1	18.8
751_4.5	338745	730774.5	4.5	19.8	19.6	19.4	19.0
753_4.5	338746	730603.9	4.5	18.4	18.3	18.3	18.1
759_4.5	338751.1	730695.8	4.5	19.5	18.9	19.2	19.0
763_4.5	338751.9	730679.1	4.5	20.0	19.4	19.7	19.5
764_4.5	338753.3	730765.8	4.5	19.8	19.6	19.4	19.0
765_4.5	338753.5	730608.2	4.5	18.4	18.3	18.3	18.1
768_4.5	338758.3	730729.5	4.5	20.0	19.4	19.7	19.4
769_4.5	338758.7	730612.9	4.5	18.5	18.4	18.3	18.1
771_4.5	338759.9	730682.8	4.5	20.1	19.4	19.8	19.6
776_4.5	338764.4	730774.1	4.5	20.2	20.0	19.7	19.3
778_4.5	338765.4	730686.3	4.5	20.2	19.5	19.9	19.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
782_4.5	338770	730756.3	4.5	20.1	19.7	19.6	19.3
786_4.5	338773.3	730692.3	4.5	20.5	19.6	20.2	20.0
796_4.5	338788.4	730689.1	4.5	20.5	19.5	20.2	20.0
802_4.5	338792.8	730721.2	4.5	22.0	19.6	21.6	21.3
804_4.5	338795.1	730678.4	4.5	20.1	19.4	19.8	19.6
805_4.5	338796.3	730672	4.5	19.5	19.0	19.2	19.0
806_4.5	338797.5	730641.9	4.5	18.9	18.6	18.6	18.4
809_4.5	338799.9	730379.9	4.5	16.8	16.8	16.7	16.6
810_4.5	338800.7	730645.1	4.5	18.9	18.7	18.7	18.5
811_4.5	338800.7	730667.3	4.5	19.4	19.0	19.2	18.9
812_4.5	338801.1	730367.6	4.5	16.7	16.7	16.6	16.5
814_4.5	338801.9	730471.1	4.5	18.3	18.6	18.1	17.9
816_4.5	338802.3	730452.1	4.5	17.8	18.1	17.7	17.6
817_4.5	338802.3	730707.3	4.5	21.6	19.6	21.3	21.0
819_4.5	338803.9	730356.9	4.5	16.6	16.7	16.6	16.5
820_4.5	338803.9	730435.4	4.5	17.4	17.5	17.2	17.1
821_4.5	338803.9	730445.3	4.5	17.6	17.8	17.5	17.4
822_4.5	338803.9	730691.8	4.5	20.8	19.6	20.5	20.2
823_4.5	338805.1	730647.8	4.5	19.0	18.8	18.8	18.6
825_4.5	338807	730420.8	4.5	17.1	17.2	17.0	16.9
826_4.5	338807	730730.7	4.5	22.6	20.0	22.2	21.8
827_4.5	338807.4	730342.7	4.5	16.6	16.6	16.5	16.4
829_4.5	338808.2	730410.4	4.5	17.0	17.1	16.9	16.8
830_4.5	338808.6	730327.2	4.5	16.5	16.5	16.4	16.4
831_4.5	338809	730456.8	4.5	18.2	18.5	18.0	17.8
832_4.5	338809.8	730684.7	4.5	20.2	19.4	19.9	19.6
834_4.5	338810.6	730398.1	4.5	16.9	17.0	16.8	16.7
835_4.5	338810.6	730651.4	4.5	19.2	18.9	18.9	18.7
836_4.5	338811.8	730388.3	4.5	16.8	16.9	16.7	16.7
838_4.5	338812.6	730467.1	4.5	18.3	18.6	18.1	17.9
839_4.5	338812.6	730680.3	4.5	20.1	19.4	19.7	19.5
842_4.5	338815	730716.4	4.5	22.4	20.0	22.0	21.6
844_4.5	338815.8	730377.9	4.5	16.8	16.8	16.7	16.6
846_4.5	338816.2	730736.3	4.5	23.1	20.5	22.6	22.2
847_4.5	338816.5	730367.6	4.5	16.7	16.8	16.6	16.6
851_4.5	338819.3	730672.8	4.5	19.9	19.3	19.6	19.3
852_4.5	338819.7	730360.1	4.5	16.7	16.7	16.6	16.5
853_4.5	338821.3	730345.1	4.5	16.6	16.7	16.5	16.5
856_4.5	338822.5	730465.5	4.5	18.2	18.5	18.0	17.9
858_4.5	338823.3	730633.6	4.5	18.9	18.8	18.7	18.5
859_4.5	338824.1	730744.9	4.5	22.9	21.0	22.3	21.9
861_4.5	338825.7	730334.3	4.5	16.6	16.6	16.5	16.4
867_4.5	338832.8	730654.6	4.5	19.5	19.2	19.2	19.0
869_4.5	338833.2	730750.9	4.5	23.6	21.8	23.0	22.4
871_4.5	338834.8	730464.3	4.5	18.2	18.5	18.0	17.8
872_4.5	338834.8	730661.3	4.5	19.8	19.4	19.4	19.2
874_4.5	338841.9	730641.1	4.5	19.3	19.1	19.0	18.8
876_4.5	338845.9	730666.1	4.5	20.1	19.8	19.8	19.5
878_4.5	338848.3	730460.8	4.5	18.2	18.5	18.0	17.9
879_4.5	338851	730739.8	4.5	25.2	22.7	24.5	23.9
880_4.5	338851.8	730762.8	4.5	33.2	30.4	31.7	30.5
882_4.5	338857.4	730743.4	4.5	32.8	28.9	31.5	30.5
883_4.5	338862.1	730459.6	4.5	18.2	18.5	18.0	17.9
885_4.5	338866.1	730749.3	4.5	35.7	32.0	34.2	32.9
887_4.5	338876.4	730456	4.5	18.3	18.7	18.1	18.0
888_4.5	338881.1	730743.4	4.5	38.3	36.2	36.5	35.1
890_4.5	338885.1	730734.6	4.5	37.5	35.7	35.7	34.3
891_4.5	338887.9	730452.4	4.5	18.5	18.9	18.3	18.2
893_4.5	338893	730726.3	4.5	38.6	37.1	36.8	35.4
894_4.5	338895	730450.9	4.5	18.7	19.1	18.5	18.3
896_4.5	338904.9	730448.9	4.5	18.9	19.4	18.7	18.6

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
899_4.5	338914	730447.7	4.5	19.1	19.6	18.9	18.7
901_4.5	338918.4	730471.9	4.5	18.2	18.4	18.0	17.8
902_4.5	338921.2	730463.1	4.5	18.4	18.7	18.2	18.1
907_4.5	338929.5	730452.8	4.5	18.9	19.4	18.7	18.6
916_4.5	338943	730442.6	4.5	20.1	20.9	19.8	19.7
926_4.5	338956.8	730441.4	4.5	23.9	26.4	23.7	23.5
935_4.5	338969.5	730441.4	4.5	23.9	26.5	23.7	23.5
940_4.5	338977.8	730442.1	4.5	24.0	26.7	23.8	23.6
945_4.5	338983.8	730628.4	4.5	27.9	28.0	26.8	26.0
953_4.5	338995.7	730618.5	4.5	27.6	27.7	26.6	25.8
954_4.5	338998.5	730557.5	4.5	20.8	21.0	20.4	20.1
956_4.5	339002.4	730604.6	4.5	25.5	25.8	24.8	24.1
957_4.5	339003.2	730582.1	4.5	22.8	23.1	22.2	21.8
959_4.5	339006.4	730595.1	4.5	24.6	25.0	23.9	23.4
960_4.5	339014.7	730559.4	4.5	21.5	21.9	21.1	20.8
962_4.5	339024.6	730554.7	4.5	21.6	22.0	21.2	20.9
963_4.5	339027.4	730545.6	4.5	21.1	21.5	20.7	20.4
964_4.5	339029.8	730539.6	4.5	20.9	21.3	20.5	20.3
966_4.5	339032.2	730532.5	4.5	20.6	21.1	20.3	20.0
967_4.5	339034.5	730437	4.5	23.9	26.6	23.7	23.5
968_4.5	339034.5	730526.6	4.5	20.5	21.0	20.2	19.9
969_4.5	339038.5	730519	4.5	20.4	20.9	20.1	19.9
973_4.5	339043.3	730499.3	4.5	20.0	20.6	19.8	19.6
974_4.5	339043.6	730436.2	4.5	23.9	26.7	23.7	23.5
975_4.5	339047.6	730436.2	4.5	24.0	26.7	23.8	23.6
976_4.5	339049.6	730488.9	4.5	20.0	20.6	19.8	19.6
978_4.5	339052.4	730435.8	4.5	24.0	26.8	23.9	23.7
979_4.5	339053.6	730473.9	4.5	19.8	20.5	19.6	19.5
982_4.5	339059.5	730467.9	4.5	20.0	20.7	19.8	19.6
983_4.5	339064.3	730458.4	4.5	20.2	21.1	20.0	19.8
984_4.5	339064.3	730518.3	4.5	20.4	21.0	20.1	19.9
985_4.5	339064.3	730532.9	4.5	20.6	21.0	20.3	20.0
986_4.5	339069.8	730449.3	4.5	20.6	21.7	20.4	20.3
987_4.5	339071.8	730544.8	4.5	20.8	21.1	20.3	20.0
988_4.5	339076.2	730435.4	4.5	24.7	27.5	24.5	24.3
989_4.5	339076.9	730482.9	4.5	19.9	20.4	19.6	19.4
991_4.5	339081.7	730423.1	4.5	21.5	22.8	21.3	21.2
992_4.5	339086.8	730406.9	4.5	20.0	20.7	19.9	19.7
993_4.5	339090	730475.8	4.5	19.5	20.1	19.3	19.1
995_4.5	339103.1	730450.1	4.5	20.3	21.1	20.1	19.9
999_4.5	339111.8	730442.6	4.5	20.6	21.5	20.4	20.3
1003_4.5	339135.2	730427.5	4.5	20.9	21.4	20.7	20.5
1004_4.5	339136.4	730407.3	4.5	24.3	24.8	24.1	24.0
1009_4.5	339175.3	730387.9	4.5	23.1	23.2	22.9	22.8
1026_4.5	339437.2	730611.8	4.5	24.6	24.5	22.5	20.7
1027_4.5	339455.8	730611	4.5	24.3	24.1	22.2	20.5
1028_4.5	339461	730664.1	4.5	19.4	19.4	18.7	18.1
1029_4.5	339578.3	730606.3	4.5	24.7	24.6	23.4	22.4
405_1.5	338446	731385	1.5	26.1	26.5	25.6	25.2
409_1.5	338450.3	731386.3	1.5	26.0	26.3	25.5	25.1
416_1.5	338456.7	731389	1.5	27.1	27.4	26.6	26.2
419_1.5	338463	731392.9	1.5	30.1	30.5	29.6	29.2
429_1.5	338475.7	731397.3	1.5	29.2	29.5	28.8	28.4
432_1.5	338480.8	731398.1	1.5	28.1	28.3	27.6	27.3
434_1.5	338485.6	731400.1	1.5	28.6	28.8	28.2	27.9
475_1.5	338526.4	731433	1.5	27.3	27.3	27.0	26.8
487_1.5	338537.5	731436.2	1.5	26.1	26.0	25.8	25.5
565_1.5	338607.7	730646.3	1.5	23.9	23.6	23.7	23.5
568_1.5	338615.6	730635.2	1.5	23.5	23.2	23.3	23.1
569_1.5	338618	730600.3	1.5	21.5	21.1	21.4	21.2
574_1.5	338621.6	730595.9	1.5	22.1	21.5	21.9	21.8

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
580_1.5	338627.1	730588.4	1.5	22.4	21.9	22.3	22.2
585_1.5	338632.7	730579.7	1.5	22.5	22.0	22.3	22.2
589_1.5	338635	730618.1	1.5	24.4	22.8	24.2	24.1
593_1.5	338642.2	730569.8	1.5	23.9	23.2	23.7	23.6
594_1.5	338642.6	730624.9	1.5	23.1	21.6	23.0	22.9
595_1.5	338645.3	730605.1	1.5	24.9	23.1	24.8	24.6
600_1.5	338648.1	730561.4	1.5	24.2	23.6	24.1	23.9
605_1.5	338650.5	730632.4	1.5	21.0	20.1	20.8	20.7
606_1.5	338651.3	730609.4	1.5	23.8	22.1	23.6	23.5
609_1.5	338652.8	730552.8	1.5	24.1	23.6	23.9	23.9
622_1.5	338658.4	730637.9	1.5	20.7	19.8	20.5	20.3
624_1.5	338659.6	730717.6	1.5	18.9	18.8	18.6	18.4
625_1.5	338660	730545.6	1.5	26.2	25.5	26.0	25.9
628_1.5	338662	730614.6	1.5	21.6	20.5	21.4	21.3
630_1.5	338664.8	730719.6	1.5	18.9	18.8	18.6	18.4
634_1.5	338667.5	730620.1	1.5	22.6	21.0	22.4	22.3
637_1.5	338670.3	730723.1	1.5	18.9	18.8	18.6	18.4
640_1.5	338675.1	730624.4	1.5	22.3	20.7	22.2	22.0
641_1.5	338677	730688.7	1.5	18.9	18.7	18.6	18.4
644_1.5	338679.8	730649.8	1.5	22.1	20.5	21.9	21.7
648_1.5	338680.6	730747.3	1.5	19.0	18.9	18.7	18.4
649_1.5	338681.4	730514.3	1.5	21.8	22.8	21.9	21.8
652_1.5	338683.4	730632.4	1.5	22.3	20.7	22.2	22.1
653_1.5	338683.8	730741.8	1.5	19.0	18.9	18.6	18.4
656_1.5	338686.2	730702.9	1.5	18.9	18.8	18.6	18.4
657_1.5	338686.5	730506.4	1.5	20.7	21.5	20.7	20.6
660_1.5	338688.5	730656.9	1.5	20.5	19.6	20.3	20.2
666_1.5	338690.9	730637.6	1.5	22.3	20.7	22.1	22.0
668_1.5	338691.7	730733.1	1.5	18.9	18.8	18.6	18.4
670_1.5	338693.7	730695.8	1.5	19.0	19.0	18.8	18.6
672_1.5	338694.5	730662.1	1.5	20.2	19.5	20.0	19.8
682_1.5	338699.2	730642.7	1.5	22.2	20.7	22.1	21.9
683_1.5	338699.6	730685.1	1.5	19.2	19.4	19.0	18.8
687_1.5	338701.6	730736.6	1.5	19.0	18.9	18.7	18.4
693_1.5	338705.2	730664.1	1.5	22.2	20.8	22.0	21.9
694_1.5	338706.8	730673.2	1.5	19.8	19.7	19.6	19.4
697_1.5	338708.3	730477.4	1.5	18.4	18.7	18.3	18.2
700_1.5	338709.1	730718	1.5	19.0	18.8	18.7	18.5
712_1.5	338718.8	730772.9	1.5	19.5	19.4	19.1	18.8
717_1.5	338723	730613.4	1.5	18.8	18.6	18.6	18.5
719_1.5	338723.6	730753.4	1.5	19.3	19.2	19.0	18.7
724_1.5	338726.8	730762.6	1.5	19.5	19.3	19.1	18.8
728_1.5	338730.1	730658.1	1.5	20.5	20.5	20.3	20.1
732_1.5	338732.1	730634.4	1.5	19.2	19.2	19.0	18.8
735_1.5	338734.1	730667.7	1.5	20.9	20.1	20.7	20.5
736_1.5	338734.9	730684.3	1.5	20.0	19.4	19.7	19.5
738_1.5	338735.9	730786.4	1.5	20.1	20.0	19.6	19.2
739_1.5	338736.5	730649.4	1.5	19.8	20.0	19.6	19.4
741_1.5	338737.7	730624.4	1.5	18.9	18.8	18.7	18.5
743_1.5	338740.8	730600.3	1.5	18.6	18.4	18.4	18.2
746_1.5	338742.4	730640.8	1.5	19.3	19.4	19.1	18.9
748_1.5	338742.8	730673.6	1.5	20.8	19.8	20.6	20.4
749_1.5	338744.4	730741	1.5	19.6	19.2	19.3	19.0
751_1.5	338745	730774.5	1.5	20.0	19.8	19.5	19.1
753_1.5	338746	730603.9	1.5	18.5	18.4	18.4	18.2
759_1.5	338751.1	730695.8	1.5	20.1	19.2	19.8	19.6
763_1.5	338751.9	730679.1	1.5	20.8	19.7	20.5	20.3
764_1.5	338753.3	730765.8	1.5	20.1	19.8	19.6	19.2
765_1.5	338753.5	730608.2	1.5	18.6	18.4	18.4	18.2
768_1.5	338758.3	730729.5	1.5	20.5	19.6	20.2	19.9
769_1.5	338758.7	730612.9	1.5	18.6	18.5	18.4	18.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (μg/m^3)			
				BC	SC1	SC3	SC4
771_1.5	338759.9	730682.8	1.5	20.7	19.6	20.4	20.2
776_1.5	338764.4	730774.1	1.5	20.4	20.2	19.9	19.5
778_1.5	338765.4	730686.3	1.5	20.9	19.7	20.6	20.4
782_1.5	338770	730756.3	1.5	20.3	19.9	19.9	19.5
786_1.5	338773.3	730692.3	1.5	21.3	19.8	21.1	20.9
796_1.5	338788.4	730689.1	1.5	21.3	19.7	21.0	20.8
802_1.5	338792.8	730721.2	1.5	24.4	19.8	24.0	23.7
804_1.5	338795.1	730678.4	1.5	20.7	19.6	20.4	20.1
805_1.5	338796.3	730672	1.5	19.9	19.2	19.6	19.3
806_1.5	338797.5	730641.9	1.5	19.0	18.7	18.7	18.5
809_1.5	338799.9	730379.9	1.5	16.8	16.8	16.7	16.6
810_1.5	338800.7	730645.1	1.5	19.1	18.8	18.8	18.6
811_1.5	338800.7	730667.3	1.5	19.7	19.1	19.4	19.2
812_1.5	338801.1	730367.6	1.5	16.7	16.8	16.6	16.6
814_1.5	338801.9	730471.1	1.5	19.2	19.8	18.9	18.8
816_1.5	338802.3	730452.1	1.5	18.4	18.7	18.2	18.0
817_1.5	338802.3	730707.3	1.5	23.8	19.8	23.4	23.1
819_1.5	338803.9	730356.9	1.5	16.7	16.7	16.6	16.5
820_1.5	338803.9	730435.4	1.5	17.5	17.6	17.3	17.2
821_1.5	338803.9	730445.3	1.5	17.9	18.1	17.7	17.6
822_1.5	338803.9	730691.8	1.5	21.7	19.8	21.3	21.1
823_1.5	338805.1	730647.8	1.5	19.2	18.9	18.9	18.7
825_1.5	338807	730420.8	1.5	17.2	17.3	17.1	17.0
826_1.5	338807	730730.7	1.5	24.9	20.3	24.5	24.1
827_1.5	338807.4	730342.7	1.5	16.6	16.6	16.5	16.5
829_1.5	338808.2	730410.4	1.5	17.1	17.2	17.0	16.9
830_1.5	338808.6	730327.2	1.5	16.5	16.6	16.5	16.4
831_1.5	338809	730456.8	1.5	19.5	20.1	19.2	18.9
832_1.5	338809.8	730684.7	1.5	20.9	19.6	20.6	20.3
834_1.5	338810.6	730398.1	1.5	16.9	17.0	16.8	16.8
835_1.5	338810.6	730651.4	1.5	19.3	19.0	19.1	18.8
836_1.5	338811.8	730388.3	1.5	16.9	16.9	16.8	16.7
838_1.5	338812.6	730467.1	1.5	19.3	19.9	19.1	18.8
839_1.5	338812.6	730680.3	1.5	20.6	19.6	20.3	20.0
842_1.5	338815	730716.4	1.5	24.8	20.2	24.3	24.0
844_1.5	338815.8	730377.9	1.5	16.8	16.9	16.7	16.6
846_1.5	338816.2	730736.3	1.5	25.6	20.8	25.1	24.7
847_1.5	338816.5	730367.6	1.5	16.7	16.8	16.7	16.6
851_1.5	338819.3	730672.8	1.5	20.3	19.5	19.9	19.7
852_1.5	338819.7	730360.1	1.5	16.7	16.8	16.6	16.6
853_1.5	338821.3	730345.1	1.5	16.6	16.7	16.6	16.5
856_1.5	338822.5	730465.5	1.5	19.2	19.7	18.9	18.7
858_1.5	338823.3	730633.6	1.5	19.0	18.9	18.8	18.6
859_1.5	338824.1	730744.9	1.5	24.8	21.4	24.1	23.6
861_1.5	338825.7	730334.3	1.5	16.6	16.6	16.5	16.5
867_1.5	338832.8	730654.6	1.5	19.7	19.4	19.4	19.1
869_1.5	338833.2	730750.9	1.5	25.7	22.4	25.0	24.4
871_1.5	338834.8	730464.3	1.5	18.9	19.4	18.7	18.5
872_1.5	338834.8	730661.3	1.5	20.0	19.6	19.6	19.4
874_1.5	338841.9	730641.1	1.5	19.5	19.3	19.2	18.9
876_1.5	338845.9	730666.1	1.5	20.4	20.0	20.0	19.7
878_1.5	338848.3	730460.8	1.5	19.1	19.5	18.8	18.6
879_1.5	338851	730739.8	1.5	28.1	23.6	27.3	26.7
880_1.5	338851.8	730762.8	1.5	38.8	33.9	37.0	35.6
882_1.5	338857.4	730743.4	1.5	37.8	31.2	36.5	35.3
883_1.5	338862.1	730459.6	1.5	18.9	19.3	18.6	18.4
885_1.5	338866.1	730749.3	1.5	43.2	37.1	41.3	39.9
887_1.5	338876.4	730456	1.5	19.1	19.6	18.8	18.6
888_1.5	338881.1	730743.4	1.5	51.6	49.0	48.8	46.6
890_1.5	338885.1	730734.6	1.5	47.8	45.8	45.4	43.4
891_1.5	338887.9	730452.4	1.5	19.5	20.1	19.3	19.1

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
893_1.5	338893	730726.3	1.5	51.1	49.3	48.4	46.3
894_1.5	338895	730450.9	1.5	20.0	20.6	19.7	19.5
896_1.5	338904.9	730448.9	1.5	20.5	21.2	20.2	20.0
899_1.5	338914	730447.7	1.5	20.7	21.5	20.5	20.2
901_1.5	338918.4	730471.9	1.5	18.3	18.6	18.2	18.0
902_1.5	338921.2	730463.1	1.5	18.7	19.1	18.5	18.3
907_1.5	338929.5	730452.8	1.5	19.7	20.4	19.5	19.3
916_1.5	338943	730442.6	1.5	23.5	25.2	23.2	22.9
926_1.5	338956.8	730441.4	1.5	28.1	31.7	27.7	27.5
935_1.5	338969.5	730441.4	1.5	27.4	31.1	27.1	26.9
940_1.5	338977.8	730442.1	1.5	26.8	30.4	26.5	26.3
945_1.5	338983.8	730628.4	1.5	32.0	32.2	30.7	29.5
953_1.5	338995.7	730618.5	1.5	31.5	31.7	30.3	29.2
954_1.5	338998.5	730557.5	1.5	21.8	22.1	21.5	21.1
956_1.5	339002.4	730604.6	1.5	28.0	28.4	27.1	26.3
957_1.5	339003.2	730582.1	1.5	24.3	24.8	23.8	23.3
959_1.5	339006.4	730595.1	1.5	26.9	27.5	26.2	25.5
960_1.5	339014.7	730559.4	1.5	22.7	23.3	22.3	22.0
962_1.5	339024.6	730554.7	1.5	23.8	24.6	23.3	23.0
963_1.5	339027.4	730545.6	1.5	23.1	23.9	22.7	22.4
964_1.5	339029.8	730539.6	1.5	22.9	23.8	22.5	22.3
966_1.5	339032.2	730532.5	1.5	22.6	23.5	22.3	22.0
967_1.5	339034.5	730437	1.5	27.4	31.4	27.1	26.9
968_1.5	339034.5	730526.6	1.5	22.5	23.5	22.2	22.0
969_1.5	339038.5	730519	1.5	22.9	23.9	22.6	22.4
973_1.5	339043.3	730499.3	1.5	21.9	22.8	21.6	21.4
974_1.5	339043.6	730436.2	1.5	27.6	31.6	27.3	27.1
975_1.5	339047.6	730436.2	1.5	27.6	31.6	27.3	27.1
976_1.5	339049.6	730488.9	1.5	22.9	24.1	22.7	22.5
978_1.5	339052.4	730435.8	1.5	27.7	31.8	27.4	27.2
979_1.5	339053.6	730473.9	1.5	21.5	22.4	21.2	21.1
982_1.5	339059.5	730467.9	1.5	22.4	23.6	22.2	22.0
983_1.5	339064.3	730458.4	1.5	22.2	23.6	21.9	21.8
984_1.5	339064.3	730518.3	1.5	21.4	22.2	21.1	20.9
985_1.5	339064.3	730532.9	1.5	21.4	22.0	21.0	20.7
986_1.5	339069.8	730449.3	1.5	22.5	24.3	22.3	22.2
987_1.5	339071.8	730544.8	1.5	21.3	21.7	20.9	20.5
988_1.5	339076.2	730435.4	1.5	28.7	32.9	28.4	28.2
989_1.5	339076.9	730482.9	1.5	20.7	21.4	20.5	20.3
991_1.5	339081.7	730423.1	1.5	25.2	27.9	25.0	24.8
992_1.5	339086.8	730406.9	1.5	21.0	21.9	20.9	20.8
993_1.5	339090	730475.8	1.5	20.0	20.7	19.8	19.6
995_1.5	339103.1	730450.1	1.5	21.3	22.5	21.1	20.9
999_1.5	339111.8	730442.6	1.5	21.9	23.0	21.6	21.5
1003_1.5	339135.2	730427.5	1.5	22.1	22.8	21.9	21.7
1004_1.5	339136.4	730407.3	1.5	33.9	34.4	33.6	33.4
1009_1.5	339175.3	730387.9	1.5	29.9	30.0	29.6	29.5
1026_1.5	339437.2	730611.8	1.5	30.0	29.8	26.5	23.5
1027_1.5	339455.8	730611	1.5	28.8	28.6	25.6	22.7
1028_1.5	339461	730664.1	1.5	19.7	19.7	18.9	18.3
1029_1.5	339578.3	730606.3	1.5	30.0	29.9	28.1	26.6
1030_1.5	337967	731401	1.5	28.1	28.1	26.6	25.3
1031_1.5	337956	731409	1.5	28.0	27.8	26.5	25.3
1032_1.5	337946	731412	1.5	25.9	25.8	24.6	23.6
1030_4.5	337967	731401	4.5	24.6	24.5	23.5	22.5
1031_4.5	337956	731409	4.5	23.9	23.9	22.9	22.0
1032_4.5	337946	731412	4.5	23.3	23.2	22.3	21.5
1030_7.5	337967	731401	7.5	21.6	21.5	20.8	20.2
1031_7.5	337956	731409	7.5	21.0	21.0	20.3	19.7
1032_7.5	337946	731412	7.5	20.9	20.9	20.2	19.6
1030_10.5	337967	731401	10.5	19.7	19.7	19.2	18.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
1031_10.5	337956	731409	10.5	19.5	19.4	18.9	18.5
1032_10.5	337946	731412	10.5	19.4	19.4	18.9	18.5
1030_13.5	337967	731401	13.5	18.6	18.6	18.2	17.9
1031_13.5	337956	731409	13.5	18.5	18.4	18.1	17.8
1032_13.5	337946	731412	13.5	18.4	18.4	18.1	17.8
1033_1.5	338039	731352	1.5	36.7	36.4	34.6	32.8
1034_1.5	338032	731351	1.5	32.8	32.6	31.0	29.6
540_4.5	338584.7	731186.9	4.5	19.5	19.5	19.2	18.9
553_4.5	338595.4	731251.9	4.5	19.8	19.8	19.6	19.4
563_4.5	338607.3	730680.8	4.5	19.6	19.6	19.4	19.2
566_4.5	338609.7	731440.1	4.5	21.0	21.0	20.8	20.6
570_4.5	338618	731154.4	4.5	20.0	19.9	19.6	19.3
581_4.5	338628.7	730851.9	4.5	21.2	21.4	20.6	20.1
586_4.5	338633.4	731122.7	4.5	20.3	20.3	19.9	19.6
590_4.5	338637	731114.8	4.5	20.5	20.4	20.0	19.7
592_4.5	338640.6	731106.4	4.5	20.6	20.6	20.1	19.7
597_4.5	338645.7	731095.7	4.5	20.8	20.7	20.3	19.9
603_4.5	338649.7	731085.8	4.5	20.9	20.9	20.4	20.0
617_4.5	338656	731072.3	4.5	21.1	21.1	20.6	20.2
618_4.5	338656.8	731049.8	4.5	26.0	26.0	25.0	24.2
619_4.5	338657.2	731057.7	4.5	25.6	25.5	24.6	23.8
540_1.5	338584.7	731186.9	1.5	20.3	20.2	20.0	19.8
570_1.5	338618	731154.4	1.5	21.8	21.7	21.4	21.1
586_1.5	338633.4	731122.7	1.5	22.3	22.2	21.9	21.5
590_1.5	338637	731114.8	1.5	22.4	22.3	22.0	21.6
592_1.5	338640.6	731106.4	1.5	22.4	22.3	22.0	21.5
597_1.5	338645.7	731095.7	1.5	22.6	22.5	22.2	21.7
603_1.5	338649.7	731085.8	1.5	22.6	22.5	22.1	21.7
617_1.5	338656	731072.3	1.5	22.9	22.9	22.3	21.9
618_1.5	338656.8	731049.8	1.5	29.0	28.8	27.9	27.0
619_1.5	338657.2	731057.7	1.5	28.1	27.9	27.0	26.2
971_1.5	339039.7	730650.3	1.5	29.2	29.3	28.1	27.2
1035_1.5	338784	730432	1.5	17.3	17.4	17.2	17.1
1036_1.5	338784	730443	1.5	17.6	17.8	17.5	17.4
1037_1.5	338783	730451	1.5	18.0	18.3	17.8	17.7
1038_1.5	338782	730462	1.5	19.7	20.6	19.5	19.3
1039_1.5	338755	730468	1.5	19.9	20.8	19.7	19.5
1040_1.5	338744	730459	1.5	18.0	18.3	17.9	17.7
1041_1.5	338746	730452	1.5	17.6	17.8	17.5	17.4
1042_1.5	338746	730441	1.5	17.3	17.4	17.2	17.1
1035_4.5	338784	730432	4.5	17.2	17.3	17.1	17.0
1036_4.5	338784	730443	4.5	17.4	17.6	17.3	17.2
1037_4.5	338783	730451	4.5	17.7	17.9	17.5	17.4
1038_4.5	338782	730462	4.5	18.2	18.6	18.0	17.9
1039_4.5	338755	730468	4.5	18.3	18.6	18.1	18.0
1040_4.5	338744	730459	4.5	17.7	17.9	17.5	17.4
1041_4.5	338746	730452	4.5	17.5	17.6	17.3	17.2
1042_4.5	338746	730441	4.5	17.2	17.3	17.1	17.0
1035_7.5	338784	730432	7.5	17.1	17.2	17.0	16.9
1036_7.5	338784	730443	7.5	17.2	17.3	17.1	17.0
1037_7.5	338783	730451	7.5	17.3	17.4	17.2	17.1
1038_7.5	338782	730462	7.5	17.5	17.6	17.3	17.2
1039_7.5	338755	730468	7.5	17.5	17.6	17.4	17.3
1040_7.5	338744	730459	7.5	17.3	17.4	17.2	17.1
1041_7.5	338746	730452	7.5	17.2	17.3	17.1	17.0
1042_7.5	338746	730441	7.5	17.1	17.1	17.0	16.9
178_4.5	338056.2	731348	4.5	31.0	30.8	29.0	27.4
267_4.5	338206.6	731298.3	4.5	37.3	37.8	35.6	34.2
274_4.5	338220.1	731289.1	4.5	34.9	35.3	33.3	32.0
279_4.5	338227.2	731285.9	4.5	33.2	33.6	31.7	30.5
287_4.5	338235.1	731282.8	4.5	31.8	32.2	30.4	29.2

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean NO_2 Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
288_4.5	338238.3	731280.4	4.5	31.6	31.9	30.2	29.0
295_4.5	338246.2	731277.6	4.5	30.6	31.0	29.3	28.2
296_4.5	338247.8	731257.8	4.5	29.6	29.8	28.4	27.3
701_4.5	338709.1	730871	4.5	29.8	30.2	28.3	27.1
713_4.5	338719.4	730870.2	4.5	29.7	30.0	28.1	26.9
729_4.5	338730.9	730869.8	4.5	29.5	29.8	28.0	26.8
757_4.5	338750.3	730909.4	4.5	31.3	31.4	29.9	28.8
766_4.5	338755.9	730905.4	4.5	31.7	31.9	30.3	29.2
774_4.5	338763.8	730902.7	4.5	31.9	32.1	30.5	29.4
815_4.5	338801.9	730820.6	4.5	31.9	32.1	29.5	27.4
837_4.5	338812.2	730814.7	4.5	32.6	32.7	30.1	27.7
854_4.5	338821.3	730805.2	4.5	32.4	32.3	30.0	27.8
866_4.5	338831.2	730798.9	4.5	33.6	33.5	31.3	29.0
873_4.5	338838.3	730790.9	4.5	34.1	33.7	31.9	29.9
877_4.5	338847.9	730781	4.5	34.6	33.6	32.6	30.8
897_4.5	338910.5	730700.2	4.5	39.5	38.5	37.8	36.5
900_4.5	338916.4	730694.3	4.5	39.8	39.0	38.1	36.7
904_4.5	338922.8	730687.5	4.5	40.0	39.4	38.3	36.8
906_4.5	338928.7	730683.1	4.5	41.2	40.7	39.3	37.8
911_4.5	338938.6	730676	4.5	42.7	42.5	40.6	38.8
921_4.5	338950.1	730667.3	4.5	43.0	43.0	40.8	38.7
943_4.5	338981.8	730665.3	4.5	44.5	44.6	42.0	39.8
1033_4.5	338039	731352	4.5	29.4	29.2	27.9	26.7
279_7.5	338227.2	731285.9	7.5	25.7	25.9	24.8	24.1
287_7.5	338235.1	731282.8	7.5	25.3	25.5	24.5	23.8
288_7.5	338238.3	731280.4	7.5	25.1	25.3	24.3	23.6
296_7.5	338247.8	731257.8	7.5	24.0	24.1	23.2	22.6
701_7.5	338709.1	730871	7.5	23.6	23.8	22.7	22.0
713_7.5	338719.4	730870.2	7.5	23.7	23.9	22.8	22.1
729_7.5	338730.9	730869.8	7.5	23.8	24.0	22.9	22.2
815_7.5	338801.9	730820.6	7.5	26.6	26.6	25.3	24.1
837_7.5	338812.2	730814.7	7.5	26.7	26.7	25.4	24.2
854_7.5	338821.3	730805.2	7.5	26.8	26.6	25.5	24.3
866_7.5	338831.2	730798.9	7.5	27.0	26.8	25.8	24.6
873_7.5	338838.3	730790.9	7.5	27.1	26.7	25.9	24.8
877_7.5	338847.9	730781	7.5	27.2	26.5	26.0	25.0
897_7.5	338910.5	730700.2	7.5	29.0	28.4	28.0	27.1
900_7.5	338916.4	730694.3	7.5	29.1	28.5	28.1	27.2
904_7.5	338922.8	730687.5	7.5	29.2	28.8	28.1	27.2
906_7.5	338928.7	730683.1	7.5	29.2	28.9	28.1	27.2
911_7.5	338938.6	730676	7.5	29.2	28.9	28.1	27.2
921_7.5	338950.1	730667.3	7.5	29.3	29.2	28.2	27.2
943_7.5	338981.8	730665.3	7.5	31.8	31.7	30.4	29.2
701_10.5	338709.1	730871	10.5	20.7	20.8	20.1	19.6
713_10.5	338719.4	730870.2	10.5	20.8	20.9	20.2	19.7
729_10.5	338730.9	730869.8	10.5	20.9	21.0	20.3	19.8
815_10.5	338801.9	730820.6	10.5	23.4	23.4	22.6	21.9
837_10.5	338812.2	730814.7	10.5	23.4	23.3	22.6	21.9
854_10.5	338821.3	730805.2	10.5	23.3	23.2	22.6	21.9
866_10.5	338831.2	730798.9	10.5	23.3	23.1	22.5	21.9
873_10.5	338838.3	730790.9	10.5	23.2	22.9	22.4	21.8
877_10.5	338847.9	730781	10.5	23.1	22.8	22.4	21.8
897_10.5	338910.5	730700.2	10.5	23.7	23.3	23.0	22.4
900_10.5	338916.4	730694.3	10.5	23.7	23.3	23.0	22.4
904_10.5	338922.8	730687.5	10.5	23.7	23.4	23.1	22.5
906_10.5	338928.7	730683.1	10.5	23.7	23.4	23.0	22.5
911_10.5	338938.6	730676	10.5	23.7	23.5	23.1	22.5
921_10.5	338950.1	730667.3	10.5	23.8	23.6	23.1	22.6
943_10.5	338981.8	730665.3	10.5	25.0	24.9	24.2	23.6

PM_{10}

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
LOCHEE RD (138)	338935.7	730680.4	2.75	17.6	17.6	17.0	16.9
LOCHEE RD (140) TRAF	338927.2	730685.1	2.62	16.3	16.2	15.9	15.8
LOCHEE RD (184)	338767	730856	2.35	16.3	16.5	15.6	15.5
LOCHEE RD/POLEPARK R	339016	730586	2.65	13.9	14.1	13.7	13.7
LOGIE STREET (114)	338183.8	731292.8	2.7	17.2	17.3	16.6	16.4
LOGIE STREET (98)	338252.2	731257.6	2.62	16.7	16.8	16.2	16.0
LOONS ROAD (1)	338211.1	731293.4	2.73	18.7	18.8	17.9	17.8
MUIRTON ROAD (6)	338152.3	731293.3	2.5	14.4	14.5	14.1	14.0
RANKINE ST (2)	338768.3	730900.3	2.7	14.5	14.5	14.3	14.2
Lochee Road Romon (a	338860.6	730773.4	2.04	16.5	16.0	15.9	15.8
Lochee Road Romon NO	338861	730773	1.77	16.7	16.2	16.2	16.0
Lochee Road Romon PM	338861	730773	2.06	16.5	16.0	16.0	15.8
Lochee Road Osiris P	338920	730693	3.22	15.7	15.6	15.4	15.3
Logie Street Osiris	338176	731298	3.31	16.9	16.9	16.3	16.1
1	337628.1	731177.6	1.5	12.1	12.1	12.0	12.0
2	337644.8	731179.9	1.5	12.4	12.3	12.3	12.3
3	337669.9	731183.3	1.5	12.7	12.7	12.6	12.6
4	337685.8	731173.8	1.5	15.0	15.0	14.8	14.7
5	337705	731208.4	1.5	12.1	12.1	12.0	12.0
6	337713.5	731185.7	1.5	13.1	13.1	13.0	12.9
7	337718.5	731208.4	1.5	12.1	12.1	12.1	12.0
8	337720.1	731214.8	1.5	12.0	12.0	12.0	12.0
9	337740.5	731153.2	1.5	13.1	13.1	12.9	12.9
10	337743.7	731188.1	1.5	12.9	12.9	12.8	12.7
10_4.5	337744.8	731494.8	4.5	11.9	11.9	11.8	11.8
11	337746.2	731208.4	1.5	12.2	12.2	12.1	12.1
12	337753.6	731419.9	1.5	12.0	11.9	11.9	11.8
13	337767	731419.5	1.5	12.1	12.1	12.0	12.0
14	337771.6	731211.6	1.5	12.2	12.2	12.1	12.1
15	337780.1	731425.4	1.5	12.4	12.4	12.2	12.2
16	337780.1	731425.4	1.5	12.4	12.4	12.2	12.2
17	337780.1	731425.4	1.5	12.4	12.4	12.2	12.2
18	337780.1	731425.4	1.5	12.4	12.4	12.2	12.2
19	337780.1	731425.4	1.5	12.4	12.4	12.2	12.2
20	337780.1	731425.4	1.5	12.4	12.4	12.2	12.2
20_4.5	337780.1	731425.4	4.5	12.2	12.2	12.1	12.1
20_7.5	337780.1	731425.4	7.5	12.0	12.0	11.9	11.9
20_10.5	337780.1	731425.4	10.5	11.8	11.8	11.8	11.8
21	337782.9	731398.9	1.5	12.1	12.1	12.0	12.0
22	337782.9	731398.9	1.5	12.1	12.1	12.0	12.0
23	337782.9	731398.9	1.5	12.1	12.1	12.0	12.0
24	337782.9	731398.9	1.5	12.1	12.1	12.0	12.0
25	337782.9	731398.9	1.5	12.1	12.1	12.0	12.0
26	337782.9	731398.9	1.5	12.1	12.1	12.0	12.0
26_4.5	337782.9	731398.9	4.5	12.0	12.0	11.9	11.9
26_7.5	337782.9	731398.9	7.5	11.9	11.9	11.8	11.8
26_10.5	337782.9	731398.9	10.5	11.8	11.8	11.8	11.7
27	337782.9	731406.8	1.5	12.2	12.2	12.1	12.0
28	337782.9	731406.8	1.5	12.2	12.2	12.1	12.0
29	337782.9	731406.8	1.5	12.2	12.2	12.1	12.0
30	337782.9	731406.8	1.5	12.2	12.2	12.1	12.0
31	337782.9	731406.8	1.5	12.2	12.2	12.1	12.0
32	337782.9	731406.8	1.5	12.2	12.2	12.1	12.0
32_4.5	337782.9	731406.8	4.5	12.1	12.1	12.0	12.0
32_7.5	337782.9	731406.8	7.5	11.9	11.9	11.9	11.9
32_10.5	337782.9	731406.8	10.5	11.8	11.8	11.8	11.8
33	337791.4	731211.6	1.5	12.2	12.2	12.1	12.1
34	337796	731189.6	1.5	13.1	13.1	12.9	12.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
35	337797	731265.6	1.5	11.8	11.8	11.8	11.8
36	337797.6	731158.8	1.5	13.0	13.0	12.8	12.8
37	337798.6	731232.3	1.5	12.0	12.0	11.9	11.9
38	337798.6	731250.5	1.5	11.9	11.9	11.8	11.8
39	337798.6	731286.1	1.5	11.8	11.8	11.8	11.8
40L	337804.3	731469.4	1.5	14.7	14.7	14.3	14.2
40_4.5L	337804.3	731469.4	4.5	13.2	13.2	13.0	12.9
40_7.5L	337804.3	731469.4	7.5	12.2	12.2	12.1	12.0
41L	337804.7	731489.3	1.5	13.4	13.3	13.1	13.0
41_4.5L	337804.7	731489.3	4.5	12.8	12.8	12.6	12.5
41_7.5L	337804.7	731489.3	7.5	12.2	12.2	12.0	12.0
42L	337817.8	731453.2	1.5	14.0	14.0	13.7	13.6
42_4.5L	337817.8	731453.2	4.5	13.1	13.1	12.9	12.8
42_7.5L	337817.8	731453.2	7.5	12.3	12.3	12.2	12.1
43	337819.2	731293.3	1.5	11.9	11.9	11.8	11.8
44	337823.1	731269.5	1.5	11.9	11.9	11.8	11.8
45	337824.7	731252.9	1.5	11.9	11.9	11.9	11.9
46L	337825.6	731446.1	1.5	13.6	13.6	13.4	13.3
46_4.5L	337825.6	731446.1	4.5	13.0	12.9	12.8	12.7
46_10.5L	337825.6	731446.1	10.5	11.9	11.9	11.9	11.8
47	337827.9	731187.1	1.5	13.9	13.9	13.7	13.6
48	337830.3	731241.8	1.5	12.0	12.0	11.9	11.9
49	337830.4	731285.9	1.5	11.9	11.9	11.8	11.8
50	337831	731200.6	1.5	12.6	12.6	12.5	12.5
51	337832.6	731163.3	1.5	13.1	13.1	13.0	12.9
52	337832.8	731268.1	1.5	11.9	11.9	11.9	11.9
53L	337834.4	731473.4	1.5	12.5	12.5	12.4	12.3
54	337835	731216.4	1.5	12.2	12.2	12.2	12.1
55L	337838.4	731431.8	1.5	13.6	13.6	13.4	13.3
55_4.5L	337838.4	731431.8	4.5	13.0	12.9	12.8	12.7
55_10.5L	337838.4	731431.8	10.5	12.0	12.0	11.9	11.9
56	337840.6	731165.7	1.5	13.3	13.3	13.1	13.1
57	337846.9	731163.3	1.5	13.0	13.0	12.9	12.8
58	337851.7	731191.8	1.5	13.5	13.5	13.3	13.2
59L	337851.8	731417.5	1.5	13.9	13.9	13.6	13.5
60L	337854.6	731458.8	1.5	12.4	12.4	12.3	12.2
61	337855	731362.1	1.5	12.4	12.4	12.3	12.2
61_4.5	337855	731362.1	4.5	12.3	12.3	12.1	12.1
61_7.5	337855	731362.1	7.5	12.1	12.1	12.0	12.0
61_10.5	337855	731362.1	10.5	11.9	11.9	11.9	11.8
61_13.5	337855	731362.1	13.5	11.8	11.8	11.7	11.7
62L	337866.5	731419.1	1.5	13.2	13.2	12.9	12.9
63	337870.7	731197.4	1.5	13.2	13.2	13.0	12.9
64L	337874.8	731404.9	1.5	14.1	14.1	13.7	13.6
65L	337877.2	731459.6	1.5	12.2	12.2	12.1	12.1
66	337881.8	731250.5	1.5	12.1	12.1	12.0	12.0
67	337884.9	731233.8	1.5	12.2	12.2	12.1	12.1
68	337885.8	731197.4	1.5	13.4	13.4	13.2	13.1
69	337888.9	731219.6	1.5	12.4	12.4	12.3	12.3
70	337893.1	731280	1.5	12.1	12.1	12.1	12.0
71	337893.5	731251.1	1.5	12.2	12.2	12.1	12.1
72	337895.1	731236.4	1.5	12.3	12.3	12.2	12.2
73	337896.6	731226.5	1.5	12.4	12.4	12.3	12.3
74L	337897.2	731397	1.5	14.1	14.1	13.7	13.6
74_4.5L	337897.2	731397	4.5	13.3	13.3	13.0	12.9
74_10.5L	337897.2	731397	10.5	12.1	12.1	12.0	12.0
75L	337898.2	731406.4	1.5	13.2	13.2	13.0	12.9
76	337900.6	731280.8	1.5	12.1	12.1	12.0	12.0
77L	337900.6	731452	1.5	12.3	12.2	12.1	12.1
78	337901.6	731346.4	1.5	12.4	12.4	12.3	12.3
79L	337901.8	731467.9	1.5	12.1	12.1	12.0	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
80	337902	731326.6	1.5	12.2	12.2	12.1	12.0
81L	337903.8	731423.5	1.5	12.7	12.6	12.5	12.4
82	337906.2	731281.6	1.5	12.1	12.1	12.0	12.0
83L	337909.3	731435.4	1.5	12.5	12.5	12.4	12.3
84	337912.1	731282.4	1.5	12.1	12.1	12.0	12.0
85L	337914.2	731419.8	1.5	12.7	12.7	12.6	12.5
85_4.5L	337914.2	731419.8	4.5	12.6	12.6	12.4	12.4
85_10.5L	337914.2	731419.8	10.5	12.1	12.1	12.0	12.0
86	337917.6	731281.6	1.5	12.1	12.1	12.0	12.0
87	337918.8	731465.9	1.5	12.1	12.1	12.0	12.0
88	337918.8	731465.9	1.5	12.1	12.1	12.0	12.0
89	337918.8	731472.6	1.5	12.0	12.0	11.9	11.9
90	337918.8	731472.6	1.5	12.0	12.0	11.9	11.9
91	337919	731320.3	1.5	12.2	12.2	12.1	12.1
92L	337920	731391.9	1.5	13.8	13.8	13.5	13.4
92_4.5L	337920	731391.9	4.5	13.2	13.2	13.0	12.9
92_10.5L	337920	731391.9	10.5	12.2	12.2	12.1	12.1
93L	337920	731433.7	1.5	12.8	12.8	12.6	12.6
93_4.5L	337920	731433.7	4.5	12.5	12.5	12.3	12.3
93_10.5L	337920	731433.7	10.5	12.0	12.0	11.9	11.9
94	337921.2	731456	1.5	12.3	12.2	12.1	12.1
95	337921.6	731280.8	1.5	12.1	12.1	12.0	12.0
96	337922.6	731345.6	1.5	12.6	12.6	12.4	12.4
97	337926	731280	1.5	12.1	12.1	12.0	12.0
98L	337930	731409.4	1.5	13.0	13.0	12.8	12.7
98_4.5L	337930	731409.4	4.5	12.8	12.7	12.6	12.5
98_10.5L	337930	731409.4	10.5	12.1	12.1	12.0	12.0
99	337931.9	731448.4	1.5	12.6	12.5	12.4	12.4
100	337932.5	731161.7	1.5	12.7	12.7	12.5	12.5
101L	337938.6	731423.7	1.5	13.8	13.7	13.4	13.4
101_4.5L	337938.6	731423.7	4.5	12.7	12.7	12.6	12.5
101_10.5L	337938.6	731423.7	10.5	12.1	12.1	12.0	11.9
102L	337940.6	731401.7	1.5	13.2	13.2	13.0	12.9
102_4.5L	337940.6	731401.7	4.5	12.9	12.9	12.7	12.6
102_7.5L	337940.6	731401.7	7.5	12.5	12.5	12.4	12.3
102_10.5L	337940.6	731401.7	10.5	12.2	12.2	12.1	12.0
102_13.5L	337940.6	731401.7	13.5	12.0	12.0	11.9	11.9
103	337942.2	731439.3	1.5	13.0	13.0	12.8	12.7
103_4.5	337942.2	731439.3	4.5	12.5	12.5	12.4	12.3
103_7.5	337942.2	731439.3	7.5	12.2	12.1	12.1	12.0
104	337955.3	731210.3	1.5	13.0	12.9	12.8	12.7
105	337956.1	731430.2	1.5	13.4	13.3	13.1	13.0
105_4.5	337956.1	731430.2	4.5	12.7	12.7	12.5	12.5
105_7.5	337956.1	731430.2	7.5	12.3	12.2	12.1	12.1
106	337959.5	731165.7	1.5	12.8	12.8	12.6	12.6
107L	337962.4	731394.1	1.5	13.8	13.8	13.5	13.4
107_4.5L	337962.4	731394.1	4.5	13.2	13.2	13.0	12.9
107_7.5L	337962.4	731394.1	7.5	12.6	12.6	12.5	12.4
107_10.5L	337962.4	731394.1	10.5	12.2	12.2	12.1	12.1
107_13.5L	337962.4	731394.1	13.5	12.0	12.0	11.9	11.9
108	337964.6	731115.3	1.5	12.0	12.0	11.9	11.9
109	337964.6	731136.3	1.5	12.1	12.1	12.0	12.0
110	337967.8	731095.5	1.5	11.9	11.9	11.8	11.8
111	337970.2	731067.8	1.5	11.8	11.8	11.7	11.7
112	337971.3	731046.8	1.5	11.7	11.7	11.7	11.7
113	337973.5	731211.4	1.5	13.0	13.0	12.8	12.8
114	337976.9	731029.3	1.5	11.7	11.7	11.7	11.7
115	337977.1	731228.5	1.5	12.5	12.5	12.3	12.3
116	337982.7	731244.3	1.5	12.3	12.3	12.2	12.2
117	337984.8	731166.1	1.5	12.7	12.7	12.6	12.5
118	337986	731008.7	1.5	11.7	11.7	11.7	11.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
119	337988	731126.4	1.5	12.0	12.0	12.0	11.9
120	337988.8	731174.8	1.5	13.1	13.1	12.9	12.9
121	337990.2	731214.2	1.5	12.9	12.9	12.7	12.7
122	337990.4	731104.6	1.5	11.9	11.9	11.9	11.8
123	337992.8	730997.3	1.5	11.7	11.7	11.7	11.6
124	337993.8	731271.7	1.5	12.4	12.4	12.4	12.3
125	337994.3	731079.3	1.5	11.8	11.8	11.8	11.8
126	337996.3	731060.3	1.5	11.8	11.8	11.7	11.7
127	337996.9	731238.8	1.5	12.5	12.5	12.4	12.3
128	337997.5	731036.4	1.5	11.7	11.8	11.7	11.7
129	337997.7	731250.3	1.5	12.4	12.4	12.3	12.3
130	337998.1	731296.3	1.5	12.3	12.3	12.2	12.2
131	337998.5	731403.3	1.5	13.4	13.4	13.1	13.0
132	337999.7	731221.8	1.5	12.7	12.7	12.5	12.5
133	337999.9	730987.3	1.5	11.7	11.7	11.6	11.6
134	338003.1	731027.8	1.5	11.7	11.7	11.7	11.7
135	338004.4	731275.3	1.5	12.4	12.4	12.3	12.2
136	338005.3	731296.3	1.5	12.4	12.4	12.3	12.2
137	338006.6	731020.6	1.5	11.7	11.7	11.7	11.7
138	338007	731175.2	1.5	13.1	13.1	12.9	12.8
139	338007.6	731394.1	1.5	13.9	13.9	13.6	13.5
140	338009.8	730978.2	1.5	11.7	11.7	11.6	11.6
141	338011.2	731295.1	1.5	12.4	12.4	12.3	12.3
142	338011.4	731013.9	1.5	11.7	11.7	11.7	11.7
143	338013.2	731209.4	1.5	13.4	13.4	13.2	13.1
144	338013.4	731345.2	1.5	13.5	13.5	13.3	13.2
145	338015.2	731469.9	1.5	12.0	12.0	11.9	11.9
146	338016.5	731175.2	1.5	13.0	13.0	12.8	12.8
147	338017.7	731324.2	1.5	12.7	12.7	12.6	12.5
148	338019.1	731302.2	1.5	12.5	12.5	12.3	12.3
149	338022.9	731000.8	1.5	11.7	11.7	11.7	11.7
150	338023.1	731451.3	1.5	12.1	12.1	12.0	12.0
151	338026.4	731350.8	1.5	14.5	14.4	14.1	14.0
152	338026.6	731302.6	1.5	12.5	12.5	12.4	12.4
153	338027	731438.1	1.5	12.3	12.3	12.2	12.2
154	338028.6	731383.4	1.5	15.0	14.9	14.6	14.4
155	338028.8	730964.8	1.5	11.7	11.7	11.7	11.6
156	338031.2	730994.4	1.5	11.7	11.7	11.7	11.7
157	338031.4	731422.7	1.5	12.5	12.5	12.4	12.4
158	338034.8	731178.3	1.5	13.1	13.1	12.9	12.9
159	338036.5	731211.4	1.5	13.4	13.4	13.2	13.2
160	338037.2	730992.1	1.5	11.7	11.7	11.7	11.7
161	338037.3	731303.4	1.5	12.6	12.6	12.5	12.4
162	338038.5	731407.6	1.5	12.9	12.9	12.8	12.7
163	338038.7	730963.1	1.5	11.7	11.7	11.7	11.7
164	338040.5	731475.8	1.5	11.9	11.9	11.8	11.8
165	338044.7	730986.9	1.5	11.7	11.7	11.7	11.7
166	338044.9	731303.8	1.5	12.6	12.6	12.5	12.5
167	338045.9	731326.6	1.5	13.2	13.2	13.0	12.9
168	338045.9	730961.1	1.5	11.7	11.7	11.7	11.7
169	338046.4	731211.4	1.5	13.5	13.5	13.3	13.3
170	338046.9	731463.5	1.5	12.0	12.0	11.9	11.9
171	338047.4	731179.5	1.5	13.1	13.1	13.0	12.9
172	338049.2	731415.1	1.5	12.7	12.7	12.6	12.5
173	338053.6	731212.3	1.5	13.5	13.6	13.3	13.3
174	338053.6	731282.8	1.5	12.6	12.6	12.5	12.5
175	338055.8	731180.3	1.5	13.2	13.2	13.0	12.9
176	338056	731382.3	1.5	14.3	14.2	14.0	13.9
177	338056.2	730956.8	1.5	11.8	11.8	11.7	11.7
178	338056.2	731348	1.5	17.0	16.9	16.2	16.0
179	338059.5	731301.4	1.5	12.7	12.7	12.6	12.5

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
180	338061.9	731277.3	1.5	12.7	12.7	12.6	12.6
181	338062.3	731213.4	1.5	13.5	13.6	13.3	13.3
182	338068.1	731181.1	1.5	13.2	13.2	13.0	13.0
183	338069.8	731372.4	1.5	14.8	14.8	14.4	14.3
184	338072.2	731214.2	1.5	13.6	13.6	13.4	13.4
185	338072.4	730993.3	1.5	11.8	11.8	11.7	11.7
186	338073.8	731259.4	1.5	12.9	12.9	12.8	12.7
187	338074	730982.1	1.5	11.8	11.8	11.8	11.8
188	338076	730953.6	1.5	11.9	11.9	11.8	11.8
189	338076.4	731181.1	1.5	13.2	13.2	13.0	12.9
190	338077.4	731215	1.5	13.6	13.6	13.4	13.4
191	338078.2	731267.8	1.5	13.0	13.0	12.9	12.9
192	338079.3	731403.3	1.5	12.7	12.7	12.5	12.5
193	338080.1	731276.1	1.5	13.1	13.1	13.0	12.9
194	338080.5	731238.8	1.5	12.9	12.9	12.8	12.7
195	338082.1	731259.8	1.5	13.0	13.0	12.9	12.8
196	338083.9	730953.6	1.5	11.9	11.9	11.9	11.9
197	338084.9	731232.4	1.5	13.1	13.1	12.9	12.9
198	338086.9	731228.1	1.5	13.2	13.2	13.1	13.0
199	338087.7	731251.5	1.5	13.0	13.0	12.8	12.8
200	338088.1	731278.8	1.5	13.2	13.2	13.1	13.0
201	338088.1	731319.3	1.5	13.7	13.7	13.4	13.3
202	338088.3	731182.7	1.5	13.3	13.3	13.1	13.0
203	338094.2	731183.9	1.5	13.3	13.4	13.2	13.1
204	338096	731213	1.5	14.5	14.5	14.2	14.2
205	338098.2	731330.1	1.5	15.9	15.9	15.3	15.1
206	338101.6	731224.1	1.5	13.5	13.6	13.4	13.3
207	338104.5	730952	1.5	12.0	12.0	11.9	11.9
208	338105.1	731354.1	1.5	15.2	15.2	14.6	14.5
209	338105.1	731360.1	1.5	14.4	14.4	14.0	13.8
210	338105.1	731366	1.5	13.9	13.9	13.5	13.4
211	338105.9	731373.1	1.5	13.4	13.4	13.2	13.1
212	338107.7	731184.7	1.5	13.4	13.4	13.2	13.2
213	338107.7	730940.1	1.5	11.8	11.8	11.8	11.8
214	338109.1	731220.9	1.5	13.7	13.7	13.5	13.5
215	338110.9	731295.3	1.5	13.4	13.4	13.2	13.1
216	338116.8	731185.9	1.5	13.6	13.6	13.4	13.3
217	338117.2	731313.1	1.5	14.3	14.3	13.9	13.8
218	338118	730939.8	1.5	11.8	11.8	11.8	11.8
219	338122.6	731275.3	1.5	13.1	13.1	12.9	12.8
220	338124.9	731225.7	1.5	13.5	13.5	13.3	13.3
221	338125.5	730984.1	1.5	11.9	11.9	11.9	11.9
222	338125.5	730994.1	1.5	11.9	11.9	11.8	11.8
223	338131.3	731278.8	1.5	13.2	13.2	13.0	13.0
224	338133.5	730939.4	1.5	11.8	11.8	11.8	11.8
225	338133.5	731188.6	1.5	13.9	13.9	13.7	13.6
226	338140.2	730939.8	1.5	11.8	11.8	11.8	11.8
227	338141.2	731290.1	1.5	14.0	14.1	13.8	13.7
227_4.5	338141.2	731290.1	4.5	13.4	13.4	13.2	13.1
227_7.5	338141.2	731290.1	7.5	12.9	12.9	12.7	12.7
228	338143.4	730979.8	1.5	12.0	12.0	11.9	11.9
229	338144.2	731188.6	1.5	13.9	13.9	13.6	13.6
230	338148.7	731232.9	1.5	13.3	13.4	13.2	13.1
231	338149	731292.1	1.5	14.4	14.4	14.1	14.0
231_4.5	338149	731292.1	4.5	13.7	13.7	13.4	13.3
231_7.5	338149	731292.1	7.5	13.0	13.0	12.8	12.7
232	338151.3	730952.4	1.5	11.9	11.9	11.9	11.8
233	338154.1	731293.4	1.5	14.8	14.8	14.4	14.3
233_4.5	338154.1	731293.4	4.5	13.9	13.9	13.6	13.5
233_7.5	338154.1	731293.4	7.5	13.0	13.0	12.9	12.8
234	338154.5	730981.8	1.5	11.9	12.0	11.9	11.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
235	338158.9	731294.7	1.5	15.2	15.3	14.8	14.7
235_4.5	338158.9	731294.7	4.5	14.1	14.1	13.8	13.7
235_7.5	338158.9	731294.7	7.5	13.1	13.1	12.9	12.9
236	338159.6	730953.3	1.5	11.9	11.9	11.9	11.8
237	338159.8	731234.1	1.5	13.4	13.4	13.2	13.1
238	338163	731295.5	1.5	15.7	15.7	15.2	15.1
238_4.5	338163	731295.5	4.5	14.3	14.3	14.0	13.9
238_7.5	338163	731295.5	7.5	13.1	13.2	13.0	12.9
239	338163.8	731222.9	1.5	14.2	14.3	14.0	13.9
240	338164.8	730982.6	1.5	11.9	12.0	11.9	11.9
241	338165.8	731358.1	1.5	13.0	13.0	12.8	12.8
242	338165.8	731364	1.5	12.9	12.9	12.7	12.6
243	338166.9	731350.6	1.5	13.3	13.3	13.1	13.0
244	338167.2	731189.1	1.5	13.9	13.9	13.7	13.6
245	338169.1	730953.6	1.5	11.9	11.9	11.9	11.8
246	338172.9	731298.1	1.5	18.2	18.3	17.4	17.2
246_4.5	338172.9	731298.1	4.5	15.1	15.1	14.7	14.6
246_7.5	338172.9	731298.1	7.5	13.2	13.2	13.0	13.0
247	338173.1	731185.9	1.5	13.7	13.8	13.5	13.5
248	338173.9	730982.6	1.5	12.0	12.0	11.9	11.9
249	338178	731223.8	1.5	14.2	14.2	14.0	13.9
250	338180.2	730955.2	1.5	11.9	11.9	11.9	11.9
251	338180.8	731293.6	1.5	18.0	18.1	17.3	17.1
251_4.5	338180.8	731293.6	4.5	15.1	15.1	14.7	14.6
251_7.5	338180.8	731293.6	7.5	13.2	13.2	13.0	13.0
252	338182.2	731167.6	1.5	13.1	13.1	13.0	12.9
253	338183.8	730987.7	1.5	11.9	12.0	11.9	11.9
254	338187.3	731291	1.5	18.5	18.6	17.7	17.5
254_4.5	338187.3	731291	4.5	15.1	15.2	14.8	14.7
254_7.5	338187.3	731291	7.5	13.2	13.3	13.0	13.0
255	338187.8	731159.3	1.5	13.0	13.1	12.9	12.8
256	338194.1	731148.3	1.5	13.0	13.0	12.8	12.7
257	338194.5	730989.7	1.5	12.0	12.0	11.9	11.9
258	338194.8	731287.1	1.5	18.4	18.6	17.7	17.5
258_4.5	338194.8	731287.1	4.5	15.1	15.2	14.7	14.6
258_7.5	338194.8	731287.1	7.5	13.2	13.3	13.0	13.0
259	338201.2	731130.4	1.5	12.8	12.8	12.6	12.6
260	338201.3	731283.4	1.5	18.0	18.1	17.3	17.2
260_4.5	338201.3	731283.4	4.5	14.9	15.0	14.6	14.5
260_7.5	338201.3	731283.4	7.5	13.2	13.2	13.0	13.0
261	338202.2	731228.1	1.5	13.9	13.9	13.7	13.6
262	338202.4	731202.9	1.5	14.9	14.9	14.6	14.5
263	338202.8	730959.6	1.5	12.0	12.0	11.9	11.9
264	338203.2	730989.7	1.5	12.0	12.0	11.9	11.9
265	338203.2	731189.8	1.5	14.4	14.4	14.1	14.0
266	338205.2	731123.6	1.5	12.8	12.8	12.6	12.6
267	338206.6	731298.3	1.5	19.5	19.7	18.7	18.5
268	338208.6	731259.8	1.5	13.9	14.0	13.7	13.6
269	338211.1	730992.9	1.5	12.0	12.0	12.0	11.9
270	338213.5	730960.8	1.5	12.0	12.0	11.9	11.9
271	338213.5	731109	1.5	12.7	12.7	12.6	12.5
272	338216.7	731099.9	1.5	12.6	12.7	12.5	12.5
273	338218.7	731167.3	1.5	13.6	13.6	13.4	13.3
274	338220.1	731289.1	1.5	18.5	18.7	17.7	17.6
275	338221.4	731202.9	1.5	14.6	14.7	14.5	14.4
276	338223.8	731087.6	1.5	12.6	12.6	12.5	12.5
277	338223.8	730963.5	1.5	12.0	12.0	11.9	11.9
278	338226.2	730998.4	1.5	12.1	12.1	12.0	12.0
279	338227.2	731285.9	1.5	17.6	17.7	16.9	16.8
280	338228.2	731154.9	1.5	13.3	13.3	13.1	13.0
281	338231.3	731075.7	1.5	12.7	12.7	12.5	12.5

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
282	338232.1	731000.4	1.5	12.1	12.1	12.0	12.0
283	338232.1	731145.4	1.5	13.3	13.3	13.1	13.0
284	338232.9	731203.3	1.5	14.7	14.8	14.5	14.5
285	338234.1	730965.5	1.5	12.0	12.1	12.0	12.0
286	338234.9	731064.2	1.5	12.6	12.6	12.4	12.4
287	338235.1	731282.8	1.5	16.9	17.0	16.3	16.2
288	338238.3	731280.4	1.5	17.0	17.1	16.4	16.3
289	338238.9	731130.4	1.5	13.2	13.2	13.0	13.0
290	338239.5	731305	1.5	15.8	16.0	15.5	15.4
291	338244	731119.3	1.5	13.2	13.2	13.0	12.9
292	338245.2	731049.1	1.5	12.6	12.6	12.5	12.4
293	338245.6	730969.5	1.5	12.1	12.1	12.0	12.0
294	338246	731001.6	1.5	12.2	12.3	12.1	12.1
295	338246.2	731277.6	1.5	16.4	16.5	15.8	15.7
296	338247.8	731257.8	1.5	16.4	16.5	15.9	15.8
297	338253.6	731103.4	1.5	13.1	13.1	12.9	12.8
298	338253.9	731005.1	1.5	12.3	12.4	12.2	12.2
299	338254.3	731207.3	1.5	15.6	15.7	15.4	15.4
300	338255.1	730973.4	1.5	12.2	12.2	12.1	12.1
301	338257.5	731091.9	1.5	13.1	13.1	12.9	12.9
302	338262.7	730976.6	1.5	12.3	12.3	12.2	12.1
303	338264.8	731360.4	1.5	12.6	12.6	12.5	12.4
304	338266.6	731077.3	1.5	13.0	13.0	12.8	12.8
305	338269	731068.1	1.5	13.1	13.1	12.9	12.8
306	338274.2	730979.8	1.5	12.4	12.5	12.3	12.3
307	338276.9	731055.5	1.5	13.0	13.0	12.8	12.8
308	338277.1	731345.4	1.5	13.0	13.1	12.9	12.9
309	338283.7	731041.6	1.5	13.0	13.0	12.8	12.8
310	338292	731024.2	1.5	13.0	13.0	12.8	12.8
311	338293.6	730956.8	1.5	12.5	12.5	12.3	12.3
312	338297.5	731013.4	1.5	13.0	13.0	12.8	12.8
313	338302.3	730929.4	1.5	12.2	12.3	12.1	12.1
314	338305.9	730997.6	1.5	12.9	13.0	12.7	12.6
315	338308.6	730926.7	1.5	12.3	12.3	12.2	12.1
316	338308.8	731328.8	1.5	14.2	14.4	14.0	13.9
317	338313	730986.5	1.5	12.8	12.8	12.6	12.5
318	338319.3	730922.3	1.5	12.5	12.5	12.3	12.2
319	338321.3	730968.7	1.5	12.8	12.8	12.6	12.5
320	338322.3	731299.4	1.5	12.9	12.9	12.8	12.7
321	338326.5	730960.8	1.5	12.8	12.8	12.5	12.5
322	338338.4	730942.9	1.5	12.8	12.8	12.5	12.5
323	338342.9	731341.4	1.5	13.9	14.1	13.7	13.7
324	338343.9	730938.6	1.5	12.8	12.9	12.6	12.5
325	338345.7	731291.1	1.5	12.7	12.7	12.6	12.5
326	338350.1	731271.3	1.5	12.7	12.7	12.6	12.6
327	338350.3	731110.6	1.5	14.0	14.1	13.7	13.7
328	338351.8	731051.5	1.5	12.7	12.8	12.6	12.6
329	338353.4	731100.7	1.5	13.8	13.9	13.5	13.5
330	338353.6	731339.4	1.5	13.3	13.4	13.1	13.1
331	338356.8	730887.6	1.5	12.2	12.2	12.0	12.0
331_4.5	338356.8	730887.6	4.5	12.1	12.1	12.0	12.0
331_7.5	338356.8	730887.6	7.5	12.0	12.0	11.9	11.9
331_10.5	338356.8	730887.6	10.5	11.9	11.9	11.8	11.8
332	338360.2	731116.1	1.5	14.8	14.9	14.3	14.2
333	338361.8	730932.2	1.5	12.9	12.9	12.6	12.5
334	338362.3	731327.6	1.5	12.8	12.8	12.6	12.6
335	338364.5	731077.3	1.5	13.6	13.7	13.4	13.4
336	338365.1	731321.3	1.5	12.7	12.7	12.5	12.5
337	338367.5	731314.9	1.5	12.6	12.6	12.5	12.5
338	338367.9	730554.7	1.5	11.6	11.6	11.6	11.6
338_4.5	338368.7	730880.1	4.5	12.1	12.1	12.0	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
338_7.5	338368.7	730880.1	7.5	12.0	12.0	11.9	11.9
338_10.5	338368.7	730880.1	10.5	11.9	11.9	11.8	11.8
339	338371.3	731071.3	1.5	13.3	13.4	13.1	13.1
340	338371.5	731308.6	1.5	12.6	12.6	12.4	12.4
341	338373	730523	1.5	11.6	11.6	11.6	11.6
342	338373	730559.9	1.5	11.6	11.6	11.6	11.6
343	338375.8	730529.8	1.5	11.6	11.6	11.6	11.6
344	338375.8	731303.8	1.5	12.5	12.6	12.4	12.4
345	338379.6	731106.2	1.5	14.4	14.4	13.9	13.8
346	338380.2	730559.4	1.5	11.6	11.6	11.6	11.6
347	338380.2	731298.3	1.5	12.5	12.5	12.4	12.3
348	338381.8	731257	1.5	12.5	12.5	12.4	12.4
349	338382.9	731289.9	1.5	12.5	12.5	12.4	12.3
350	338384.7	730929.8	1.5	12.9	12.9	12.7	12.6
351	338385.3	731285.6	1.5	12.5	12.5	12.4	12.3
352	338385.5	731102.3	1.5	14.1	14.1	13.6	13.5
353	338386.1	731231.3	1.5	12.5	12.5	12.4	12.4
354	338387.3	731260.2	1.5	12.5	12.5	12.4	12.3
355	338390.9	730878.9	1.5	12.3	12.3	12.2	12.1
355_4.5	338390.9	730878.9	4.5	12.2	12.2	12.1	12.1
355_7.5	338390.9	730878.9	7.5	12.1	12.1	12.0	12.0
355_10.5	338390.9	730878.9	10.5	11.9	12.0	11.9	11.9
356	338390.9	731278	1.5	12.5	12.5	12.3	12.3
357	338392.1	730512.7	1.5	11.6	11.6	11.6	11.6
358	338392.1	730554.7	1.5	11.7	11.7	11.7	11.7
359	338392.5	730524.6	1.5	11.7	11.7	11.7	11.7
360	338393.7	731270.9	1.5	12.4	12.5	12.3	12.3
361	338393.8	731088	1.5	13.2	13.2	12.9	12.9
362	338394.3	731069.8	1.5	12.8	12.9	12.7	12.6
363	338396.4	731236.8	1.5	12.4	12.5	12.3	12.3
364	338397.2	731266.1	1.5	12.4	12.5	12.3	12.3
365	338398.4	731310.5	1.5	12.4	12.5	12.3	12.3
366	338398.4	731316.5	1.5	12.5	12.5	12.3	12.3
367	338398.8	731325.2	1.5	12.5	12.5	12.4	12.3
368	338399.6	731345.8	1.5	12.7	12.7	12.6	12.6
369	338400	731331.5	1.5	12.5	12.5	12.4	12.4
370	338400.6	730921.5	1.5	13.6	13.6	13.3	13.1
371	338400.8	731349.4	1.5	12.7	12.8	12.7	12.6
372	338400.8	731355.7	1.5	12.9	13.0	12.8	12.8
373	338401.2	731238.4	1.5	12.4	12.4	12.3	12.3
374	338402.4	731294.3	1.5	12.4	12.5	12.3	12.3
375	338405.5	731368.8	1.5	14.1	14.2	13.9	13.9
376	338406.5	730920.8	1.5	13.7	13.8	13.4	13.3
377	338406.7	730553.9	1.5	11.8	11.8	11.7	11.7
378	338408.3	730864.3	1.5	12.2	12.3	12.1	12.1
378_4.5	338408.3	730864.3	4.5	12.1	12.2	12.1	12.0
378_7.5	338408.3	730864.3	7.5	12.0	12.1	12.0	12.0
378_10.5	338408.3	730864.3	10.5	11.9	12.0	11.9	11.9
379	338410.7	731245.1	1.5	12.4	12.4	12.3	12.2
380	338415.3	730950.4	1.5	13.0	13.1	12.8	12.8
381	338415.6	731054.7	1.5	12.7	12.7	12.5	12.5
382	338416.3	731308.1	1.5	12.4	12.4	12.3	12.2
383	338417	731224.9	1.5	12.3	12.4	12.3	12.2
384	338417.2	730919.6	1.5	14.1	14.2	13.7	13.6
385	338417.2	730945.7	1.5	13.0	13.1	12.8	12.8
386	338421	730553.5	1.5	11.9	11.9	11.8	11.8
387	338421.2	730941.8	1.5	13.2	13.3	13.0	13.0
388	338422.2	730520.6	1.5	11.8	11.8	11.7	11.7
389	338425	730851.6	1.5	12.2	12.3	12.1	12.1
389_4.5	338425	730851.6	4.5	12.1	12.2	12.1	12.0
389_7.5	338425	730851.6	7.5	12.0	12.1	12.0	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m³)			
				BC	SC1	SC3	SC4
389_10.5	338425	730851.6	10.5	11.9	12.0	11.9	11.9
390	338426.3	731065.4	1.5	12.8	12.8	12.6	12.6
391	338426.9	731308.9	1.5	12.3	12.3	12.2	12.2
392	338427.7	730526.9	1.5	11.9	11.9	11.8	11.8
393	338427.9	730923.5	1.5	13.8	13.9	13.5	13.4
394	338428.5	731305.4	1.5	12.3	12.3	12.2	12.2
395	338429.3	731247.9	1.5	12.3	12.3	12.2	12.2
396	338434.1	731252.3	1.5	12.3	12.3	12.2	12.2
397	338434.3	731054.7	1.5	12.6	12.7	12.5	12.4
398	338434.5	731374.8	1.5	13.3	13.4	13.2	13.2
399	338436.8	730552.8	1.5	11.9	11.9	11.9	11.9
400	338440	730502	1.5	11.7	11.7	11.7	11.7
401	338440	730838.9	1.5	12.2	12.3	12.1	12.1
401_4.5	338440	730838.9	4.5	12.1	12.2	12.1	12.0
401_7.5	338440	730838.9	7.5	12.0	12.1	12.0	12.0
401_10.5	338440	730838.9	10.5	11.9	12.0	11.9	11.9
402	338440.4	731255.4	1.5	12.3	12.3	12.2	12.2
403	338444.4	730820.6	1.5	12.1	12.2	12.0	12.0
403_4.5	338444.4	730820.6	4.5	12.1	12.1	12.0	12.0
403_7.5	338444.4	730820.6	7.5	12.0	12.0	11.9	11.9
403_10.5	338444.4	730820.6	10.5	11.9	11.9	11.8	11.8
404	338445.2	731256.3	1.5	12.3	12.3	12.2	12.2
405_10.5	338446	731385	10.5	12.1	12.2	12.1	12.1
406	338446.4	730507.1	1.5	11.7	11.7	11.7	11.7
407	338446.8	730664.1	1.5	11.8	11.8	11.7	11.7
408	338448.3	731258.2	1.5	12.3	12.3	12.2	12.2
409_10.5	338450.3	731386.3	10.5	12.1	12.2	12.1	12.1
410	338450.7	731237.6	1.5	12.2	12.2	12.2	12.1
411	338451.1	731415.6	1.5	12.6	12.6	12.5	12.5
412	338452.3	730552.3	1.5	12.0	12.0	12.0	12.0
413	338452.7	731231.3	1.5	12.2	12.2	12.1	12.1
414	338453.5	731260.6	1.5	12.3	12.3	12.2	12.2
415	338453.9	731294.7	1.5	12.3	12.3	12.2	12.2
416_10.5	338456.7	731389	10.5	12.1	12.2	12.1	12.1
417	338456.7	730810.4	1.5	12.1	12.2	12.1	12.1
417_4.5	338456.7	730810.4	4.5	12.1	12.1	12.0	12.0
417_7.5	338456.7	730810.4	7.5	12.0	12.0	11.9	11.9
417_10.5	338456.7	730810.4	10.5	11.9	11.9	11.8	11.8
418	338457.1	730517.8	1.5	11.8	11.8	11.8	11.8
419_10.5	338463	731392.9	10.5	12.1	12.2	12.1	12.1
420	338463.4	730551.1	1.5	12.1	12.1	12.1	12.1
421	338463.8	730672.4	1.5	11.9	11.9	11.8	11.8
422	338465	730522.2	1.5	12.0	12.0	11.9	11.9
423	338469.8	730551.1	1.5	12.2	12.2	12.1	12.1
424	338470.1	731095.7	1.5	13.7	13.7	13.3	13.2
425	338471.7	731395.3	1.5	14.5	14.6	14.4	14.4
426	338474.1	731273.3	1.5	12.3	12.3	12.2	12.2
427	338474.5	730525.8	1.5	12.1	12.1	12.1	12.1
428	338475.7	731305.4	1.5	12.3	12.3	12.2	12.2
429_10.5	338475.7	731397.3	10.5	12.1	12.2	12.1	12.1
430	338479.3	730551.1	1.5	12.2	12.2	12.2	12.2
431	338480.4	731415.1	1.5	13.5	13.5	13.4	13.4
432_10.5	338480.8	731398.1	10.5	12.1	12.2	12.1	12.1
433	338482.8	730682.3	1.5	12.0	12.0	12.0	12.0
434_10.5	338485.6	731400.1	10.5	12.1	12.2	12.1	12.1
435	338486.4	731584.8	1.5	11.8	11.8	11.8	11.8
436	338486.8	730525.8	1.5	12.2	12.2	12.2	12.2
437	338489.2	731311.7	1.5	12.4	12.4	12.3	12.3
438	338489.2	731249.9	1.5	12.2	12.2	12.1	12.1
439	338489.2	731475	1.5	12.7	12.7	12.6	12.6
440	338489.6	731599.4	1.5	11.7	11.7	11.7	11.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (μg/m^3)			
				BC	SC1	SC3	SC4
441	338490.3	731090.2	1.5	14.7	14.7	14.1	13.9
442	338491.6	730784.2	1.5	12.4	12.5	12.3	12.3
443	338492.7	731437.8	1.5	13.3	13.3	13.3	13.2
444	338495.5	730776.6	1.5	12.4	12.5	12.3	12.3
445	338496.7	730690.6	1.5	12.2	12.2	12.1	12.1
446	338497.1	730549.9	1.5	12.3	12.3	12.3	12.3
447	338499.1	730769.9	1.5	12.4	12.5	12.3	12.3
448	338499.9	730525.4	1.5	12.2	12.2	12.2	12.2
449	338499.9	730880.1	1.5	13.1	13.3	12.9	12.8
450	338502.3	730852.4	1.5	13.0	13.2	12.9	12.8
451	338502.7	730697.4	1.5	12.3	12.3	12.2	12.2
452	338502.7	730765.2	1.5	12.4	12.5	12.3	12.3
453	338508.2	730757.6	1.5	12.5	12.6	12.4	12.4
454	338509.8	731270.9	1.5	12.3	12.3	12.2	12.2
455	338510.2	730705.7	1.5	12.4	12.4	12.3	12.3
456	338510.2	730753.3	1.5	12.5	12.6	12.4	12.4
457	338510.6	731320.8	1.5	12.5	12.5	12.5	12.4
458	338511.4	731283.2	1.5	12.4	12.4	12.3	12.3
459	338511.4	730709.7	1.5	12.4	12.4	12.3	12.3
460	338511.8	731360.9	1.5	13.1	13.0	13.0	13.0
461	338512.9	731506.7	1.5	14.9	14.9	14.9	14.9
462	338513.3	731103.6	1.5	13.0	13.0	12.8	12.7
463	338513.8	730525.8	1.5	12.3	12.3	12.3	12.3
464	338514.9	730741.8	1.5	12.5	12.6	12.4	12.4
465	338514.9	731097.7	1.5	13.4	13.4	13.1	13.0
466	338515.3	731256.3	1.5	12.2	12.2	12.2	12.1
467	338516.1	730719.6	1.5	12.5	12.5	12.4	12.4
468	338516.1	730733.4	1.5	12.5	12.5	12.4	12.4
469	338516.5	730723.6	1.5	12.5	12.5	12.4	12.4
470	338519.7	731346.2	1.5	13.1	13.0	13.0	13.0
471	338520.9	730857.9	1.5	12.6	12.7	12.5	12.5
472	338522.5	730549.9	1.5	12.3	12.3	12.3	12.3
473	338523.7	731091.4	1.5	14.2	14.2	13.7	13.6
474	338526	731539.2	1.5	12.7	12.7	12.7	12.7
475_10.5	338526.4	731433	10.5	12.1	12.1	12.1	12.1
476	338526.8	731114.8	1.5	12.6	12.6	12.4	12.4
477	338528	731393.4	1.5	13.9	13.9	13.8	13.8
478	338529.6	731579.6	1.5	12.1	12.1	12.1	12.1
479	338530.4	731507.9	1.5	12.8	12.8	12.7	12.7
480	338531.2	731384.6	1.5	13.8	13.8	13.8	13.8
481	338533.2	731091.8	1.5	14.1	14.1	13.6	13.5
482	338533.2	730549.9	1.5	12.3	12.3	12.3	12.3
483	338534.3	731496.4	1.5	12.7	12.7	12.6	12.6
484	338534.8	731435.4	1.5	13.9	13.9	13.9	13.9
485	338534.8	730521.8	1.5	12.2	12.2	12.2	12.2
486	338535.1	731291.9	1.5	12.7	12.6	12.6	12.5
487_10.5	338537.5	731436.2	10.5	12.1	12.1	12.1	12.1
488	338537.9	731372.8	1.5	13.6	13.5	13.5	13.5
489	338539.5	731161.1	1.5	12.2	12.2	12.1	12.1
490	338539.5	731416.8	1.5	13.8	13.8	13.7	13.7
491	338541.1	731091.4	1.5	14.2	14.2	13.7	13.5
492	338541.5	731206.3	1.5	12.2	12.2	12.1	12.1
493	338542.3	731362.8	1.5	13.5	13.5	13.5	13.5
494	338543.1	730521	1.5	12.2	12.2	12.2	12.2
495	338543.1	730548.4	1.5	12.4	12.4	12.4	12.3
496	338544.7	731437.8	1.5	14.0	14.0	13.9	13.9
497	338545.4	731165.1	1.5	12.2	12.2	12.1	12.1
498	338546.3	730880.5	1.5	12.8	12.9	12.6	12.6
499	338547.8	730521	1.5	12.2	12.2	12.2	12.2
500	338549	731186.5	1.5	12.2	12.2	12.1	12.1
501	338549.8	731163.5	1.5	12.2	12.2	12.1	12.1

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
502	338551	731421.1	1.5	13.6	13.6	13.5	13.5
503	338553	731166.3	1.5	12.2	12.2	12.1	12.1
504	338553.8	731348.9	1.5	13.2	13.2	13.1	13.1
505	338555.4	731090.9	1.5	14.2	14.2	13.7	13.5
506	338555.4	731278.4	1.5	12.9	12.9	12.9	12.9
507	338556.2	730521	1.5	12.2	12.2	12.2	12.2
508	338558.9	731168.3	1.5	12.2	12.2	12.2	12.1
509	338559.7	730547.6	1.5	12.4	12.4	12.4	12.4
510	338560.1	731190.4	1.5	12.2	12.2	12.2	12.2
511	338561.3	731341.8	1.5	13.1	13.0	13.0	13.0
512	338562.5	731118.7	1.5	12.5	12.5	12.4	12.3
513	338562.5	731426.6	1.5	13.5	13.5	13.5	13.4
514	338563.7	731262.6	1.5	12.9	12.9	12.9	12.9
515	338564.9	731192	1.5	12.3	12.3	12.2	12.2
516	338564.9	731447.6	1.5	13.5	13.5	13.5	13.4
517	338565.3	731171	1.5	12.2	12.2	12.2	12.2
518	338565.7	731151.6	1.5	12.3	12.3	12.2	12.1
519	338567.6	730881.3	1.5	13.0	13.1	12.8	12.7
520	338568.8	730548	1.5	12.4	12.4	12.4	12.4
521	338570.4	731247.1	1.5	12.8	12.8	12.8	12.8
522	338570.4	731090.6	1.5	14.0	14.0	13.6	13.4
523	338571.2	731157.5	1.5	12.3	12.3	12.2	12.2
524	338571.6	731194.4	1.5	12.3	12.3	12.3	12.3
525	338572.4	730903.5	1.5	13.3	13.4	13.0	13.0
526	338572.4	731429.8	1.5	13.4	13.4	13.3	13.3
527	338572.4	730721.6	1.5	12.9	13.0	12.8	12.8
528	338574.4	731123.1	1.5	12.4	12.4	12.3	12.3
529	338577.9	731230.9	1.5	12.8	12.8	12.8	12.7
530	338577.9	731347.4	1.5	12.7	12.7	12.6	12.6
531	338578.8	731302.6	1.5	12.8	12.8	12.8	12.7
532	338579.1	730706.5	1.5	12.9	12.9	12.8	12.8
533	338579.5	731198.4	1.5	12.5	12.4	12.4	12.4
534	338579.9	730548	1.5	12.4	12.4	12.4	12.4
535	338580.7	731285.6	1.5	12.9	12.8	12.8	12.8
536	338583.1	731088.2	1.5	13.9	13.9	13.6	13.4
537	338583.1	731309.8	1.5	12.8	12.8	12.7	12.7
538	338583.5	730548.4	1.5	12.4	12.4	12.4	12.4
539	338583.5	731128.6	1.5	12.4	12.4	12.3	12.3
540_7.5	338584.7	731186.9	7.5	12.1	12.1	12.1	12.1
541	338585.1	731276.1	1.5	12.8	12.8	12.8	12.8
542	338585.9	730527.4	1.5	12.8	12.8	12.8	12.8
543	338587.5	731165.4	1.5	12.3	12.3	12.3	12.3
544	338587.5	731215.8	1.5	13.0	12.9	12.9	12.9
545	338587.9	731353.8	1.5	12.6	12.6	12.5	12.5
546	338588.3	730901.5	1.5	13.5	13.6	13.2	13.1
547	338589.4	731442.1	1.5	14.0	14.0	13.9	13.9
548	338591	731264.9	1.5	12.8	12.8	12.7	12.7
549	338591.4	731204.7	1.5	12.9	12.9	12.9	12.9
550	338592.2	730548.4	1.5	12.4	12.4	12.4	12.4
551	338592.6	730671.6	1.5	13.2	13.2	13.1	13.1
552	338592.6	730695.8	1.5	12.5	12.6	12.5	12.5
553	338595.4	731251.9	1.5	12.9	12.8	12.8	12.8
553_7.5	338595.8	731192.8	7.5	12.1	12.1	12.1	12.1
554	338597.4	731316.9	1.5	12.6	12.6	12.5	12.5
555	338598.6	731242.8	1.5	12.9	12.9	12.9	12.9
556	338598.6	731358.5	1.5	12.5	12.5	12.4	12.4
557	338600.1	730675.2	1.5	12.6	12.6	12.6	12.5
558	338601.7	731079.1	1.5	14.1	14.1	13.8	13.7
559	338603.3	731232.8	1.5	12.9	12.9	12.9	12.9
560	338603.7	730926.1	1.5	14.0	14.1	13.7	13.6
561	338604.5	730546.4	1.5	12.5	12.5	12.5	12.5

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m³)			
				BC	SC1	SC3	SC4
562	338606.5	731361.6	1.5	12.5	12.5	12.4	12.4
563	338607.3	730680.8	1.5	12.4	12.4	12.3	12.3
563_7.5	338607.3	731178.6	7.5	12.1	12.1	12.1	12.1
564	338607.7	731324.4	1.5	12.6	12.6	12.5	12.5
565_10.5	338607.7	730646.3	10.5	11.9	11.8	11.8	11.8
566	338609.7	731440.1	1.5	13.0	13.0	12.9	12.9
566_7.5	338612	731167.4	7.5	12.1	12.1	12.1	12.1
567	338612.8	731062.8	1.5	14.4	14.4	14.0	13.9
568_10.5	338615.6	730635.2	10.5	11.8	11.8	11.8	11.8
569_10.5	338618	730600.3	10.5	11.8	11.8	11.8	11.8
570_7.5	338618	731154.4	7.5	12.1	12.1	12.1	12.1
571	338618.4	731042.2	1.5	15.2	15.2	14.6	14.5
572	338619.2	731328.8	1.5	12.5	12.5	12.5	12.4
573	338621.2	730879.7	1.5	13.7	13.8	13.4	13.3
574_10.5	338621.6	730595.9	10.5	11.8	11.8	11.8	11.8
575	338621.9	730541.3	1.5	12.9	12.9	12.9	12.9
576	338622.3	730502.4	1.5	12.0	12.0	12.0	12.0
577	338623.1	731143.7	1.5	13.1	13.1	13.1	13.0
578	338624.3	730655	1.5	12.3	12.3	12.3	12.3
579	338625.5	731223.8	1.5	12.5	12.5	12.5	12.4
580_10.5	338627.1	730588.4	10.5	11.8	11.8	11.8	11.8
581	338628.7	730851.9	1.5	12.6	12.7	12.5	12.5
581_7.5	338628.7	731131.8	7.5	12.2	12.2	12.1	12.1
582	338629.5	731332.8	1.5	12.5	12.5	12.4	12.4
583	338630.7	731366.4	1.5	12.5	12.5	12.4	12.4
584	338632.3	730878.5	1.5	13.9	14.0	13.6	13.5
585_10.5	338632.7	730579.7	10.5	11.8	11.8	11.8	11.8
586_7.5	338633.4	731122.7	7.5	12.2	12.2	12.1	12.1
587	338633.8	730508.8	1.5	12.1	12.1	12.1	12.1
588	338633.8	731228.9	1.5	12.4	12.3	12.3	12.3
589_10.5	338635	730618.1	10.5	12.3	12.0	12.3	12.3
590_7.5	338637	731114.8	7.5	12.2	12.2	12.2	12.1
591	338637	731339.4	1.5	12.5	12.5	12.5	12.4
592_7.5	338640.6	731106.4	7.5	12.3	12.3	12.2	12.2
593_10.5	338642.2	730569.8	10.5	11.8	11.8	11.8	11.8
594_10.5	338642.6	730624.9	10.5	12.4	12.0	12.4	12.4
595_10.5	338645.3	730605.1	10.5	12.4	12.0	12.3	12.3
596	338645.7	731013.3	1.5	13.4	13.4	13.2	13.2
597_7.5	338645.7	731095.7	7.5	12.3	12.3	12.2	12.2
598	338646.5	731008.5	1.5	13.4	13.4	13.2	13.2
599	338647.3	730511.5	1.5	12.2	12.2	12.2	12.2
600_10.5	338648.1	730561.4	10.5	11.8	11.8	11.8	11.8
601	338648.5	731234.4	1.5	12.3	12.3	12.2	12.2
602	338649.3	730540.1	1.5	13.2	13.2	13.2	13.2
603_7.5	338649.7	731085.8	7.5	12.3	12.3	12.2	12.2
604	338650.1	731342.3	1.5	12.4	12.4	12.4	12.3
605_10.5	338650.5	730632.4	10.5	11.9	11.9	11.9	11.9
606_10.5	338651.3	730609.4	10.5	12.4	12.0	12.4	12.3
607	338652.1	731021.6	1.5	13.7	13.6	13.5	13.4
608	338652.5	731482.9	1.5	13.9	13.9	13.8	13.8
609_10.5	338652.8	730552.8	10.5	11.9	11.8	11.8	11.8
610	338653.3	731030.7	1.5	13.7	13.6	13.5	13.4
611	338654.1	731001	1.5	13.6	13.6	13.4	13.4
612	338654.4	731238	1.5	12.2	12.2	12.2	12.2
613	338654.4	730511.5	1.5	12.3	12.3	12.2	12.2
614	338654.8	730871	1.5	14.0	14.1	13.7	13.6
615	338655.6	731035.9	1.5	13.8	13.7	13.6	13.6
616	338656	731043.4	1.5	13.5	13.5	13.4	13.4
617_7.5	338656	731072.3	7.5	12.4	12.4	12.3	12.2
618_7.5	338656.8	731049.8	7.5	12.5	12.5	12.3	12.3
619_7.5	338657.2	731057.7	7.5	12.4	12.4	12.3	12.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
620	338657.2	731345.8	1.5	12.4	12.4	12.4	12.3
621	338657.6	730574.5	1.5	13.6	13.5	13.6	13.6
622_10.5	338658.4	730637.9	10.5	11.9	11.9	11.9	11.9
623	338658.4	730985.5	1.5	13.4	13.4	13.2	13.2
624_10.5	338659.6	730717.6	10.5	11.9	11.9	11.9	11.9
625_10.5	338660	730545.6	10.5	11.8	11.8	11.8	11.8
626	338660.4	731442.5	1.5	13.0	13.0	13.0	12.9
627	338661.6	730919.3	1.5	13.7	13.8	13.4	13.3
628_10.5	338662	730614.6	10.5	11.9	11.9	11.9	11.9
629	338664.3	731381.4	1.5	12.6	12.6	12.5	12.5
630_10.5	338664.8	730719.6	10.5	11.9	11.9	11.9	11.9
631	338665.9	730580.1	1.5	12.8	12.6	12.7	12.7
632	338666.7	730642.7	1.5	12.5	12.2	12.5	12.5
633	338667.1	730973.3	1.5	13.4	13.3	13.2	13.2
634_10.5	338667.5	730620.1	10.5	12.4	12.0	12.4	12.4
635	338668.3	731350.9	1.5	12.4	12.4	12.4	12.4
636	338669.1	731246.3	1.5	12.2	12.2	12.1	12.1
637_10.5	338670.3	730723.1	10.5	12.0	11.9	11.9	11.9
638	338670.7	731501.6	1.5	13.0	13.0	12.9	12.9
639	338672.3	731412	1.5	13.1	13.1	13.1	13.0
640_10.5	338675.1	730624.4	10.5	12.4	12.0	12.4	12.4
641_10.5	338677	730688.7	10.5	11.9	11.9	11.9	11.9
642	338677.8	730960.9	1.5	13.4	13.4	13.2	13.2
643	338678.6	731167.1	1.5	12.2	12.2	12.1	12.1
644_10.5	338679.8	730649.8	10.5	12.4	12.1	12.4	12.4
645	338679.8	731033.1	1.5	13.2	13.2	13.1	13.0
646	338680.2	730869.8	1.5	14.9	15.0	14.4	14.3
647	338680.2	731249.5	1.5	12.2	12.2	12.1	12.1
648_10.5	338680.6	730747.3	10.5	12.0	12.0	11.9	11.9
649_10.5	338681.4	730514.3	10.5	11.8	11.8	11.8	11.8
650	338681.8	731505.1	1.5	13.1	13.1	13.0	13.0
651	338683	731443.7	1.5	12.9	12.9	12.9	12.8
652_10.5	338683.4	730632.4	10.5	12.4	12.0	12.4	12.4
653_10.5	338683.8	730741.8	10.5	12.0	12.0	11.9	11.9
654	338684.6	730989.9	1.5	13.4	13.4	13.3	13.2
655	338685.4	731435.4	1.5	12.8	12.8	12.8	12.7
656_10.5	338686.2	730702.9	10.5	11.9	11.9	11.9	11.9
657_10.5	338686.5	730506.4	10.5	11.8	11.8	11.8	11.8
658	338686.9	730491.3	1.5	12.1	12.2	12.1	12.1
659	338687.7	731341.1	1.5	12.3	12.3	12.3	12.2
660_10.5	338688.5	730656.9	10.5	11.9	11.9	11.9	11.9
661	338688.5	730951.4	1.5	13.6	13.5	13.4	13.4
662	338688.5	730999	1.5	13.0	13.0	12.9	12.9
663	338689.7	730486.9	1.5	12.0	12.1	12.0	12.0
664	338689.7	731253.4	1.5	12.2	12.2	12.1	12.1
665	338690.5	731329.6	1.5	12.2	12.2	12.2	12.2
666_10.5	338690.9	730637.6	10.5	12.4	12.0	12.4	12.4
667	338691.1	730527.6	1.5	13.2	13.5	13.2	13.2
668_10.5	338691.7	730733.1	10.5	12.0	12.0	11.9	11.9
669	338692.1	731213	1.5	12.1	12.1	12.1	12.0
670_10.5	338693.7	730695.8	10.5	11.9	11.9	11.9	11.9
671	338694.5	730482.9	1.5	12.0	12.1	12.0	12.0
672_10.5	338694.5	730662.1	10.5	11.9	11.9	11.9	11.9
673	338694.5	731016.1	1.5	12.8	12.8	12.7	12.7
674	338694.9	731474.6	1.5	13.7	13.6	13.6	13.5
675	338695.5	730530.3	1.5	12.8	12.9	12.8	12.8
676	338697.3	730548	1.5	12.5	12.5	12.5	12.5
677	338697.6	731001.4	1.5	12.8	12.8	12.7	12.7
678	338698.4	731312.1	1.5	12.2	12.2	12.2	12.2
679	338698.8	730976	1.5	13.2	13.2	13.1	13.0
680	338698.8	731516.6	1.5	12.7	12.7	12.7	12.6

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
681	338699	730514.1	1.5	13.3	14.1	13.7	13.7
682_10.5	338699.2	730642.7	10.5	12.4	12.0	12.4	12.4
683_10.5	338699.6	730685.1	10.5	11.9	11.9	11.9	11.9
684	338699.8	730533.1	1.5	12.6	12.6	12.6	12.6
685	338700.8	731259.8	1.5	12.2	12.2	12.1	12.1
686	338701.2	731303.8	1.5	12.2	12.2	12.2	12.2
687_10.5	338701.6	730736.6	10.5	12.0	12.0	11.9	11.9
688	338702	731525.8	1.5	12.3	12.3	12.3	12.3
689	338704	731417.5	1.5	12.4	12.4	12.3	12.3
690	338704.2	730535.1	1.5	12.4	12.5	12.4	12.4
691	338704.4	731288.8	1.5	12.2	12.2	12.2	12.1
692	338704.8	730933.6	1.5	13.5	13.5	13.4	13.3
693_10.5	338705.2	730664.1	10.5	12.4	12.1	12.4	12.4
694_10.5	338706.8	730673.2	10.5	11.9	11.9	11.9	11.9
695	338706.8	731282	1.5	12.2	12.2	12.2	12.2
696	338707.6	731478.2	1.5	13.4	13.4	13.4	13.3
697_10.5	338708.3	730477.4	10.5	11.7	11.7	11.7	11.7
698	338708.8	730967.7	1.5	13.1	13.1	13.0	13.0
699	338708.9	730538.3	1.5	12.3	12.3	12.3	12.3
700_10.5	338709.1	730718	10.5	12.0	11.9	11.9	11.9
701	338709.1	730871	1.5	16.1	16.2	15.5	15.4
702	338710.7	731358.5	1.5	12.3	12.3	12.3	12.2
703	338711.1	731379.1	1.5	12.3	12.3	12.3	12.3
704	338711.9	730846.8	1.5	13.1	13.1	12.9	12.8
705	338711.9	731426.3	1.5	12.3	12.3	12.2	12.2
706	338713.5	731348.2	1.5	12.2	12.2	12.2	12.2
707	338715.1	731229.7	1.5	12.2	12.1	12.1	12.1
708	338715.7	730539.4	1.5	12.2	12.2	12.2	12.2
709	338715.9	731336.3	1.5	12.2	12.2	12.2	12.2
710	338717.9	731325.2	1.5	12.2	12.2	12.2	12.2
711	338718.7	731435.8	1.5	12.3	12.2	12.2	12.2
712_10.5	338718.8	730772.9	10.5	12.1	12.0	12.0	12.0
713	338719.4	730870.2	1.5	15.9	16.1	15.3	15.3
714	338719.4	730953.8	1.5	13.3	13.2	13.1	13.1
715	338719.8	731386.3	1.5	12.2	12.2	12.2	12.2
716	338721.4	730846	1.5	13.1	13.2	12.9	12.9
717_10.5	338723	730613.4	10.5	11.9	11.9	11.9	11.9
718	338723.4	730923.7	1.5	13.8	13.8	13.7	13.6
719_10.5	338723.6	730753.4	10.5	12.0	12.0	12.0	12.0
720	338723.8	731314.9	1.5	12.2	12.2	12.1	12.1
721	338724.2	731441.3	1.5	12.2	12.2	12.2	12.2
722	338724.6	731213	1.5	12.1	12.1	12.1	12.1
723	338725	731305.8	1.5	12.2	12.2	12.2	12.1
724_10.5	338726.8	730762.6	10.5	12.0	12.0	12.0	12.0
725	338727.8	730844.8	1.5	13.1	13.2	12.9	12.9
726	338727.8	731292.3	1.5	12.2	12.2	12.2	12.2
727	338729.8	731182.5	1.5	12.0	12.0	11.9	11.9
728_10.5	338730.1	730658.1	10.5	12.0	11.9	11.9	11.9
729	338730.9	730869.8	1.5	15.9	16.0	15.3	15.2
730	338730.9	730918.6	1.5	13.9	13.9	13.7	13.7
731	338730.9	731395.3	1.5	12.1	12.1	12.1	12.1
732_10.5	338732.1	730634.4	10.5	11.9	11.9	11.9	11.9
733	338732.9	731282.4	1.5	12.2	12.2	12.2	12.2
734	338733.3	731537.6	1.5	12.2	12.2	12.1	12.1
735_10.5	338734.1	730667.7	10.5	12.0	11.9	11.9	11.9
736_10.5	338734.9	730684.3	10.5	12.0	11.9	11.9	11.9
737	338735.7	731402.9	1.5	12.1	12.1	12.0	12.0
738_10.5	338735.9	730786.4	10.5	12.1	12.1	12.0	12.0
739_10.5	338736.5	730649.4	10.5	12.0	11.9	11.9	11.9
740	338736.5	730943.1	1.5	13.3	13.3	13.1	13.1
741_10.5	338737.7	730624.4	10.5	11.9	11.9	11.9	11.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
742	338739.7	730836.1	1.5	13.0	13.0	12.8	12.8
743_10.5	338740.8	730600.3	10.5	11.9	11.9	11.9	11.9
744	338741.3	731249.5	1.5	12.4	12.4	12.3	12.3
745	338742	731484.9	1.5	12.7	12.7	12.6	12.6
746_10.5	338742.4	730640.8	10.5	11.9	11.9	11.9	11.9
747	338742.4	731532.9	1.5	12.4	12.4	12.3	12.3
748_10.5	338742.8	730673.6	10.5	12.0	11.9	11.9	11.9
749_10.5	338744.4	730741	10.5	12.0	12.0	12.0	12.0
750	338744.8	731413.9	1.5	12.0	12.0	12.0	12.0
751_10.5	338745	730774.5	10.5	12.1	12.1	12.0	12.0
752	338745.6	731241.9	1.5	12.3	12.3	12.2	12.2
753_10.5	338746	730603.9	10.5	11.9	11.9	11.9	11.9
754	338746.4	730993.8	1.5	12.4	12.4	12.3	12.3
755	338749.2	731226.5	1.5	12.2	12.2	12.2	12.2
756	338750.3	730628	1.5	12.1	12.0	12.0	12.0
757	338750.3	730909.4	1.5	14.4	14.4	14.2	14.2
758	338750.8	731421.1	1.5	12.0	12.0	12.0	12.0
759_10.5	338751.1	730695.8	10.5	12.0	12.0	12.0	11.9
760	338751.1	730934.4	1.5	13.3	13.3	13.2	13.1
761	338751.6	730864.6	1.5	15.9	16.1	15.3	15.2
762	338751.9	731217	1.5	12.1	12.1	12.1	12.1
763_10.5	338751.9	730679.1	10.5	12.0	11.9	11.9	11.9
764_10.5	338753.3	730765.8	10.5	12.1	12.1	12.0	12.0
765_10.5	338753.5	730608.2	10.5	11.9	11.9	11.9	11.9
766	338755.9	730905.4	1.5	14.4	14.5	14.2	14.2
767	338757.5	731011.3	1.5	12.3	12.3	12.2	12.2
768_10.5	338758.3	730729.5	10.5	12.1	12.0	12.0	12.0
769_10.5	338758.7	730612.9	10.5	11.9	11.9	11.9	11.9
770	338758.7	731197.6	1.5	12.0	12.0	11.9	11.9
771_10.5	338759.9	730682.8	10.5	12.0	11.9	12.0	11.9
772	338761.4	731289.1	1.5	12.0	12.0	12.0	12.0
773	338762.3	730750.1	1.5	12.3	12.2	12.2	12.2
774	338763.8	730902.7	1.5	14.9	14.9	14.7	14.6
775	338764.2	730927.3	1.5	13.3	13.3	13.2	13.1
776_10.5	338764.4	730774.1	10.5	12.1	12.1	12.1	12.0
777	338764.6	730853.9	1.5	15.5	15.7	14.9	14.9
778_10.5	338765.4	730686.3	10.5	12.0	12.0	12.0	12.0
779	338766.6	731542.4	1.5	12.1	12.1	12.1	12.1
780	338768.6	730709.3	1.5	12.5	12.2	12.5	12.4
781	338768.6	730986.3	1.5	12.3	12.3	12.2	12.2
782_10.5	338770	730756.3	10.5	12.1	12.1	12.0	12.0
783	338770.2	730738.2	1.5	12.4	12.2	12.3	12.3
784	338771.4	731550.7	1.5	12.0	11.9	11.9	11.9
785	338771.8	730922.5	1.5	13.3	13.3	13.2	13.2
786_10.5	338773.3	730692.3	10.5	12.0	12.0	12.0	12.0
787	338774.5	730844	1.5	15.0	15.1	14.5	14.4
788	338777.7	730728.3	1.5	12.5	12.2	12.4	12.4
789	338778.1	730366.8	1.5	11.6	11.6	11.6	11.6
790	338778.5	731005.8	1.5	12.2	12.2	12.1	12.1
791	338783.7	730919.3	1.5	13.2	13.2	13.0	13.0
792	338784	730836.5	1.5	14.9	15.0	14.4	14.3
793	338784.8	731300.3	1.5	11.9	11.9	11.9	11.9
794	338784.8	731317.3	1.5	11.9	11.9	11.8	11.8
795	338786	730978	1.5	12.2	12.2	12.2	12.1
796_10.5	338788.4	730689.1	10.5	12.1	12.0	12.0	12.0
797	338788.4	731275.6	1.5	12.0	12.0	11.9	11.9
798	338789.2	730915.4	1.5	13.2	13.2	13.1	13.1
799	338790	731256.3	1.5	11.9	11.9	11.9	11.9
800	338790.4	730412	1.5	11.7	11.8	11.7	11.7
801	338791.2	730831.4	1.5	14.9	15.0	14.4	14.2
802_10.5	338792.8	730721.2	10.5	12.1	12.1	12.1	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
803	338793.2	730399.8	1.5	11.7	11.7	11.7	11.7
804_10.5	338795.1	730678.4	10.5	12.0	12.0	12.0	12.0
805_10.5	338796.3	730672	10.5	12.0	12.0	12.0	12.0
806_10.5	338797.5	730641.9	10.5	12.0	11.9	11.9	11.9
807	338798.3	730907.4	1.5	13.4	13.4	13.2	13.2
808	338799.5	730998.2	1.5	12.1	12.1	12.0	12.0
809_10.5	338799.9	730379.9	10.5	11.6	11.6	11.6	11.6
810_10.5	338800.7	730645.1	10.5	12.0	11.9	11.9	11.9
811_10.5	338800.7	730667.3	10.5	12.0	12.0	12.0	12.0
812_10.5	338801.1	730367.6	10.5	11.6	11.6	11.6	11.6
813	338801.1	730970.9	1.5	12.2	12.2	12.1	12.1
814_10.5	338801.9	730471.1	10.5	11.8	11.8	11.8	11.7
815	338801.9	730820.6	1.5	14.5	14.6	14.0	13.8
816_10.5	338802.3	730452.1	10.5	11.7	11.8	11.7	11.7
817_10.5	338802.3	730707.3	10.5	12.1	12.1	12.1	12.0
818	338802.7	730903.9	1.5	13.5	13.5	13.3	13.3
819_10.5	338803.9	730356.9	10.5	11.6	11.6	11.6	11.6
820_10.5	338803.9	730435.4	10.5	11.7	11.7	11.7	11.7
821_10.5	338803.9	730445.3	10.5	11.7	11.8	11.7	11.7
822_10.5	338803.9	730691.8	10.5	12.1	12.0	12.0	12.0
823_10.5	338805.1	730647.8	10.5	12.0	12.0	11.9	11.9
824	338805.4	730495.6	1.5	12.0	12.0	11.9	11.9
825_10.5	338807	730420.8	10.5	11.7	11.7	11.7	11.7
826_10.5	338807	730730.7	10.5	12.2	12.1	12.1	12.1
827_10.5	338807.4	730342.7	10.5	11.6	11.6	11.6	11.6
828	338807.8	730994.6	1.5	12.1	12.1	12.0	12.0
829_10.5	338808.2	730410.4	10.5	11.7	11.7	11.7	11.7
830_10.5	338808.6	730327.2	10.5	11.6	11.6	11.6	11.6
831_10.5	338809	730456.8	10.5	11.8	11.8	11.7	11.7
832_10.5	338809.8	730684.7	10.5	12.1	12.0	12.0	12.0
834_10.5	338810.6	730398.1	10.5	11.7	11.7	11.6	11.6
835_10.5	338810.6	730651.4	10.5	12.0	12.0	12.0	11.9
836_10.5	338811.8	730388.3	10.5	11.6	11.7	11.6	11.6
837	338812.2	730814.7	1.5	14.9	15.0	14.3	14.1
838_10.5	338812.6	730467.1	10.5	11.8	11.8	11.8	11.7
839_10.5	338812.6	730680.3	10.5	12.1	12.0	12.0	12.0
841	338813.8	730896.4	1.5	13.6	13.6	13.4	13.4
842_10.5	338815	730716.4	10.5	12.2	12.1	12.1	12.1
843	338815	731305.8	1.5	11.8	11.8	11.8	11.8
844_10.5	338815.8	730377.9	10.5	11.6	11.6	11.6	11.6
846_10.5	338816.2	730736.3	10.5	12.2	12.2	12.1	12.1
847_10.5	338816.5	730367.6	10.5	11.6	11.6	11.6	11.6
848	338816.5	731282.8	1.5	11.8	11.8	11.8	11.8
849	338816.9	731323.6	1.5	11.8	11.8	11.8	11.8
850	338818.5	730892.4	1.5	13.6	13.7	13.5	13.4
851_10.5	338819.3	730672.8	10.5	12.1	12.0	12.0	12.0
852_10.5	338819.7	730360.1	10.5	11.6	11.6	11.6	11.6
853_10.5	338821.3	730345.1	10.5	11.6	11.6	11.6	11.6
854	338821.3	730805.2	1.5	14.6	14.7	14.1	13.9
855	338821.7	730989.5	1.5	12.1	12.1	12.0	12.0
856_10.5	338822.5	730465.5	10.5	11.8	11.8	11.8	11.7
857	338822.9	730490.5	1.5	12.0	12.0	11.9	11.9
858_10.5	338823.3	730633.6	10.5	12.0	12.0	11.9	11.9
859_10.5	338824.1	730744.9	10.5	12.3	12.2	12.2	12.2
860	338824.9	730446.9	1.5	12.2	12.3	12.1	12.1
861_10.5	338825.7	730334.3	10.5	11.6	11.6	11.6	11.6
862	338826.8	730884.1	1.5	13.7	13.8	13.6	13.5
866	338831.2	730798.9	1.5	15.1	15.1	14.5	14.3
867_10.5	338832.8	730654.6	10.5	12.0	12.0	12.0	12.0
869_10.5	338833.2	730750.9	10.5	12.3	12.2	12.2	12.2
870	338833.6	730877.8	1.5	13.8	13.8	13.6	13.6

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
871_10.5	338834.8	730464.3	10.5	11.8	11.8	11.8	11.8
872_10.5	338834.8	730661.3	10.5	12.1	12.0	12.0	12.0
873	338838.3	730790.9	1.5	15.0	15.0	14.5	14.3
874_10.5	338841.9	730641.1	10.5	12.0	12.0	12.0	12.0
875	338842.7	730486.9	1.5	12.0	12.0	11.9	11.9
876_10.5	338845.9	730666.1	10.5	12.1	12.1	12.1	12.0
877	338847.9	730781	1.5	15.1	15.0	14.7	14.5
878_10.5	338848.3	730460.8	10.5	11.8	11.8	11.8	11.8
879_10.5	338851	730739.8	10.5	12.4	12.3	12.3	12.3
880_10.5	338851.8	730762.8	10.5	12.3	12.3	12.3	12.2
881	338855.8	730725.5	1.5	13.3	12.9	13.2	13.1
882_10.5	338857.4	730743.4	10.5	12.4	12.3	12.3	12.3
883_10.5	338862.1	730459.6	10.5	11.8	11.8	11.8	11.8
884	338865.7	730482.6	1.5	12.0	12.0	11.9	11.9
885_10.5	338866.1	730749.3	10.5	12.4	12.3	12.3	12.3
886	338875.6	730482.6	1.5	12.0	12.0	11.9	11.9
887_10.5	338876.4	730456	10.5	11.8	11.8	11.8	11.8
888_10.5	338881.1	730743.4	10.5	12.3	12.3	12.3	12.2
889	338882.3	730481	1.5	12.0	12.0	11.9	11.9
890_10.5	338885.1	730734.6	10.5	12.4	12.3	12.3	12.3
891_10.5	338887.9	730452.4	10.5	11.8	11.8	11.8	11.8
892	338887.9	730476.6	1.5	12.0	12.1	12.0	12.0
893_10.5	338893	730726.3	10.5	12.4	12.3	12.3	12.3
894_10.5	338895	730450.9	10.5	11.8	11.8	11.8	11.8
895	338903.7	730433.4	1.5	12.5	12.6	12.4	12.4
896_10.5	338904.9	730448.9	10.5	11.8	11.8	11.8	11.8
897	338910.5	730700.2	1.5	16.2	16.0	15.8	15.8
898	338913.7	730433.4	1.5	12.6	12.8	12.6	12.6
899_10.5	338914	730447.7	10.5	11.8	11.9	11.8	11.8
900	338916.4	730694.3	1.5	16.3	16.1	15.9	15.8
901_10.5	338918.4	730471.9	10.5	11.8	11.9	11.8	11.8
902_10.5	338921.2	730463.1	10.5	11.8	11.9	11.8	11.8
903	338922.8	730394.6	1.5	11.9	12.0	11.9	11.9
904	338922.8	730687.5	1.5	16.4	16.3	16.0	15.9
905	338923.6	730412.4	1.5	12.1	12.1	12.0	12.0
906	338928.7	730683.1	1.5	17.0	17.0	16.5	16.4
907_10.5	338929.5	730452.8	10.5	11.8	11.9	11.8	11.8
908	338932.7	730511.1	1.5	12.0	12.0	11.9	11.9
909	338933.8	730431.1	1.5	12.7	13.0	12.7	12.7
910	338935.8	730538.4	1.5	12.0	12.1	12.0	12.0
911	338938.6	730676	1.5	18.4	18.4	17.6	17.4
912	338940.2	730370.4	1.5	12.1	12.1	12.1	12.1
913	338941	730354.9	1.5	12.1	12.1	12.1	12.1
914	338941.4	730380.3	1.5	12.2	12.2	12.2	12.2
915	338942.2	730341.5	1.5	11.8	11.8	11.8	11.8
916_10.5	338943	730442.6	10.5	11.8	11.9	11.8	11.8
917	338944.6	730331.9	1.5	11.8	11.8	11.8	11.8
918	338945.8	730521.8	1.5	12.0	12.0	12.0	12.0
919	338948.9	730546	1.5	12.1	12.1	12.0	12.0
920	338949.3	730319.7	1.5	11.9	11.9	11.9	11.9
921	338950.1	730667.3	1.5	18.4	18.6	17.6	17.4
923	338953.3	730511.5	1.5	12.0	12.0	12.0	11.9
924	338954.1	730555.5	1.5	12.2	12.2	12.1	12.1
926_10.5	338956.8	730441.4	10.5	11.8	11.9	11.8	11.8
928	338958	730503.6	1.5	12.0	12.0	12.0	12.0
929	338959.2	730354.9	1.5	12.0	12.1	12.0	12.0
930	338960.4	730568.2	1.5	12.3	12.3	12.2	12.2
931	338962.8	730531.8	1.5	12.1	12.1	12.0	12.0
932	338964.8	730335.5	1.5	11.8	11.8	11.8	11.8
933	338966.8	730540.1	1.5	12.2	12.2	12.1	12.1
935_10.5	338969.5	730441.4	10.5	11.9	11.9	11.8	11.8

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
936	338971.5	730399.8	1.5	12.2	12.3	12.2	12.2
937	338972.7	730428.3	1.5	13.1	13.6	13.1	13.1
938	338975.1	730540.4	1.5	12.2	12.2	12.1	12.1
940_10.5	338977.8	730442.1	10.5	11.9	11.9	11.8	11.8
941	338978.6	730473.1	1.5	12.1	12.2	12.1	12.0
942	338978.7	730547.6	1.5	12.4	12.4	12.3	12.3
943	338981.8	730665.3	1.5	17.4	17.5	16.8	16.5
944	338983.4	730466.3	1.5	12.2	12.3	12.1	12.1
945_10.5	338983.8	730628.4	10.5	12.4	12.4	12.3	12.2
946	338984.6	730571.4	1.5	12.5	12.6	12.4	12.4
947	338985.4	730548.8	1.5	12.4	12.4	12.3	12.3
948	338986.2	730460.4	1.5	12.2	12.4	12.2	12.2
949	338990.1	730455.3	1.5	12.3	12.5	12.3	12.3
950	338990.1	730550.8	1.5	12.4	12.5	12.3	12.3
952	338994.5	730450.1	1.5	12.5	12.8	12.5	12.5
953_10.5	338995.7	730618.5	10.5	12.3	12.3	12.2	12.2
954_10.5	338998.5	730557.5	10.5	12.1	12.1	12.0	12.0
955	339002	730445.7	1.5	12.7	13.1	12.7	12.7
956_10.5	339002.4	730604.6	10.5	12.3	12.3	12.2	12.2
957_10.5	339003.2	730582.1	10.5	12.2	12.2	12.1	12.1
958	339004	730431.1	1.5	14.0	14.8	13.9	13.9
959_10.5	339006.4	730595.1	10.5	12.2	12.3	12.2	12.1
960_10.5	339014.7	730559.4	10.5	12.1	12.1	12.0	12.0
961	339019.1	730465.5	1.5	12.2	12.4	12.2	12.2
962_10.5	339024.6	730554.7	10.5	12.1	12.1	12.0	12.0
963_10.5	339027.4	730545.6	10.5	12.0	12.1	12.0	12.0
964_10.5	339029.8	730539.6	10.5	12.0	12.0	12.0	11.9
965	339031.8	730425.5	1.5	13.1	13.6	13.1	13.0
966_10.5	339032.2	730532.5	10.5	12.0	12.0	11.9	11.9
967_10.5	339034.5	730437	10.5	11.9	12.0	11.9	11.9
968_10.5	339034.5	730526.6	10.5	12.0	12.0	11.9	11.9
969_10.5	339038.5	730519	10.5	12.0	12.0	11.9	11.9
970	339039.7	730509.5	1.5	12.8	13.0	12.8	12.8
971_4.5	339039.7	730650.3	4.5	13.7	13.8	13.5	13.5
972	339040.5	730712.8	1.5	13.2	13.1	13.0	13.0
973_10.5	339043.3	730499.3	10.5	11.9	12.0	11.9	11.9
974_10.5	339043.6	730436.2	10.5	11.9	12.0	11.9	11.9
975_10.5	339047.6	730436.2	10.5	11.9	12.0	11.9	11.9
976_10.5	339049.6	730488.9	10.5	11.9	12.0	11.9	11.9
977	339049.6	730721.6	1.5	13.0	13.0	12.9	12.9
978_10.5	339052.4	730435.8	10.5	11.9	12.0	11.9	11.9
979_10.5	339053.6	730473.9	10.5	11.9	12.0	11.9	11.9
980	339058.7	730423.5	1.5	13.1	13.6	13.0	13.0
981	339058.7	730435.8	1.5	14.1	14.9	14.0	14.0
981_4.5	339058.7	730636.4	4.5	13.7	13.7	13.5	13.4
982_10.5	339059.5	730467.9	10.5	11.9	12.0	11.9	11.9
983_10.5	339064.3	730458.4	10.5	11.9	12.0	11.9	11.9
984_10.5	339064.3	730518.3	10.5	12.0	12.0	11.9	11.9
985_10.5	339064.3	730532.9	10.5	12.0	12.1	12.0	12.0
986_10.5	339069.8	730449.3	10.5	11.9	12.0	11.9	11.9
987_10.5	339071.8	730544.8	10.5	12.1	12.1	12.0	12.0
988_10.5	339076.2	730435.4	10.5	11.9	12.0	11.9	11.9
989_10.5	339076.9	730482.9	10.5	11.9	12.0	11.9	11.9
990	339079.3	730618.9	1.5	14.4	14.4	14.0	13.9
991_10.5	339081.7	730423.1	10.5	11.9	12.0	11.9	11.9
992_10.5	339086.8	730406.9	10.5	11.9	11.9	11.8	11.8
993_10.5	339090	730475.8	10.5	11.9	12.0	11.9	11.9
994	339099.5	730571.8	1.5	13.4	13.4	13.1	13.1
995_10.5	339103.1	730450.1	10.5	11.9	12.0	11.9	11.9
996	339105.1	730612.9	1.5	13.9	14.0	13.6	13.5
997	339108.3	730755.6	1.5	12.7	12.6	12.6	12.6

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m[3])			
				BC	SC1	SC3	SC4
998	339110.2	730580.5	1.5	14.8	14.8	14.3	14.1
999_10.5	339111.8	730442.6	10.5	11.9	12.0	11.9	11.9
1000	339115.8	730758.8	1.5	12.7	12.7	12.6	12.6
1001	339128.1	730574.9	1.5	14.3	14.3	13.8	13.7
1002	339134	730757.6	1.5	12.5	12.5	12.4	12.4
1003_10.5	339135.2	730427.5	10.5	11.9	12.0	11.9	11.9
1004_10.5	339136.4	730407.3	10.5	11.9	11.9	11.8	11.8
1005	339141.5	730568.2	1.5	13.5	13.6	13.2	13.1
1006	339145.1	730613.4	1.5	13.2	13.3	13.0	12.9
1007	339145.9	730772.7	1.5	12.8	12.8	12.8	12.8
1008	339155	730605.8	1.5	13.6	13.6	13.3	13.2
1009_10.5	339175.3	730387.9	10.5	11.8	11.9	11.8	11.8
1010	339178	730781.4	1.5	12.8	12.8	12.7	12.7
1011	339190.7	730605.4	1.5	13.7	13.7	13.3	13.2
1012	339190.7	730614.6	1.5	13.1	13.1	12.9	12.8
1013	339220.4	730373.6	1.5	12.1	12.1	12.1	12.1
1014	339233.9	730567.4	1.5	12.8	12.8	12.6	12.5
1015	339241.4	730570.9	1.5	12.9	12.9	12.7	12.6
1016	339250.5	730572.9	1.5	12.8	12.8	12.6	12.6
1017	339253.3	730574.5	1.5	12.9	12.9	12.6	12.6
1018	339267.6	730578.5	1.5	12.8	12.9	12.6	12.6
1019	339275.1	730582.1	1.5	12.9	12.9	12.7	12.6
1020	339291	730584	1.5	12.8	12.8	12.6	12.6
1021	339333	730607.8	1.5	14.6	14.6	14.1	14.1
1022	339344.5	730609	1.5	14.5	14.5	14.1	14.0
1023	339348.8	730610.2	1.5	14.7	14.7	14.3	14.2
1024	339370.2	730610.6	1.5	14.7	14.7	14.1	14.0
1025	339401.5	730612.9	1.5	15.7	15.7	14.8	14.6
1026_10.5	339437.2	730611.8	10.5	12.2	12.2	12.1	12.0
1027_10.5	339455.8	730611	10.5	12.2	12.2	12.1	12.0
1028_10.5	339461	730664.1	10.5	12.0	12.0	11.9	11.9
1029_10.5	339578.3	730606.3	10.5	12.1	12.1	12.0	12.0
46_7.5	337825.6	731446.1	7.5	12.3	12.3	12.2	12.1
55_7.5	337838.4	731431.8	7.5	12.3	12.3	12.2	12.2
74_7.5	337897.2	731397	7.5	12.5	12.5	12.4	12.3
85_7.5	337914.2	731419.8	7.5	12.3	12.3	12.2	12.2
92_7.5	337920	731391.9	7.5	12.6	12.6	12.4	12.4
93_7.5	337920	731433.7	7.5	12.2	12.2	12.1	12.1
98_7.5	337930	731409.4	7.5	12.4	12.4	12.3	12.3
101_7.5	337938.6	731423.7	7.5	12.3	12.3	12.2	12.1
405_7.5	338446	731385	7.5	12.4	12.4	12.3	12.3
409_7.5	338450.3	731386.3	7.5	12.4	12.4	12.3	12.3
416_7.5	338456.7	731389	7.5	12.4	12.4	12.3	12.3
419_7.5	338463	731392.9	7.5	12.4	12.4	12.4	12.3
429_7.5	338475.7	731397.3	7.5	12.5	12.5	12.4	12.4
432_7.5	338480.8	731398.1	7.5	12.5	12.5	12.4	12.4
434_7.5	338485.6	731400.1	7.5	12.5	12.5	12.4	12.4
475_7.5	338526.4	731433	7.5	12.5	12.5	12.5	12.5
487_7.5	338537.5	731436.2	7.5	12.5	12.5	12.5	12.5
565_7.5	338607.7	730646.3	7.5	12.0	12.0	12.0	11.9
568_7.5	338615.6	730635.2	7.5	12.0	12.0	12.0	12.0
569_7.5	338618	730600.3	7.5	12.0	12.0	12.0	12.0
574_7.5	338621.6	730595.9	7.5	12.0	12.0	12.0	12.0
580_7.5	338627.1	730588.4	7.5	12.0	12.0	12.0	12.0
585_7.5	338632.7	730579.7	7.5	12.0	12.0	12.0	12.0
589_7.5	338635	730618.1	7.5	12.5	12.2	12.5	12.5
593_7.5	338642.2	730569.8	7.5	12.0	12.0	12.0	12.0
594_7.5	338642.6	730624.9	7.5	12.5	12.2	12.5	12.5
595_7.5	338645.3	730605.1	7.5	12.6	12.2	12.5	12.5
600_7.5	338648.1	730561.4	7.5	12.0	12.0	12.0	12.0
605_7.5	338650.5	730632.4	7.5	12.1	12.0	12.0	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
606_7.5	338651.3	730609.4	7.5	12.6	12.2	12.5	12.5
609_7.5	338652.8	730552.8	7.5	12.1	12.0	12.0	12.0
622_7.5	338658.4	730637.9	7.5	12.0	12.0	12.0	12.0
624_7.5	338659.6	730717.6	7.5	12.0	12.0	12.0	11.9
625_7.5	338660	730545.6	7.5	12.1	12.0	12.0	12.0
628_7.5	338662	730614.6	7.5	12.1	12.0	12.1	12.1
630_7.5	338664.8	730719.6	7.5	12.0	12.0	12.0	11.9
634_7.5	338667.5	730620.1	7.5	12.5	12.2	12.5	12.5
637_7.5	338670.3	730723.1	7.5	12.0	12.0	12.0	11.9
640_7.5	338675.1	730624.4	7.5	12.5	12.1	12.5	12.5
641_7.5	338677	730688.7	7.5	12.0	12.0	12.0	11.9
644_7.5	338679.8	730649.8	7.5	12.5	12.1	12.5	12.5
648_7.5	338680.6	730747.3	7.5	12.0	12.0	12.0	12.0
649_7.5	338681.4	730514.3	7.5	12.0	12.0	11.9	11.9
652_7.5	338683.4	730632.4	7.5	12.5	12.1	12.5	12.5
653_7.5	338683.8	730741.8	7.5	12.0	12.0	12.0	12.0
656_7.5	338686.2	730702.9	7.5	12.0	12.0	12.0	11.9
657_7.5	338686.5	730506.4	7.5	11.9	11.9	11.9	11.9
660_7.5	338688.5	730656.9	7.5	12.0	12.0	12.0	12.0
666_7.5	338690.9	730637.6	7.5	12.5	12.1	12.5	12.5
668_7.5	338691.7	730733.1	7.5	12.0	12.0	12.0	12.0
670_7.5	338693.7	730695.8	7.5	12.0	12.0	12.0	11.9
672_7.5	338694.5	730662.1	7.5	12.0	12.0	12.0	12.0
682_7.5	338699.2	730642.7	7.5	12.5	12.1	12.5	12.5
683_7.5	338699.6	730685.1	7.5	12.0	12.0	12.0	12.0
687_7.5	338701.6	730736.6	7.5	12.0	12.0	12.0	12.0
693_7.5	338705.2	730664.1	7.5	12.5	12.1	12.5	12.5
694_7.5	338706.8	730673.2	7.5	12.0	12.0	12.0	12.0
697_7.5	338708.3	730477.4	7.5	11.8	11.8	11.8	11.8
700_7.5	338709.1	730718	7.5	12.0	12.0	12.0	12.0
712_7.5	338718.8	730772.9	7.5	12.1	12.1	12.0	12.0
717_7.5	338723	730613.4	7.5	12.0	11.9	12.0	11.9
719_7.5	338723.6	730753.4	7.5	12.1	12.1	12.0	12.0
724_7.5	338726.8	730762.6	7.5	12.1	12.1	12.0	12.0
728_7.5	338730.1	730658.1	7.5	12.1	12.0	12.0	12.0
732_7.5	338732.1	730634.4	7.5	12.0	11.9	12.0	12.0
735_7.5	338734.1	730667.7	7.5	12.3	12.1	12.2	12.2
736_7.5	338734.9	730684.3	7.5	12.1	12.0	12.0	12.0
738_7.5	338735.9	730786.4	7.5	12.2	12.2	12.1	12.1
739_7.5	338736.5	730649.4	7.5	12.0	12.0	12.0	12.0
741_7.5	338737.7	730624.4	7.5	12.0	11.9	12.0	11.9
743_7.5	338740.8	730600.3	7.5	12.0	11.9	11.9	11.9
746_7.5	338742.4	730640.8	7.5	12.0	12.0	12.0	12.0
748_7.5	338742.8	730673.6	7.5	12.3	12.1	12.2	12.2
749_7.5	338744.4	730741	7.5	12.1	12.1	12.0	12.0
751_7.5	338745	730774.5	7.5	12.2	12.2	12.1	12.1
753_7.5	338746	730603.9	7.5	12.0	11.9	11.9	11.9
759_7.5	338751.1	730695.8	7.5	12.1	12.0	12.0	12.0
763_7.5	338751.9	730679.1	7.5	12.3	12.1	12.3	12.2
764_7.5	338753.3	730765.8	7.5	12.2	12.2	12.1	12.1
765_7.5	338753.5	730608.2	7.5	12.0	11.9	11.9	11.9
768_7.5	338758.3	730729.5	7.5	12.2	12.1	12.1	12.1
769_7.5	338758.7	730612.9	7.5	12.0	11.9	11.9	11.9
771_7.5	338759.9	730682.8	7.5	12.3	12.1	12.3	12.3
776_7.5	338764.4	730774.1	7.5	12.2	12.2	12.2	12.1
778_7.5	338765.4	730686.3	7.5	12.3	12.1	12.3	12.3
782_7.5	338770	730756.3	7.5	12.2	12.2	12.1	12.1
786_7.5	338773.3	730692.3	7.5	12.4	12.1	12.3	12.3
796_7.5	338788.4	730689.1	7.5	12.2	12.1	12.2	12.2
802_7.5	338792.8	730721.2	7.5	12.4	12.1	12.4	12.3
804_7.5	338795.1	730678.4	7.5	12.2	12.1	12.1	12.1

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
805_7.5	338796.3	730672	7.5	12.1	12.0	12.1	12.1
806_7.5	338797.5	730641.9	7.5	12.0	12.0	12.0	12.0
809_7.5	338799.9	730379.9	7.5	11.6	11.7	11.6	11.6
810_7.5	338800.7	730645.1	7.5	12.0	12.0	12.0	12.0
811_7.5	338800.7	730667.3	7.5	12.1	12.0	12.1	12.0
812_7.5	338801.1	730367.6	7.5	11.6	11.6	11.6	11.6
814_7.5	338801.9	730471.1	7.5	11.9	11.9	11.9	11.9
816_7.5	338802.3	730452.1	7.5	11.8	11.9	11.8	11.8
817_7.5	338802.3	730707.3	7.5	12.3	12.1	12.2	12.2
819_7.5	338803.9	730356.9	7.5	11.6	11.6	11.6	11.6
820_7.5	338803.9	730435.4	7.5	11.8	11.8	11.7	11.7
821_7.5	338803.9	730445.3	7.5	11.8	11.8	11.8	11.8
822_7.5	338803.9	730691.8	7.5	12.3	12.1	12.2	12.2
823_7.5	338805.1	730647.8	7.5	12.1	12.0	12.0	12.0
825_7.5	338807	730420.8	7.5	11.7	11.7	11.7	11.7
826_7.5	338807	730730.7	7.5	12.5	12.2	12.4	12.4
827_7.5	338807.4	730342.7	7.5	11.6	11.6	11.6	11.6
829_7.5	338808.2	730410.4	7.5	11.7	11.7	11.7	11.7
830_7.5	338808.6	730327.2	7.5	11.6	11.6	11.6	11.6
831_7.5	338809	730456.8	7.5	11.9	11.9	11.8	11.8
832_7.5	338809.8	730684.7	7.5	12.2	12.1	12.1	12.1
834_7.5	338810.6	730398.1	7.5	11.7	11.7	11.7	11.7
835_7.5	338810.6	730651.4	7.5	12.1	12.0	12.0	12.0
836_7.5	338811.8	730388.3	7.5	11.7	11.7	11.6	11.6
838_7.5	338812.6	730467.1	7.5	11.9	11.9	11.9	11.8
839_7.5	338812.6	730680.3	7.5	12.2	12.1	12.1	12.1
842_7.5	338815	730716.4	7.5	12.4	12.2	12.3	12.3
844_7.5	338815.8	730377.9	7.5	11.6	11.7	11.6	11.6
846_7.5	338816.2	730736.3	7.5	12.6	12.3	12.5	12.5
847_7.5	338816.5	730367.6	7.5	11.6	11.6	11.6	11.6
851_7.5	338819.3	730672.8	7.5	12.2	12.1	12.1	12.1
852_7.5	338819.7	730360.1	7.5	11.6	11.6	11.6	11.6
853_7.5	338821.3	730345.1	7.5	11.6	11.6	11.6	11.6
856_7.5	338822.5	730465.5	7.5	11.9	11.9	11.9	11.9
858_7.5	338823.3	730633.6	7.5	12.0	12.0	12.0	12.0
859_7.5	338824.1	730744.9	7.5	12.5	12.4	12.4	12.4
861_7.5	338825.7	730334.3	7.5	11.6	11.6	11.6	11.6
867_7.5	338832.8	730654.6	7.5	12.1	12.1	12.1	12.1
869_7.5	338833.2	730750.9	7.5	12.6	12.5	12.5	12.5
871_7.5	338834.8	730464.3	7.5	11.9	11.9	11.9	11.9
872_7.5	338834.8	730661.3	7.5	12.2	12.1	12.1	12.1
874_7.5	338841.9	730641.1	7.5	12.1	12.1	12.0	12.0
876_7.5	338845.9	730666.1	7.5	12.2	12.2	12.2	12.1
878_7.5	338848.3	730460.8	7.5	11.9	11.9	11.9	11.9
879_7.5	338851	730739.8	7.5	12.8	12.6	12.6	12.6
880_7.5	338851.8	730762.8	7.5	12.8	12.7	12.7	12.7
882_7.5	338857.4	730743.4	7.5	12.8	12.6	12.7	12.7
883_7.5	338862.1	730459.6	7.5	11.9	12.0	11.9	11.9
885_7.5	338866.1	730749.3	7.5	12.9	12.7	12.8	12.8
887_7.5	338876.4	730456	7.5	11.9	12.0	11.9	11.9
888_7.5	338881.1	730743.4	7.5	12.9	12.8	12.8	12.8
890_7.5	338885.1	730734.6	7.5	12.9	12.8	12.8	12.8
891_7.5	338887.9	730452.4	7.5	11.9	12.0	11.9	11.9
893_7.5	338893	730726.3	7.5	13.0	12.8	12.8	12.8
894_7.5	338895	730450.9	7.5	11.9	12.0	11.9	11.9
896_7.5	338904.9	730448.9	7.5	11.9	12.0	11.9	11.9
899_7.5	338914	730447.7	7.5	12.0	12.0	11.9	11.9
901_7.5	338918.4	730471.9	7.5	11.9	12.0	11.9	11.9
902_7.5	338921.2	730463.1	7.5	11.9	12.0	11.9	11.9
907_7.5	338929.5	730452.8	7.5	12.0	12.0	11.9	11.9
916_7.5	338943	730442.6	7.5	12.0	12.1	12.0	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
926_7.5	338956.8	730441.4	7.5	12.0	12.1	12.0	12.0
935_7.5	338969.5	730441.4	7.5	12.0	12.1	12.0	12.0
940_7.5	338977.8	730442.1	7.5	12.1	12.2	12.0	12.0
945_7.5	338983.8	730628.4	7.5	12.9	13.0	12.8	12.8
953_7.5	338995.7	730618.5	7.5	12.9	12.9	12.8	12.7
954_7.5	338998.5	730557.5	7.5	12.2	12.3	12.2	12.1
956_7.5	339002.4	730604.6	7.5	12.7	12.8	12.6	12.6
957_7.5	339003.2	730582.1	7.5	12.5	12.5	12.4	12.3
959_7.5	339006.4	730595.1	7.5	12.6	12.7	12.5	12.5
960_7.5	339014.7	730559.4	7.5	12.3	12.3	12.2	12.2
962_7.5	339024.6	730554.7	7.5	12.3	12.3	12.2	12.2
963_7.5	339027.4	730545.6	7.5	12.2	12.3	12.1	12.1
964_7.5	339029.8	730539.6	7.5	12.2	12.2	12.1	12.1
966_7.5	339032.2	730532.5	7.5	12.1	12.2	12.1	12.1
967_7.5	339034.5	730437	7.5	12.1	12.2	12.1	12.1
968_7.5	339034.5	730526.6	7.5	12.1	12.2	12.1	12.1
969_7.5	339038.5	730519	7.5	12.1	12.1	12.0	12.0
973_7.5	339043.3	730499.3	7.5	12.1	12.1	12.0	12.0
974_7.5	339043.6	730436.2	7.5	12.1	12.2	12.1	12.1
975_7.5	339047.6	730436.2	7.5	12.1	12.2	12.1	12.1
976_7.5	339049.6	730488.9	7.5	12.1	12.1	12.0	12.0
978_7.5	339052.4	730435.8	7.5	12.1	12.3	12.1	12.1
979_7.5	339053.6	730473.9	7.5	12.1	12.1	12.0	12.0
982_7.5	339059.5	730467.9	7.5	12.1	12.2	12.0	12.0
983_7.5	339064.3	730458.4	7.5	12.1	12.2	12.1	12.1
984_7.5	339064.3	730518.3	7.5	12.2	12.2	12.1	12.1
985_7.5	339064.3	730532.9	7.5	12.2	12.3	12.2	12.2
986_7.5	339069.8	730449.3	7.5	12.1	12.2	12.1	12.1
987_7.5	339071.8	730544.8	7.5	12.3	12.4	12.2	12.2
988_7.5	339076.2	730435.4	7.5	12.2	12.3	12.1	12.1
989_7.5	339076.9	730482.9	7.5	12.1	12.2	12.1	12.1
991_7.5	339081.7	730423.1	7.5	12.1	12.3	12.1	12.1
992_7.5	339086.8	730406.9	7.5	12.1	12.1	12.0	12.0
993_7.5	339090	730475.8	7.5	12.1	12.2	12.1	12.0
995_7.5	339103.1	730450.1	7.5	12.1	12.3	12.1	12.1
999_7.5	339111.8	730442.6	7.5	12.2	12.3	12.1	12.1
1003_7.5	339135.2	730427.5	7.5	12.2	12.2	12.1	12.1
1004_7.5	339136.4	730407.3	7.5	12.2	12.2	12.2	12.1
1009_7.5	339175.3	730387.9	7.5	12.1	12.1	12.1	12.1
1026_7.5	339437.2	730611.8	7.5	12.6	12.6	12.4	12.4
1027_7.5	339455.8	730611	7.5	12.6	12.6	12.4	12.3
1028_7.5	339461	730664.1	7.5	12.2	12.2	12.1	12.0
1029_7.5	339578.3	730606.3	7.5	12.6	12.6	12.4	12.4
405_4.5	338446	731385	4.5	13.0	13.0	12.9	12.9
409_4.5	338450.3	731386.3	4.5	13.0	13.0	12.9	12.9
416_4.5	338456.7	731389	4.5	13.0	13.1	13.0	12.9
419_4.5	338463	731392.9	4.5	13.1	13.2	13.0	13.0
429_4.5	338475.7	731397.3	4.5	13.2	13.2	13.1	13.1
432_4.5	338480.8	731398.1	4.5	13.2	13.2	13.1	13.1
434_4.5	338485.6	731400.1	4.5	13.2	13.3	13.2	13.2
475_4.5	338526.4	731433	4.5	13.3	13.3	13.2	13.2
487_4.5	338537.5	731436.2	4.5	13.1	13.1	13.1	13.1
565_4.5	338607.7	730646.3	4.5	12.4	12.4	12.3	12.3
568_4.5	338615.6	730635.2	4.5	12.4	12.4	12.4	12.3
569_4.5	338618	730600.3	4.5	12.3	12.2	12.3	12.3
574_4.5	338621.6	730595.9	4.5	12.3	12.3	12.3	12.3
580_4.5	338627.1	730588.4	4.5	12.4	12.3	12.3	12.3
585_4.5	338632.7	730579.7	4.5	12.4	12.3	12.4	12.4
589_4.5	338635	730618.1	4.5	12.9	12.5	12.8	12.8
593_4.5	338642.2	730569.8	4.5	12.5	12.4	12.4	12.4
594_4.5	338642.6	730624.9	4.5	12.8	12.4	12.8	12.7

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
595_4.5	338645.3	730605.1	4.5	13.0	12.5	12.9	12.9
600_4.5	338648.1	730561.4	4.5	12.5	12.4	12.5	12.5
605_4.5	338650.5	730632.4	4.5	12.3	12.1	12.2	12.2
606_4.5	338651.3	730609.4	4.5	12.9	12.4	12.8	12.8
609_4.5	338652.8	730552.8	4.5	12.5	12.5	12.5	12.5
622_4.5	338658.4	730637.9	4.5	12.2	12.1	12.2	12.2
624_4.5	338659.6	730717.6	4.5	12.0	12.0	12.0	12.0
625_4.5	338660	730545.6	4.5	12.6	12.6	12.6	12.6
628_4.5	338662	730614.6	4.5	12.4	12.2	12.3	12.3
630_4.5	338664.8	730719.6	4.5	12.0	12.0	12.0	12.0
634_4.5	338667.5	730620.1	4.5	12.7	12.3	12.7	12.7
637_4.5	338670.3	730723.1	4.5	12.0	12.0	12.0	12.0
640_4.5	338675.1	730624.4	4.5	12.7	12.2	12.6	12.6
641_4.5	338677	730688.7	4.5	12.0	12.0	12.0	12.0
644_4.5	338679.8	730649.8	4.5	12.6	12.2	12.6	12.6
648_4.5	338680.6	730747.3	4.5	12.1	12.1	12.0	12.0
649_4.5	338681.4	730514.3	4.5	12.3	12.4	12.3	12.3
652_4.5	338683.4	730632.4	4.5	12.7	12.2	12.6	12.6
653_4.5	338683.8	730741.8	4.5	12.1	12.0	12.0	12.0
656_4.5	338686.2	730702.9	4.5	12.0	12.0	12.0	12.0
657_4.5	338686.5	730506.4	4.5	12.2	12.3	12.2	12.2
660_4.5	338688.5	730656.9	4.5	12.2	12.0	12.2	12.1
666_4.5	338690.9	730637.6	4.5	12.6	12.2	12.6	12.6
668_4.5	338691.7	730733.1	4.5	12.1	12.0	12.0	12.0
670_4.5	338693.7	730695.8	4.5	12.1	12.0	12.0	12.0
672_4.5	338694.5	730662.1	4.5	12.2	12.0	12.1	12.1
682_4.5	338699.2	730642.7	4.5	12.6	12.2	12.6	12.6
683_4.5	338699.6	730685.1	4.5	12.1	12.0	12.0	12.0
687_4.5	338701.6	730736.6	4.5	12.1	12.0	12.0	12.0
693_4.5	338705.2	730664.1	4.5	12.6	12.2	12.6	12.6
694_4.5	338706.8	730673.2	4.5	12.2	12.0	12.1	12.1
697_4.5	338708.3	730477.4	4.5	11.9	12.0	11.9	11.9
700_4.5	338709.1	730718	4.5	12.1	12.0	12.0	12.0
712_4.5	338718.8	730772.9	4.5	12.2	12.2	12.1	12.1
717_4.5	338723	730613.4	4.5	12.0	12.0	12.0	12.0
719_4.5	338723.6	730753.4	4.5	12.1	12.1	12.1	12.0
724_4.5	338726.8	730762.6	4.5	12.2	12.1	12.1	12.1
728_4.5	338730.1	730658.1	4.5	12.3	12.1	12.2	12.2
732_4.5	338732.1	730634.4	4.5	12.1	12.0	12.1	12.0
735_4.5	338734.1	730667.7	4.5	12.5	12.1	12.4	12.4
736_4.5	338734.9	730684.3	4.5	12.2	12.0	12.2	12.1
738_4.5	338735.9	730786.4	4.5	12.3	12.3	12.2	12.2
739_4.5	338736.5	730649.4	4.5	12.2	12.1	12.1	12.1
741_4.5	338737.7	730624.4	4.5	12.0	12.0	12.0	12.0
743_4.5	338740.8	730600.3	4.5	12.0	12.0	12.0	12.0
746_4.5	338742.4	730640.8	4.5	12.1	12.0	12.1	12.0
748_4.5	338742.8	730673.6	4.5	12.4	12.1	12.4	12.4
749_4.5	338744.4	730741	4.5	12.2	12.1	12.1	12.1
751_4.5	338745	730774.5	4.5	12.3	12.2	12.2	12.1
753_4.5	338746	730603.9	4.5	12.0	12.0	12.0	12.0
759_4.5	338751.1	730695.8	4.5	12.2	12.1	12.2	12.2
763_4.5	338751.9	730679.1	4.5	12.5	12.1	12.4	12.4
764_4.5	338753.3	730765.8	4.5	12.3	12.2	12.2	12.1
765_4.5	338753.5	730608.2	4.5	12.0	12.0	12.0	12.0
768_4.5	338758.3	730729.5	4.5	12.3	12.2	12.2	12.2
769_4.5	338758.7	730612.9	4.5	12.0	12.0	12.0	12.0
771_4.5	338759.9	730682.8	4.5	12.5	12.1	12.4	12.4
776_4.5	338764.4	730774.1	4.5	12.3	12.3	12.2	12.2
778_4.5	338765.4	730686.3	4.5	12.5	12.1	12.4	12.4
782_4.5	338770	730756.3	4.5	12.3	12.2	12.2	12.2
786_4.5	338773.3	730692.3	4.5	12.5	12.2	12.5	12.5

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m³)			
				BC	SC1	SC3	SC4
796_4.5	338788.4	730689.1	4.5	12.4	12.1	12.3	12.3
802_4.5	338792.8	730721.2	4.5	12.7	12.2	12.6	12.6
804_4.5	338795.1	730678.4	4.5	12.3	12.1	12.2	12.2
805_4.5	338796.3	730672	4.5	12.2	12.1	12.1	12.1
806_4.5	338797.5	730641.9	4.5	12.1	12.0	12.0	12.0
809_4.5	338799.9	730379.9	4.5	11.7	11.7	11.6	11.6
810_4.5	338800.7	730645.1	4.5	12.1	12.0	12.0	12.0
811_4.5	338800.7	730667.3	4.5	12.2	12.1	12.1	12.1
812_4.5	338801.1	730367.6	4.5	11.6	11.6	11.6	11.6
814_4.5	338801.9	730471.1	4.5	12.1	12.2	12.1	12.1
816_4.5	338802.3	730452.1	4.5	12.0	12.1	12.0	12.0
817_4.5	338802.3	730707.3	4.5	12.6	12.2	12.5	12.5
819_4.5	338803.9	730356.9	4.5	11.6	11.6	11.6	11.6
820_4.5	338803.9	730435.4	4.5	11.8	11.9	11.8	11.8
821_4.5	338803.9	730445.3	4.5	11.9	12.0	11.9	11.9
822_4.5	338803.9	730691.8	4.5	12.4	12.2	12.4	12.3
823_4.5	338805.1	730647.8	4.5	12.1	12.0	12.0	12.0
825_4.5	338807	730420.8	4.5	11.8	11.8	11.7	11.7
826_4.5	338807	730730.7	4.5	12.8	12.3	12.7	12.7
827_4.5	338807.4	730342.7	4.5	11.6	11.6	11.6	11.6
829_4.5	338808.2	730410.4	4.5	11.7	11.7	11.7	11.7
830_4.5	338808.6	730327.2	4.5	11.6	11.6	11.6	11.6
831_4.5	338809	730456.8	4.5	12.1	12.2	12.1	12.1
832_4.5	338809.8	730684.7	4.5	12.3	12.2	12.3	12.2
834_4.5	338810.6	730398.1	4.5	11.7	11.7	11.7	11.7
835_4.5	338810.6	730651.4	4.5	12.1	12.1	12.1	12.1
836_4.5	338811.8	730388.3	4.5	11.7	11.7	11.7	11.7
838_4.5	338812.6	730467.1	4.5	12.1	12.2	12.1	12.1
839_4.5	338812.6	730680.3	4.5	12.3	12.1	12.2	12.2
842_4.5	338815	730716.4	4.5	12.7	12.3	12.7	12.6
844_4.5	338815.8	730377.9	4.5	11.7	11.7	11.6	11.6
846_4.5	338816.2	730736.3	4.5	12.9	12.4	12.8	12.8
847_4.5	338816.5	730367.6	4.5	11.6	11.7	11.6	11.6
851_4.5	338819.3	730672.8	4.5	12.3	12.1	12.2	12.2
852_4.5	338819.7	730360.1	4.5	11.6	11.6	11.6	11.6
853_4.5	338821.3	730345.1	4.5	11.6	11.6	11.6	11.6
856_4.5	338822.5	730465.5	4.5	12.1	12.2	12.1	12.1
858_4.5	338823.3	730633.6	4.5	12.1	12.0	12.0	12.0
859_4.5	338824.1	730744.9	4.5	12.9	12.5	12.7	12.7
861_4.5	338825.7	730334.3	4.5	11.6	11.6	11.6	11.6
867_4.5	338832.8	730654.6	4.5	12.2	12.1	12.1	12.1
869_4.5	338833.2	730750.9	4.5	13.0	12.7	12.9	12.9
871_4.5	338834.8	730464.3	4.5	12.1	12.2	12.1	12.1
872_4.5	338834.8	730661.3	4.5	12.2	12.2	12.2	12.2
874_4.5	338841.9	730641.1	4.5	12.2	12.1	12.1	12.1
876_4.5	338845.9	730666.1	4.5	12.3	12.2	12.2	12.2
878_4.5	338848.3	730460.8	4.5	12.1	12.2	12.1	12.1
879_4.5	338851	730739.8	4.5	13.3	12.8	13.2	13.2
880_4.5	338851.8	730762.8	4.5	13.6	13.3	13.4	13.4
882_4.5	338857.4	730743.4	4.5	13.5	13.0	13.4	13.3
883_4.5	338862.1	730459.6	4.5	12.1	12.2	12.1	12.1
885_4.5	338866.1	730749.3	4.5	13.9	13.5	13.7	13.7
887_4.5	338876.4	730456	4.5	12.1	12.2	12.1	12.1
888_4.5	338881.1	730743.4	4.5	14.3	14.0	14.1	14.0
890_4.5	338885.1	730734.6	4.5	14.2	13.9	14.0	13.9
891_4.5	338887.9	730452.4	4.5	12.2	12.3	12.1	12.1
893_4.5	338893	730726.3	4.5	14.3	14.1	14.1	14.1
894_4.5	338895	730450.9	4.5	12.2	12.3	12.2	12.1
896_4.5	338904.9	730448.9	4.5	12.2	12.3	12.2	12.2
899_4.5	338914	730447.7	4.5	12.3	12.4	12.2	12.2
901_4.5	338918.4	730471.9	4.5	12.0	12.0	12.0	11.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
902_4.5	338921.2	730463.1	4.5	12.0	12.1	12.0	12.0
907_4.5	338929.5	730452.8	4.5	12.2	12.3	12.1	12.1
916_4.5	338943	730442.6	4.5	12.4	12.6	12.4	12.4
926_4.5	338956.8	730441.4	4.5	13.2	13.7	13.1	13.1
935_4.5	338969.5	730441.4	4.5	13.2	13.7	13.1	13.1
940_4.5	338977.8	730442.1	4.5	13.2	13.7	13.1	13.1
945_4.5	338983.8	730628.4	4.5	13.9	13.9	13.6	13.6
953_4.5	338995.7	730618.5	4.5	13.8	13.8	13.6	13.5
954_4.5	338998.5	730557.5	4.5	12.4	12.5	12.3	12.3
956_4.5	339002.4	730604.6	4.5	13.4	13.4	13.2	13.2
957_4.5	339003.2	730582.1	4.5	12.8	12.9	12.7	12.7
959_4.5	339006.4	730595.1	4.5	13.2	13.2	13.0	13.0
960_4.5	339014.7	730559.4	4.5	12.6	12.7	12.5	12.5
962_4.5	339024.6	730554.7	4.5	12.6	12.7	12.6	12.5
963_4.5	339027.4	730545.6	4.5	12.5	12.6	12.5	12.5
964_4.5	339029.8	730539.6	4.5	12.5	12.6	12.4	12.4
966_4.5	339032.2	730532.5	4.5	12.5	12.6	12.4	12.4
967_4.5	339034.5	730437	4.5	13.2	13.7	13.1	13.1
968_4.5	339034.5	730526.6	4.5	12.4	12.5	12.4	12.4
969_4.5	339038.5	730519	4.5	12.4	12.5	12.4	12.4
973_4.5	339043.3	730499.3	4.5	12.4	12.5	12.3	12.3
974_4.5	339043.6	730436.2	4.5	13.2	13.7	13.1	13.1
975_4.5	339047.6	730436.2	4.5	13.2	13.7	13.1	13.1
976_4.5	339049.6	730488.9	4.5	12.4	12.5	12.3	12.3
978_4.5	339052.4	730435.8	4.5	13.2	13.7	13.2	13.2
979_4.5	339053.6	730473.9	4.5	12.4	12.5	12.3	12.3
982_4.5	339059.5	730467.9	4.5	12.4	12.5	12.3	12.3
983_4.5	339064.3	730458.4	4.5	12.4	12.6	12.4	12.4
984_4.5	339064.3	730518.3	4.5	12.4	12.6	12.4	12.4
985_4.5	339064.3	730532.9	4.5	12.5	12.6	12.4	12.4
986_4.5	339069.8	730449.3	4.5	12.5	12.7	12.5	12.5
987_4.5	339071.8	730544.8	4.5	12.5	12.6	12.4	12.4
988_4.5	339076.2	730435.4	4.5	13.4	13.9	13.3	13.3
989_4.5	339076.9	730482.9	4.5	12.3	12.5	12.3	12.3
991_4.5	339081.7	730423.1	4.5	12.7	12.9	12.6	12.6
992_4.5	339086.8	730406.9	4.5	12.3	12.4	12.3	12.3
993_4.5	339090	730475.8	4.5	12.3	12.4	12.2	12.2
995_4.5	339103.1	730450.1	4.5	12.4	12.6	12.4	12.4
999_4.5	339111.8	730442.6	4.5	12.5	12.7	12.5	12.5
1003_4.5	339135.2	730427.5	4.5	12.5	12.6	12.5	12.4
1004_4.5	339136.4	730407.3	4.5	13.2	13.3	13.1	13.1
1009_4.5	339175.3	730387.9	4.5	12.8	12.9	12.8	12.8
1026_4.5	339437.2	730611.8	4.5	13.7	13.6	13.2	13.1
1027_4.5	339455.8	730611	4.5	13.5	13.5	13.1	13.0
1028_4.5	339461	730664.1	4.5	12.3	12.3	12.2	12.1
1029_4.5	339578.3	730606.3	4.5	13.6	13.6	13.3	13.3
405_1.5	338446	731385	1.5	14.3	14.4	14.1	14.1
409_1.5	338450.3	731386.3	1.5	14.2	14.3	14.0	14.0
416_1.5	338456.7	731389	1.5	14.3	14.4	14.2	14.2
419_1.5	338463	731392.9	1.5	15.0	15.1	14.9	14.9
429_1.5	338475.7	731397.3	1.5	14.7	14.8	14.6	14.6
432_1.5	338480.8	731398.1	1.5	14.4	14.5	14.3	14.3
434_1.5	338485.6	731400.1	1.5	14.5	14.6	14.4	14.4
475_1.5	338526.4	731433	1.5	14.1	14.1	14.0	14.0
487_1.5	338537.5	731436.2	1.5	13.9	13.9	13.8	13.8
565_1.5	338607.7	730646.3	1.5	13.3	13.3	13.3	13.3
568_1.5	338615.6	730635.2	1.5	13.2	13.2	13.2	13.2
569_1.5	338618	730600.3	1.5	12.7	12.6	12.7	12.7
574_1.5	338621.6	730595.9	1.5	12.8	12.7	12.8	12.8
580_1.5	338627.1	730588.4	1.5	12.9	12.8	12.9	12.9
585_1.5	338632.7	730579.7	1.5	12.9	12.8	12.9	12.9

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
589_1.5	338635	730618.1	1.5	13.4	12.9	13.3	13.3
593_1.5	338642.2	730569.8	1.5	13.2	13.1	13.2	13.2
594_1.5	338642.6	730624.9	1.5	13.1	12.6	13.0	13.0
595_1.5	338645.3	730605.1	1.5	13.5	12.9	13.4	13.4
600_1.5	338648.1	730561.4	1.5	13.3	13.2	13.3	13.3
605_1.5	338650.5	730632.4	1.5	12.6	12.3	12.5	12.5
606_1.5	338651.3	730609.4	1.5	13.2	12.7	13.2	13.2
609_1.5	338652.8	730552.8	1.5	13.3	13.2	13.2	13.2
622_1.5	338658.4	730637.9	1.5	12.5	12.2	12.5	12.5
624_1.5	338659.6	730717.6	1.5	12.1	12.1	12.0	12.0
625_1.5	338660	730545.6	1.5	13.8	13.6	13.7	13.7
628_1.5	338662	730614.6	1.5	12.7	12.4	12.7	12.7
630_1.5	338664.8	730719.6	1.5	12.1	12.0	12.0	12.0
634_1.5	338667.5	730620.1	1.5	12.9	12.4	12.9	12.9
637_1.5	338670.3	730723.1	1.5	12.1	12.0	12.0	12.0
640_1.5	338675.1	730624.4	1.5	12.9	12.3	12.8	12.8
641_1.5	338677	730688.7	1.5	12.1	12.0	12.0	12.0
644_1.5	338679.8	730649.8	1.5	12.8	12.3	12.8	12.7
648_1.5	338680.6	730747.3	1.5	12.1	12.1	12.0	12.0
649_1.5	338681.4	730514.3	1.5	12.8	13.0	12.8	12.8
652_1.5	338683.4	730632.4	1.5	12.9	12.3	12.9	12.8
653_1.5	338683.8	730741.8	1.5	12.1	12.1	12.0	12.0
656_1.5	338686.2	730702.9	1.5	12.1	12.0	12.0	12.0
657_1.5	338686.5	730506.4	1.5	12.6	12.8	12.6	12.6
660_1.5	338688.5	730656.9	1.5	12.5	12.1	12.4	12.4
666_1.5	338690.9	730637.6	1.5	12.9	12.3	12.8	12.8
668_1.5	338691.7	730733.1	1.5	12.1	12.1	12.0	12.0
670_1.5	338693.7	730695.8	1.5	12.1	12.1	12.0	12.0
672_1.5	338694.5	730662.1	1.5	12.4	12.1	12.3	12.3
682_1.5	338699.2	730642.7	1.5	12.9	12.3	12.8	12.8
683_1.5	338699.6	730685.1	1.5	12.1	12.1	12.1	12.1
687_1.5	338701.6	730736.6	1.5	12.1	12.1	12.0	12.0
693_1.5	338705.2	730664.1	1.5	12.8	12.3	12.8	12.8
694_1.5	338706.8	730673.2	1.5	12.3	12.1	12.3	12.2
697_1.5	338708.3	730477.4	1.5	12.1	12.1	12.0	12.0
700_1.5	338709.1	730718	1.5	12.1	12.0	12.0	12.0
712_1.5	338718.8	730772.9	1.5	12.2	12.2	12.1	12.1
717_1.5	338723	730613.4	1.5	12.1	12.0	12.0	12.0
719_1.5	338723.6	730753.4	1.5	12.2	12.1	12.1	12.1
724_1.5	338726.8	730762.6	1.5	12.2	12.2	12.1	12.1
728_1.5	338730.1	730658.1	1.5	12.5	12.3	12.4	12.4
732_1.5	338732.1	730634.4	1.5	12.2	12.1	12.1	12.1
735_1.5	338734.1	730667.7	1.5	12.7	12.2	12.7	12.7
736_1.5	338734.9	730684.3	1.5	12.4	12.1	12.4	12.4
738_1.5	338735.9	730786.4	1.5	12.3	12.3	12.2	12.2
739_1.5	338736.5	730649.4	1.5	12.3	12.2	12.2	12.2
741_1.5	338737.7	730624.4	1.5	12.1	12.0	12.1	12.0
743_1.5	338740.8	730600.3	1.5	12.0	12.0	12.0	12.0
746_1.5	338742.4	730640.8	1.5	12.2	12.1	12.1	12.1
748_1.5	338742.8	730673.6	1.5	12.7	12.2	12.7	12.7
749_1.5	338744.4	730741	1.5	12.2	12.1	12.1	12.1
751_1.5	338745	730774.5	1.5	12.3	12.3	12.2	12.2
753_1.5	338746	730603.9	1.5	12.0	12.0	12.0	12.0
759_1.5	338751.1	730695.8	1.5	12.4	12.1	12.4	12.3
763_1.5	338751.9	730679.1	1.5	12.7	12.2	12.6	12.6
764_1.5	338753.3	730765.8	1.5	12.3	12.3	12.2	12.2
765_1.5	338753.5	730608.2	1.5	12.0	12.0	12.0	12.0
768_1.5	338758.3	730729.5	1.5	12.3	12.2	12.3	12.3
769_1.5	338758.7	730612.9	1.5	12.0	12.0	12.0	12.0
771_1.5	338759.9	730682.8	1.5	12.7	12.2	12.6	12.6
776_1.5	338764.4	730774.1	1.5	12.4	12.3	12.3	12.3

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
778_1.5	338765.4	730686.3	1.5	12.7	12.2	12.6	12.6
782_1.5	338770	730756.3	1.5	12.4	12.3	12.3	12.2
786_1.5	338773.3	730692.3	1.5	12.8	12.2	12.7	12.7
796_1.5	338788.4	730689.1	1.5	12.5	12.2	12.5	12.5
802_1.5	338792.8	730721.2	1.5	13.2	12.2	13.1	13.1
804_1.5	338795.1	730678.4	1.5	12.4	12.2	12.3	12.3
805_1.5	338796.3	730672	1.5	12.3	12.1	12.2	12.2
806_1.5	338797.5	730641.9	1.5	12.1	12.0	12.0	12.0
809_1.5	338799.9	730379.9	1.5	11.7	11.7	11.6	11.6
810_1.5	338800.7	730645.1	1.5	12.1	12.0	12.1	12.0
811_1.5	338800.7	730667.3	1.5	12.2	12.1	12.2	12.2
812_1.5	338801.1	730367.6	1.5	11.6	11.7	11.6	11.6
814_1.5	338801.9	730471.1	1.5	12.4	12.6	12.4	12.4
816_1.5	338802.3	730452.1	1.5	12.2	12.3	12.2	12.1
817_1.5	338802.3	730707.3	1.5	13.0	12.2	12.9	12.9
819_1.5	338803.9	730356.9	1.5	11.6	11.6	11.6	11.6
820_1.5	338803.9	730435.4	1.5	11.9	11.9	11.8	11.8
821_1.5	338803.9	730445.3	1.5	12.0	12.1	12.0	12.0
822_1.5	338803.9	730691.8	1.5	12.6	12.2	12.5	12.5
823_1.5	338805.1	730647.8	1.5	12.1	12.1	12.1	12.1
825_1.5	338807	730420.8	1.5	11.8	11.8	11.8	11.8
826_1.5	338807	730730.7	1.5	13.3	12.3	13.2	13.2
827_1.5	338807.4	730342.7	1.5	11.6	11.6	11.6	11.6
829_1.5	338808.2	730410.4	1.5	11.7	11.8	11.7	11.7
830_1.5	338808.6	730327.2	1.5	11.6	11.6	11.6	11.6
831_1.5	338809	730456.8	1.5	12.6	12.8	12.6	12.6
832_1.5	338809.8	730684.7	1.5	12.4	12.2	12.4	12.4
834_1.5	338810.6	730398.1	1.5	11.7	11.7	11.7	11.7
835_1.5	338810.6	730651.4	1.5	12.2	12.1	12.1	12.1
836_1.5	338811.8	730388.3	1.5	11.7	11.7	11.7	11.7
838_1.5	338812.6	730467.1	1.5	12.6	12.8	12.5	12.5
839_1.5	338812.6	730680.3	1.5	12.4	12.2	12.3	12.3
842_1.5	338815	730716.4	1.5	13.2	12.3	13.1	13.1
844_1.5	338815.8	730377.9	1.5	11.7	11.7	11.6	11.6
846_1.5	338816.2	730736.3	1.5	13.4	12.4	13.3	13.3
847_1.5	338816.5	730367.6	1.5	11.6	11.7	11.6	11.6
851_1.5	338819.3	730672.8	1.5	12.3	12.2	12.3	12.2
852_1.5	338819.7	730360.1	1.5	11.6	11.7	11.6	11.6
853_1.5	338821.3	730345.1	1.5	11.6	11.6	11.6	11.6
856_1.5	338822.5	730465.5	1.5	12.5	12.7	12.5	12.5
858_1.5	338823.3	730633.6	1.5	12.1	12.1	12.0	12.0
859_1.5	338824.1	730744.9	1.5	13.2	12.6	13.1	13.1
861_1.5	338825.7	730334.3	1.5	11.6	11.6	11.6	11.6
867_1.5	338832.8	730654.6	1.5	12.2	12.2	12.2	12.1
869_1.5	338833.2	730750.9	1.5	13.4	12.8	13.3	13.3
871_1.5	338834.8	730464.3	1.5	12.4	12.6	12.4	12.4
872_1.5	338834.8	730661.3	1.5	12.3	12.2	12.2	12.2
874_1.5	338841.9	730641.1	1.5	12.2	12.1	12.1	12.1
876_1.5	338845.9	730666.1	1.5	12.4	12.3	12.3	12.3
878_1.5	338848.3	730460.8	1.5	12.5	12.6	12.4	12.4
879_1.5	338851	730739.8	1.5	14.0	13.0	13.8	13.8
880_1.5	338851.8	730762.8	1.5	14.4	13.8	14.2	14.1
882_1.5	338857.4	730743.4	1.5	14.2	13.3	14.0	14.0
883_1.5	338862.1	730459.6	1.5	12.4	12.5	12.3	12.3
885_1.5	338866.1	730749.3	1.5	15.1	14.2	14.8	14.7
887_1.5	338876.4	730456	1.5	12.4	12.6	12.4	12.4
888_1.5	338881.1	730743.4	1.5	16.5	16.0	16.1	16.0
890_1.5	338885.1	730734.6	1.5	15.8	15.5	15.5	15.4
891_1.5	338887.9	730452.4	1.5	12.5	12.7	12.5	12.5
893_1.5	338893	730726.3	1.5	16.4	16.1	16.0	15.9
894_1.5	338895	730450.9	1.5	12.6	12.8	12.5	12.5

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
896_1.5	338904.9	730448.9	1.5	12.7	12.9	12.6	12.6
899_1.5	338914	730447.7	1.5	12.7	12.9	12.6	12.6
901_1.5	338918.4	730471.9	1.5	12.0	12.1	12.0	12.0
902_1.5	338921.2	730463.1	1.5	12.1	12.2	12.1	12.1
907_1.5	338929.5	730452.8	1.5	12.4	12.5	12.3	12.3
916_1.5	338943	730442.6	1.5	13.2	13.6	13.2	13.2
926_1.5	338956.8	730441.4	1.5	14.1	14.9	14.1	14.1
935_1.5	338969.5	730441.4	1.5	14.0	14.7	13.9	13.9
940_1.5	338977.8	730442.1	1.5	13.8	14.5	13.8	13.7
945_1.5	338983.8	730628.4	1.5	14.7	14.8	14.4	14.3
953_1.5	338995.7	730618.5	1.5	14.6	14.7	14.3	14.3
954_1.5	338998.5	730557.5	1.5	12.6	12.6	12.5	12.5
956_1.5	339002.4	730604.6	1.5	13.9	13.9	13.7	13.6
957_1.5	339003.2	730582.1	1.5	13.1	13.2	13.0	12.9
959_1.5	339006.4	730595.1	1.5	13.6	13.7	13.5	13.4
960_1.5	339014.7	730559.4	1.5	12.8	13.0	12.7	12.7
962_1.5	339024.6	730554.7	1.5	13.1	13.3	13.1	13.0
963_1.5	339027.4	730545.6	1.5	13.0	13.2	12.9	12.9
964_1.5	339029.8	730539.6	1.5	13.0	13.2	12.9	12.9
966_1.5	339032.2	730532.5	1.5	12.9	13.1	12.9	12.9
967_1.5	339034.5	730437	1.5	14.0	14.8	13.9	13.9
968_1.5	339034.5	730526.6	1.5	12.9	13.1	12.9	12.9
969_1.5	339038.5	730519	1.5	13.0	13.3	13.0	13.0
973_1.5	339043.3	730499.3	1.5	12.8	13.0	12.8	12.7
974_1.5	339043.6	730436.2	1.5	14.0	14.9	14.0	14.0
975_1.5	339047.6	730436.2	1.5	14.0	14.9	14.0	14.0
976_1.5	339049.6	730488.9	1.5	13.1	13.3	13.0	13.0
978_1.5	339052.4	730435.8	1.5	14.1	14.9	14.0	14.0
979_1.5	339053.6	730473.9	1.5	12.8	13.0	12.7	12.7
982_1.5	339059.5	730467.9	1.5	13.0	13.3	13.0	13.0
983_1.5	339064.3	730458.4	1.5	13.0	13.3	12.9	12.9
984_1.5	339064.3	730518.3	1.5	12.7	12.8	12.6	12.6
985_1.5	339064.3	730532.9	1.5	12.7	12.8	12.6	12.6
986_1.5	339069.8	730449.3	1.5	13.1	13.4	13.0	13.0
987_1.5	339071.8	730544.8	1.5	12.6	12.7	12.5	12.5
988_1.5	339076.2	730435.4	1.5	14.4	15.2	14.3	14.3
989_1.5	339076.9	730482.9	1.5	12.6	12.7	12.5	12.5
991_1.5	339081.7	730423.1	1.5	13.5	14.0	13.5	13.5
992_1.5	339086.8	730406.9	1.5	12.5	12.7	12.5	12.5
993_1.5	339090	730475.8	1.5	12.4	12.5	12.4	12.3
995_1.5	339103.1	730450.1	1.5	12.7	12.9	12.7	12.7
999_1.5	339111.8	730442.6	1.5	12.8	13.0	12.7	12.7
1003_1.5	339135.2	730427.5	1.5	12.8	12.9	12.7	12.7
1004_1.5	339136.4	730407.3	1.5	15.3	15.3	15.2	15.2
1009_1.5	339175.3	730387.9	1.5	14.1	14.1	14.1	14.1
1026_1.5	339437.2	730611.8	1.5	15.1	15.1	14.3	14.1
1027_1.5	339455.8	730611	1.5	14.8	14.7	14.1	13.9
1028_1.5	339461	730664.1	1.5	12.4	12.4	12.2	12.2
1029_1.5	339578.3	730606.3	1.5	15.0	15.0	14.5	14.5
1030_1.5	337967	731401	1.5	13.8	13.7	13.4	13.3
1031_1.5	337956	731409	1.5	13.7	13.7	13.4	13.3
1032_1.5	337946	731412	1.5	13.3	13.3	13.1	13.0
1030_4.5	337967	731401	4.5	13.1	13.1	12.9	12.8
1031_4.5	337956	731409	4.5	13.0	12.9	12.7	12.7
1032_4.5	337946	731412	4.5	12.8	12.8	12.6	12.6
1030_7.5	337967	731401	7.5	12.5	12.5	12.4	12.3
1031_7.5	337956	731409	7.5	12.4	12.4	12.3	12.3
1032_7.5	337946	731412	7.5	12.4	12.4	12.3	12.2
1030_10.5	337967	731401	10.5	12.2	12.2	12.1	12.1
1031_10.5	337956	731409	10.5	12.1	12.1	12.0	12.0
1032_10.5	337946	731412	10.5	12.1	12.1	12.0	12.0

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m^3)			
				BC	SC1	SC3	SC4
1030_13.5	337967	731401	13.5	12.0	12.0	11.9	11.9
1031_13.5	337956	731409	13.5	11.9	11.9	11.9	11.9
1032_13.5	337946	731412	13.5	11.9	11.9	11.9	11.8
1033_1.5	338039	731352	1.5	15.7	15.6	15.2	15.1
1034_1.5	338032	731351	1.5	14.8	14.8	14.4	14.3
540_4.5	338584.7	731186.9	4.5	12.3	12.3	12.3	12.2
553_4.5	338595.4	731251.9	4.5	12.5	12.5	12.5	12.4
563_4.5	338607.3	730680.8	4.5	12.2	12.2	12.2	12.2
566_4.5	338609.7	731440.1	4.5	12.7	12.7	12.6	12.6
570_4.5	338618	731154.4	4.5	12.5	12.5	12.4	12.4
581_4.5	338628.7	730851.9	4.5	12.5	12.6	12.4	12.4
586_4.5	338633.4	731122.7	4.5	12.6	12.6	12.5	12.5
590_4.5	338637	731114.8	4.5	12.6	12.6	12.5	12.5
592_4.5	338640.6	731106.4	4.5	12.7	12.6	12.6	12.5
597_4.5	338645.7	731095.7	4.5	12.7	12.7	12.6	12.6
603_4.5	338649.7	731085.8	4.5	12.7	12.7	12.6	12.6
617_4.5	338656	731072.3	4.5	12.8	12.8	12.7	12.6
618_4.5	338656.8	731049.8	4.5	12.9	12.9	12.8	12.7
619_4.5	338657.2	731057.7	4.5	12.8	12.8	12.7	12.7
540_1.5	338584.7	731186.9	1.5	12.5	12.5	12.5	12.4
570_1.5	338618	731154.4	1.5	13.1	13.1	13.0	13.0
586_1.5	338633.4	731122.7	1.5	13.3	13.2	13.2	13.1
590_1.5	338637	731114.8	1.5	13.3	13.2	13.2	13.1
592_1.5	338640.6	731106.4	1.5	13.3	13.2	13.2	13.1
597_1.5	338645.7	731095.7	1.5	13.3	13.3	13.2	13.2
603_1.5	338649.7	731085.8	1.5	13.3	13.3	13.2	13.2
617_1.5	338656	731072.3	1.5	13.4	13.4	13.3	13.3
618_1.5	338656.8	731049.8	1.5	13.4	13.4	13.3	13.2
619_1.5	338657.2	731057.7	1.5	13.3	13.3	13.2	13.1
971_1.5	339039.7	730650.3	1.5	14.2	14.2	13.9	13.8
1035_1.5	338784	730432	1.5	11.8	11.8	11.8	11.8
1036_1.5	338784	730443	1.5	11.9	12.0	11.9	11.9
1037_1.5	338783	730451	1.5	12.0	12.1	12.0	12.0
1038_1.5	338782	730462	1.5	12.6	12.8	12.6	12.6
1039_1.5	338755	730468	1.5	12.6	12.9	12.6	12.6
1040_1.5	338744	730459	1.5	12.0	12.1	12.0	12.0
1041_1.5	338746	730452	1.5	11.9	12.0	11.9	11.9
1042_1.5	338746	730441	1.5	11.8	11.8	11.8	11.8
1035_4.5	338784	730432	4.5	11.8	11.8	11.8	11.8
1036_4.5	338784	730443	4.5	11.8	11.9	11.8	11.8
1037_4.5	338783	730451	4.5	11.9	12.0	11.9	11.9
1038_4.5	338782	730462	4.5	12.1	12.2	12.1	12.1
1039_4.5	338755	730468	4.5	12.1	12.2	12.1	12.1
1040_4.5	338744	730459	4.5	11.9	12.0	11.9	11.9
1041_4.5	338746	730452	4.5	11.8	11.9	11.8	11.8
1042_4.5	338746	730441	4.5	11.8	11.8	11.8	11.8
1035_7.5	338784	730432	7.5	11.7	11.8	11.7	11.7
1036_7.5	338784	730443	7.5	11.8	11.8	11.8	11.7
1037_7.5	338783	730451	7.5	11.8	11.8	11.8	11.8
1038_7.5	338782	730462	7.5	11.8	11.9	11.8	11.8
1039_7.5	338755	730468	7.5	11.8	11.9	11.8	11.8
1040_7.5	338744	730459	7.5	11.8	11.8	11.8	11.8
1041_7.5	338746	730452	7.5	11.8	11.8	11.7	11.7
1042_7.5	338746	730441	7.5	11.7	11.8	11.7	11.7
178_4.5	338056.2	731348	4.5	14.5	14.5	14.1	14.0
267_4.5	338206.6	731298.3	4.5	15.9	16.0	15.4	15.3
274_4.5	338220.1	731289.1	4.5	15.4	15.5	15.0	14.9
279_4.5	338227.2	731285.9	4.5	15.1	15.2	14.7	14.6
287_4.5	338235.1	731282.8	4.5	14.8	14.9	14.5	14.4
288_4.5	338238.3	731280.4	4.5	14.8	14.9	14.4	14.4
295_4.5	338246.2	731277.6	4.5	14.6	14.7	14.3	14.2

Receptor name	X(m)	Y(m)	Z(m)	Annual Mean PM_{10} Concentration (µg/m[3])			
				BC	SC1	SC3	SC4
296_4.5	338247.8	731257.8	4.5	14.3	14.4	14.1	14.0
701_4.5	338709.1	730871	4.5	14.3	14.4	14.0	13.9
713_4.5	338719.4	730870.2	4.5	14.3	14.4	13.9	13.9
729_4.5	338730.9	730869.8	4.5	14.3	14.4	13.9	13.9
757_4.5	338750.3	730909.4	4.5	13.5	13.5	13.3	13.3
766_4.5	338755.9	730905.4	4.5	13.5	13.6	13.4	13.3
774_4.5	338763.8	730902.7	4.5	13.6	13.6	13.4	13.4
815_4.5	338801.9	730820.6	4.5	13.5	13.6	13.2	13.1
837_4.5	338812.2	730814.7	4.5	13.6	13.7	13.3	13.2
854_4.5	338821.3	730805.2	4.5	13.6	13.6	13.3	13.2
866_4.5	338831.2	730798.9	4.5	13.8	13.8	13.5	13.4
873_4.5	338838.3	730790.9	4.5	13.8	13.8	13.5	13.4
877_4.5	338847.9	730781	4.5	13.9	13.8	13.6	13.5
897_4.5	338910.5	730700.2	4.5	14.4	14.3	14.2	14.1
900_4.5	338916.4	730694.3	4.5	14.5	14.4	14.2	14.2
904_4.5	338922.8	730687.5	4.5	14.5	14.4	14.2	14.2
906_4.5	338928.7	730683.1	4.5	14.7	14.6	14.4	14.3
911_4.5	338938.6	730676	4.5	14.9	14.9	14.6	14.5
921_4.5	338950.1	730667.3	4.5	14.9	15.0	14.6	14.5
943_4.5	338981.8	730665.3	4.5	15.1	15.2	14.8	14.6
1033_4.5	338039	731352	4.5	14.1	14.1	13.8	13.7
279_7.5	338227.2	731285.9	7.5	13.4	13.5	13.2	13.2
287_7.5	338235.1	731282.8	7.5	13.4	13.4	13.2	13.1
288_7.5	338238.3	731280.4	7.5	13.3	13.4	13.1	13.1
296_7.5	338247.8	731257.8	7.5	13.1	13.1	12.9	12.9
701_7.5	338709.1	730871	7.5	13.0	13.1	12.8	12.8
713_7.5	338719.4	730870.2	7.5	13.1	13.1	12.9	12.8
729_7.5	338730.9	730869.8	7.5	13.1	13.1	12.9	12.8
815_7.5	338801.9	730820.6	7.5	12.8	12.8	12.6	12.6
837_7.5	338812.2	730814.7	7.5	12.8	12.8	12.6	12.6
854_7.5	338821.3	730805.2	7.5	12.8	12.8	12.6	12.6
866_7.5	338831.2	730798.9	7.5	12.8	12.8	12.7	12.6
873_7.5	338838.3	730790.9	7.5	12.8	12.8	12.7	12.6
877_7.5	338847.9	730781	7.5	12.8	12.8	12.7	12.6
897_7.5	338910.5	730700.2	7.5	13.0	12.9	12.9	12.9
900_7.5	338916.4	730694.3	7.5	13.0	13.0	12.9	12.9
904_7.5	338922.8	730687.5	7.5	13.0	13.0	12.9	12.9
906_7.5	338928.7	730683.1	7.5	13.0	13.0	12.9	12.9
911_7.5	338938.6	730676	7.5	13.0	13.0	12.9	12.9
921_7.5	338950.1	730667.3	7.5	13.0	13.0	12.9	12.9
943_7.5	338981.8	730665.3	7.5	13.4	13.4	13.2	13.1
701_10.5	338709.1	730871	10.5	12.4	12.5	12.3	12.3
713_10.5	338719.4	730870.2	10.5	12.5	12.5	12.3	12.3
729_10.5	338730.9	730869.8	10.5	12.5	12.5	12.4	12.3
815_10.5	338801.9	730820.6	10.5	12.3	12.3	12.2	12.2
837_10.5	338812.2	730814.7	10.5	12.3	12.3	12.2	12.2
854_10.5	338821.3	730805.2	10.5	12.3	12.3	12.2	12.2
866_10.5	338831.2	730798.9	10.5	12.3	12.3	12.2	12.2
873_10.5	338838.3	730790.9	10.5	12.3	12.3	12.2	12.2
877_10.5	338847.9	730781	10.5	12.3	12.3	12.2	12.2
897_10.5	338910.5	730700.2	10.5	12.4	12.3	12.3	12.3
900_10.5	338916.4	730694.3	10.5	12.4	12.3	12.3	12.3
904_10.5	338922.8	730687.5	10.5	12.4	12.3	12.3	12.3
906_10.5	338928.7	730683.1	10.5	12.4	12.3	12.3	12.3
911_10.5	338938.6	730676	10.5	12.4	12.3	12.3	12.3
921_10.5	338950.1	730667.3	10.5	12.4	12.4	12.3	12.3
943_10.5	338981.8	730665.3	10.5	12.5	12.5	12.4	12.4

Appendix 3 – ADMS Model Verification

The ADMS-Roads dispersion model has been widely validated for this type of assessment and is specifically listed in the Defra's LAQM.TG(09)[5] guidance as an accepted dispersion model.

Model validation undertaken by the software developer (CERC) will not have included validation in the vicinity of the proposed development site. It is therefore necessary to perform a comparison of modelled results with local monitoring data at relevant locations. This process of verification attempts to minimise modelling uncertainty and systematic error by correcting modelled results by an adjustment factor to gain greater confidence in the final results.

The predicted results from a dispersion model may differ from measured concentrations for a large number of reasons, including uncertainties associated with:

- Background concentration estimates;
- Source activity data such as traffic flows and emissions factors;
- Monitoring data, including locations; and
- Overall model limitations.

Model verification is the process by which these and other uncertainties are investigated and where possible minimised. In reality, the differences between modelled and monitored results are likely to be a combination of all of these aspects.

Model setup parameters and input data were checked prior to running the models in order to reduce these uncertainties. The following were checked to the extent possible to ensure accuracy:

- Traffic data;
- Distance between sources and monitoring as represented in the model;
- Speed estimates on roads;
- Background monitoring and background estimates; and
- Monitoring data.

Traffic data was obtained from the Council as detailed in Section 4.1. Separation distances between road sources and receptors were checked using electronic OS mapping data.

NO_2 Verification

Dundee City Council operates an extensive network of automatic and passive NO_2 monitoring as part of its LAQM commitment. Details of the eleven LAQM monitoring sites located within the vicinity of the modelled road network are presented in Table A1.

Whilst urban background sites are useful for giving an indication of background values, they are not useful for the purpose of model verification. Model verification has therefore been undertaken using only the kerbside and roadside sites listed in Table A1.

Table A1 – Local Monitoring Data Available for Model Verification

Site I.D.	Site Name	Site Type*	OS Grid Ref	2012 Annual Mean NO_2 Concentration (µg/m^3)
30	LOCHEE RD (138)	KS	338936 ,730680	**53.4**
31	LOCHEE RD (140) TRAFFIC LTS	RS	338927 ,730685	**54.8**
32	LOCHEE RD (184)	KS	338767 ,730856	37.6
36	LOCHEE RD/POLEPARK RD	KS	339016 ,730586	31.8
37	LOGIE STREET (114)	RS	338184 ,731293	**54.6**
38	LOGIE STREET (98)	KS	338252 ,731258	34.5
39	LOONS ROAD (1)	RS	338211 ,731293	**42.0**
42	MUIRTON ROAD (6)	RS	338152 ,731293	27.2
49	RANKINE ST (2)	RS	338768 ,730900	**44.4**
158	Lochee Road Romon (average)	RS	338861 ,730773	**48.7**
CM4	Lochee Road	RS	338861, 730773	**52.9**
In **bold**, exceedence of the annual mean NO_2 AQO of 40µg/m^3 *KS = Kerbside, RS = Roadside				

Verification Calculations

The verification of the modelling output was performed in accordance with the methodology provided in Annex 3 of LAQM.TG(09)[5].

For the verification and adjustment of NO_x/NO_2, the LAQM diffusion tube monitoring data was used as shown in Table A1. Data capture for 2012 at all of the kerbside and roadside sites was 75% or greater and so met the threshold outlined in LAQM.TG(09)[5]. Table A2 shows an initial comparison of the monitored and unverified modelled NO_2 results for the year 2012, in order to determine if verification and adjustment was required.

Table A2 – Comparison of Unverified Modelled and Monitored NO_2 Concentrations

Site ID	Site Type	Background NO_2	Monitored total NO_2 (µg/m^3)	Modelled total NO_2 (µg/m^3)	% Difference (modelled vs. monitored)
30	KS	15.6	53.4	25.6	-52.1
31	RS	15.6	54.8	23.5	-57.1
32	KS	15.6	37.6	23.2	-38.2
36	KS	15.6	31.8	19.8	-37.7
37	RS	15.6	54.6	25.4	-53.4
38	KS	15.6	34.5	23.9	-30.8
39	RS	15.6	42.0	27.6	-34.4
42	RS	15.6	27.2	20.9	-23.1
49	RS	15.6	44.4	19.9	-55.1
158	RS	15.6	48.7	23.3	-52.2
CM4	RS	15.6	52.9	23.6	-55.4

The model was observed to be under predicting by greater than 20% at all sites and no further improvement of the modelled results could be obtained on this occasion through changing the model inputs. Therefore adjustment of modelled results was necessary. The relevant data was gathered to allow the adjustment factor to be calculated.

Model adjustment needs to be undertaken based on NO_x and not NO_2. For the diffusion tube monitoring results used in the calculation of the model adjustment, NO_x was derived from NO_2; these calculations were undertaken using a spreadsheet tool available from the LAQM website[19].

Table A3 provides the relevant data required to calculate the model adjustment based on regression of the modelled and monitored road source contribution to NO_x.

Table A3 – Data Required for NO_2 Adjustment Factor Calculation

Site ID	Monitored total NO_2 (μg/m³)	Monitored total NO_x (μg/m³)	Background NO_2 (μg/m³)	Background NO_x (μg/m³)	Monitored road contribution NO_2 (total - background) (μg/m³)	Monitored road contribution NO_x (total - background) (μg/m³)	Modelled road contribution NO_x (excludes background) (μg/m³)
30	44.2	86.2	20.3	30.3	24.0	55.8	18.8
31	26.5	43.3	20.3	30.3	6.3	12.9	17.7
32	40.3	75.6	20.3	30.3	20.0	45.3	46.7
36	37.4	68.3	20.3	30.3	17.1	37.9	15.4
37	35.4	63.4	20.3	30.3	15.1	33.0	15.0
38	32.2	55.9	20.3	30.3	12.0	25.6	14.1
39	36.2	65.3	20.3	30.3	15.9	35.0	33.3
42	22.5	34.9	20.3	30.3	2.3	4.6	6.0
49	26.0	42.2	20.3	30.3	5.8	11.9	9.4
158	42.1	80.3	20.3	30.3	21.8	50.0	19.0
CM4	27.3	45.0	20.3	30.3	7.1	14.7	12.9

Figure A1 provides a comparison of the Monitored Road NO_x Contribution versus the Unverified Modelled Road NO_x and the equation of the trend line based on linear regression through zero. The Total Monitored NO_x concentration has been derived by back-calculating NO_x from the NO_x/NO_2 empirical relationship using the spreadsheet tool available from Defra's website[19]. The equation of the trend lines presented in Figure A1 gives an adjustment factor for the modelled results of 4.133.

Figure A1 and Table A4 show the ratios between monitored and modelled NO_2 for each monitoring location. The sites do not show an acceptable level of agreement, a factor of 4.133 could therefore not be used for verification.

[19] http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc

Figure A1 – Comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x for all monitoring locations

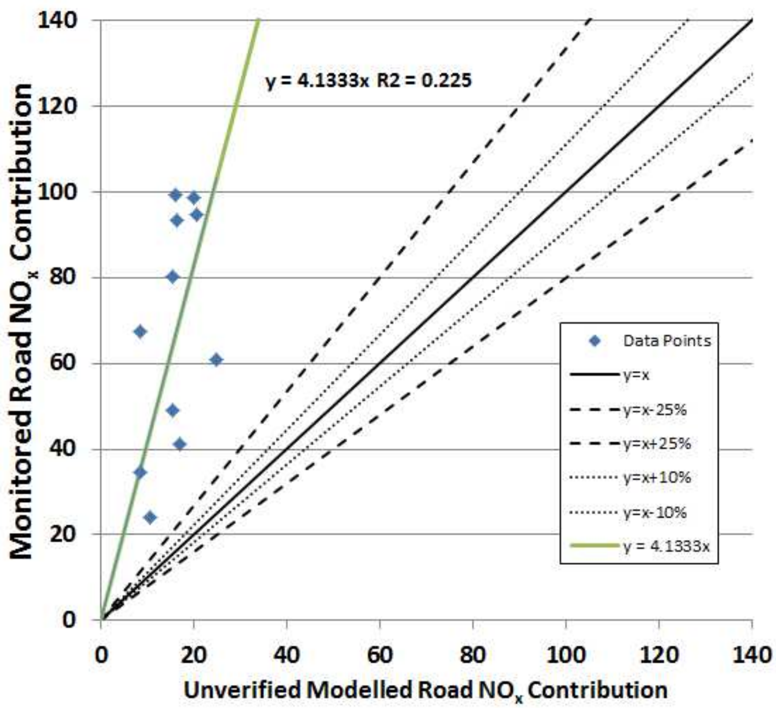


Table A4 – Model NO_2 Verification for all monitoring locations

Site ID	Ratio of monitored road contribution NO_x / modelled road contribution NO_x	Adjustment factor for modelled road contribution NO_x	Adjusted modelled road contribution NO_x (µg/m^3)	Adjusted modelled total NO_x (including background NO_x) (µg/m^3)	Modelled total NO_2 (based upon empirical NO_x / NO_2 relationship) (µg/m^3)	Monitored total NO_2 (µg/m^3)	% Difference (adjusted modelled NO_2 vs. monitored NO_2)
30	4.62	4.133	84.9	107.8	50.3	53.4	-5.9
31	6.19		66.4	89.3	44.0	54.8	-19.7
32	3.17		63.9	86.8	43.2	37.6	14.8
36	4.13		34.7	57.6	31.8	31.8	0.0
37	4.89		83.4	106.4	49.8	54.6	-8.8
38	2.44		69.8	92.7	45.2	34.5	31.1
39	2.43		103.0	126.0	55.9	42.0	33.1
42	2.26		44.1	67.0	35.7	27.2	31.1
49	7.83		35.6	58.5	32.2	44.4	-27.5
158	5.14		64.3	87.3	43.3	48.7	-11.1
CM4	5.72		67.4	90.3	44.4	52.9	-16.1

A review of the monitored and modelled ratios revealed that the model was performing differently in different areas. It was noted that in the area of Lochee Road (between Rankine Street and Polepark Road) and Rankine Street that the model was under predicting by a greater degree to the rest of the modelled area. The model has therefore been split into two verification zones, one covering receptors around Lochee Road (between Rankine Street and Polepark Road) and Rankine Street (Zone B) and one covering the rest of the modelled area (Zone A). The areas of the two zones are illustrated in Figure A2.

Figure A2 – Verification Zones

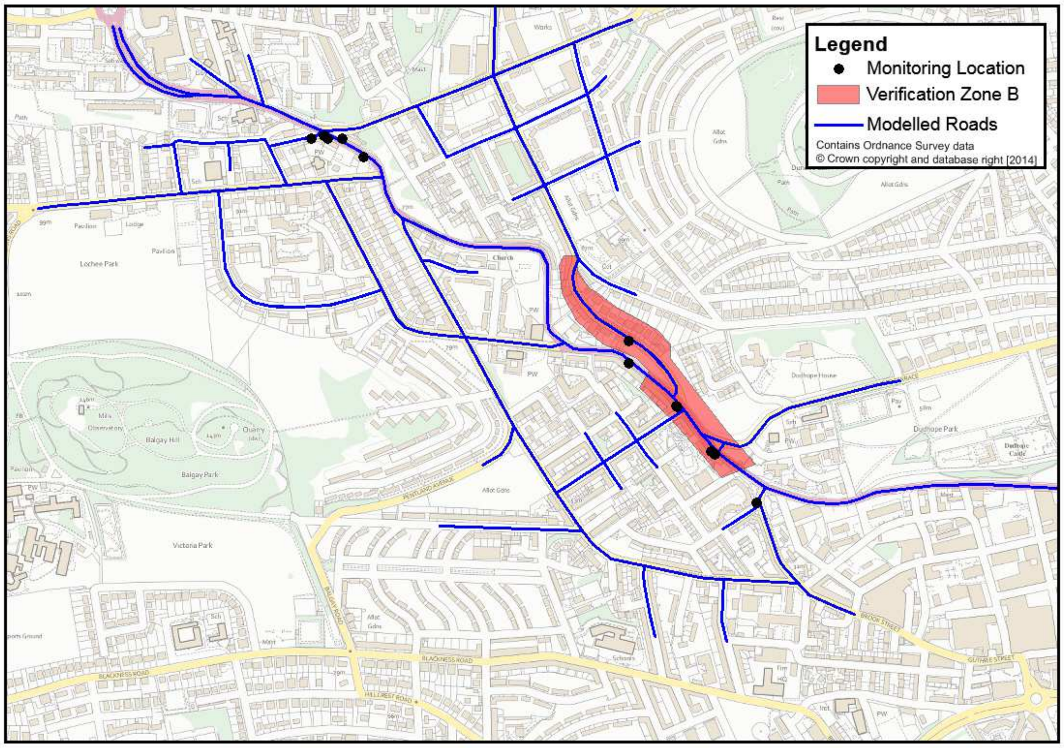


Figure A3 provides a comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x, and the equations of the trend line based on linear regression through zero for the monitoring locations in Zone A. The equation of the trend lines presented in Figure A3 gives an adjustment factor for Zone A of 3.170.

Figure A3 – Comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x in Verification Zone A

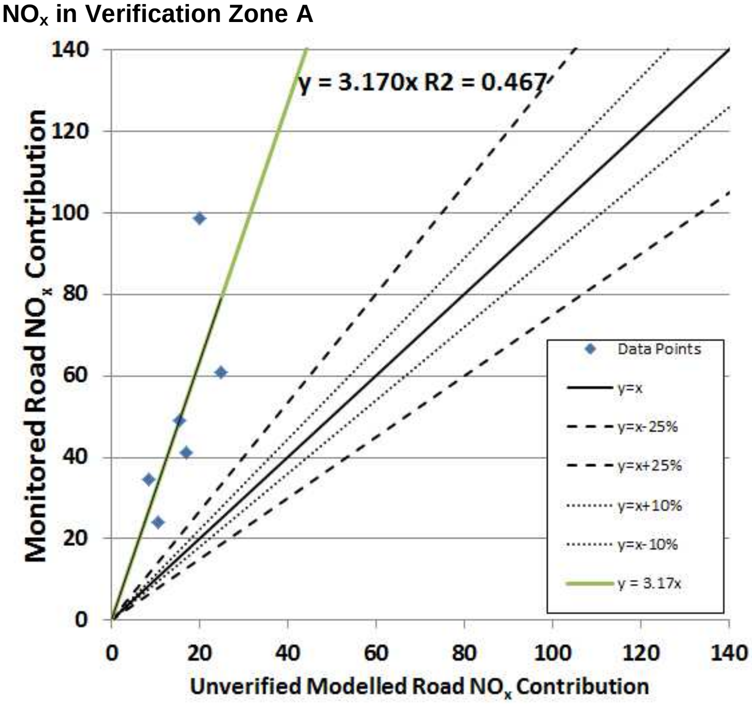
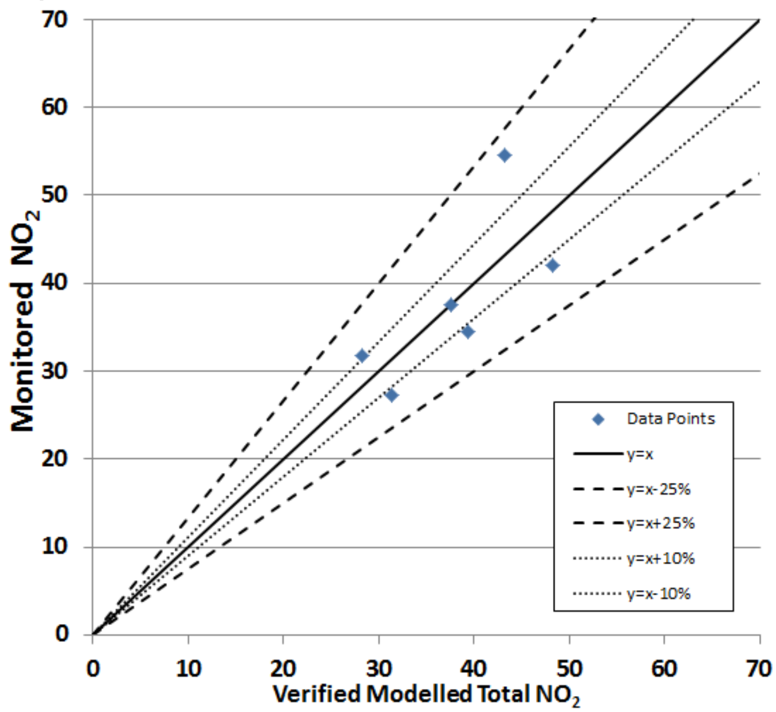


Table A5 and Figure A4 show the ratios between monitored and modelled NO_2 for each monitoring locations in Zone A. All sites considered show acceptable agreement between the ratios of monitored and modelled NO_2 all being ±25%. A verification factor of 3.170 was therefore used to adjust the model results in Zone A. A factor of 3.170 reduces the Root Mean Square Error (RMSE) from a value of 16.134 to 6.114.

Table A5 – Zone A Model NO_2 Verification

Site ID	Ratio of monitored road contribution NO_x / modelled road contribution NO_x	Adjustment factor for modelled road contribution NO_x	Adjusted modelled road contribution NO_x (µg/m^3)	Adjusted modelled total NO_x (including background NO_x) (µg/m^3)	Modelled total NO_2 (based upon empirical NO_x / NO_2 relationship) (µg/m^3)	Monitored total NO_2 (µg/m^3)	% Difference (adjusted modelled NO_2 vs. monitored NO_2)
32	3.17	3.170	49.0	71.9	37.6	37.6	0.0
36	4.13		26.6	49.5	28.3	31.8	-11.0
37	4.89		64.0	86.9	43.2	54.6	-20.9
38	2.44		53.5	76.5	39.3	34.5	14.0
39	2.43		79.0	102.0	48.4	42.0	15.1
42	2.26		33.8	56.7	31.4	27.2	15.6

Figure A4 – Comparison of the Modelled NO_2 versus Monitored NO_2 in Verification Zone A



The adjustment factor 3.170 was applied to the road-NO_x concentrations predicted by the model to arrive at the final NO_2 concentrations in Zone A.

Figure A5 provides a comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x, and the equations of the trend line based on linear regression through zero for the monitoring locations in Zone B. The equation of the trend lines presented in Figure A5 gives an adjustment factor for Zone B of 5.460.

Figure A5 – Comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x in Verification Zone B

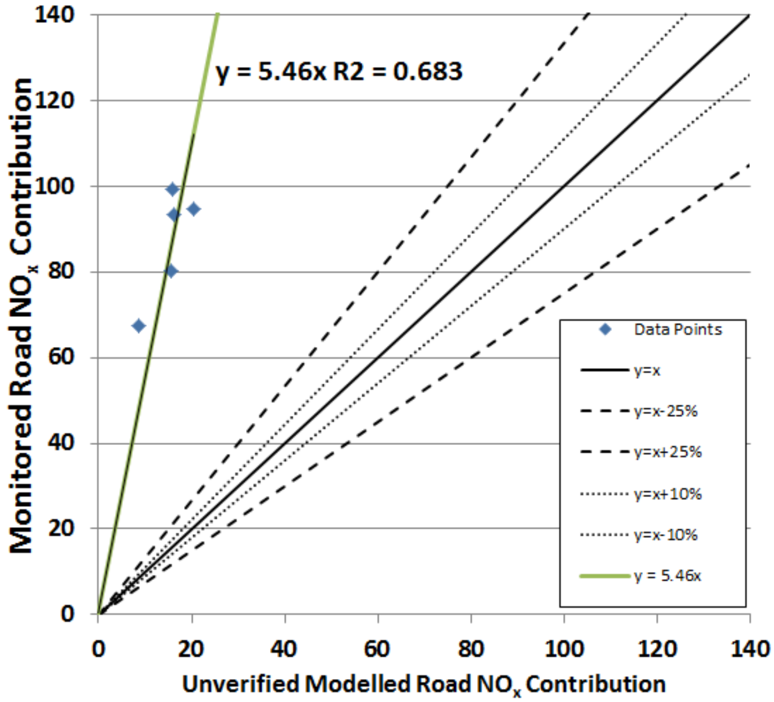
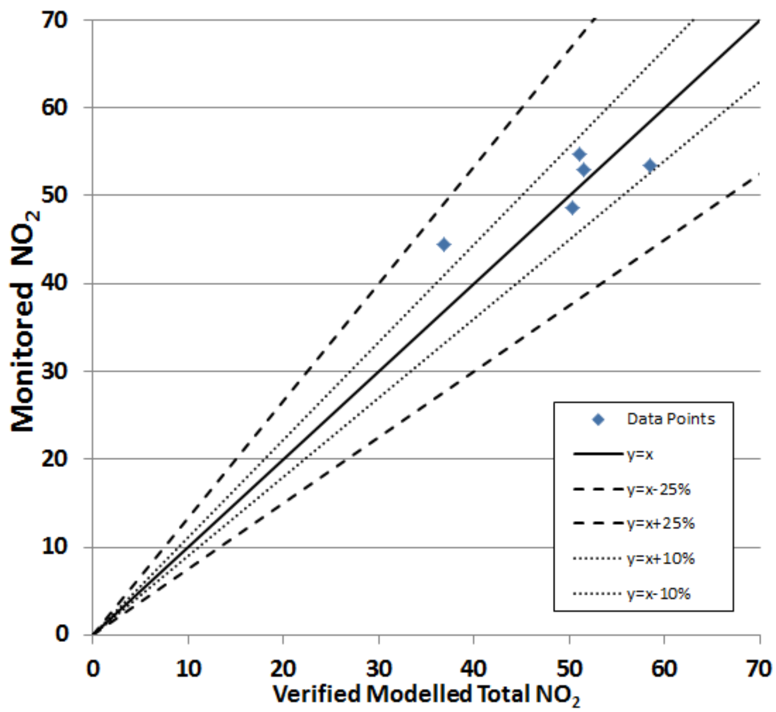


Table A6 and Figure A6 show the ratios between monitored and modelled NO_2 for each monitoring locations in Zone B. All sites considered show acceptable agreement between the ratios of monitored and modelled NO_2 all being ±25%. A verification factor of 5.460 was therefore used to adjust the model results in Zone B. A factor of 5.460 reduces the Root Mean Square Error (RMSE) from a value of 27.776 to 4.509.

Table A6 – Zone B Model NO_2 Verification

Site ID	Ratio of monitored road contribution NO_x / modelled road contribution NO_x	Adjustment factor for modelled road contribution NO_x	Adjusted modelled road contribution NO_x (µg/m^3)	Adjusted modelled total NO_x (including background NO_x) (µg/m^3)	Modelled total NO_2 (based upon empirical NO_x / NO_2 relationship) (µg/m^3)	Monitored total NO_2 (µg/m^3)	% Difference (adjusted modelled NO_2 vs. monitored NO_2)
30	4.62	5.460	112.1	135.0	58.6	53.4	9.7
31	6.19		87.7	110.6	51.2	54.8	-6.6
49	7.83		47.0	69.9	36.8	44.4	-17.1
CM4	5.72		89.0	111.9	51.6	52.9	-2.5
158	5.14		85.0	107.9	50.3	48.7	3.3

Figure A6 – Comparison of the Modelled NO_2 versus Monitored NO_2 in Verification Zone B



The adjustment factor 5.460 was applied to the road-NOx concentrations predicted by the model to arrive at the final NO_2 concentrations in Zone B.

NO_2 results presented and discussed herein within Zones A and B are those calculated following the process of model verification using adjustment factors of 3.170 and 5.460 respectively.

PM_{10} Verification

Dundee City Council undertakes PM_{10} monitoring as part of its LAQM commitments at 13 locations, of which two sites (as shown in Table A7) are in the vicinity of the modelled road network. None of the PM_{10} monitoring locations in the modelled area are urban background sites and so are not suitable for representing background conditions. Background PM_{10} concentrations have therefore been taken from the Mains Loan (CM12) urban background site located approximately 1.0km from the modelled road network. Details of CM12 are also provided in Table A7.

Table A7 – Local PM_{10} Monitoring Data Available for Model Verification

Site I.D.	Site Name	Site Type	OS Grid Ref	2012 Annual Mean NO_2 Concentration ($\mu g/m^3$)
CM4	Lochee Road Romon (BAM)	RS	338861, 730773	16.5
CM12	Mains Loan (TEOM)	UB	340972, 731893	11.4
CM9	Logie Street (Osiris)	KS	338176, 731298	**18.0**

As detailed in LAQM.TG(09), the TEOM monitoring site (CM4) is suitable for the purpose of model verification. However the Osiris monitor at CM9 is not. Verification has therefore been undertaken using site CM4 only.

PM_{10} annual mean background values have been assumed to be 11.4µg/m^3 as observed in 2012 at CM12. This has then been subtracted from the roadside contribution recorded at CM4 to give a PM_{10} concentration due to road emissions. The modelled road PM_{10} concentration is split between those PM_{10} emissions from vehicle exhausts and those PM_{10} emissions from Brake, Tyre Wear and Abrasion (BTWA) of vehicles.

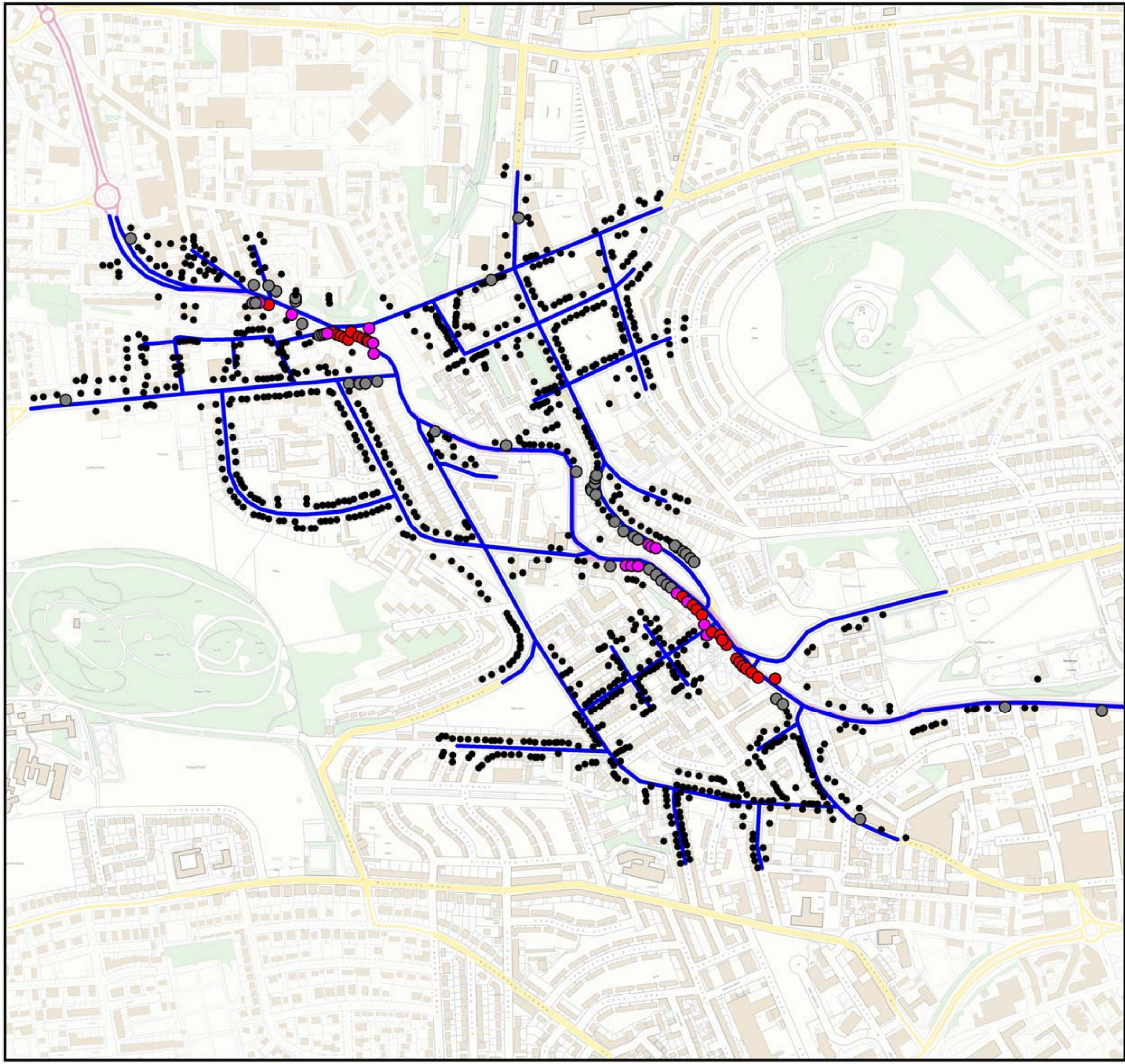
The BTWA portion of the PM_{10} emission should not require any verification as BTWA emissions should be consistent regardless of local conditions. Verification has therefore been undertaken using the exhaust portion of the PM_{10} emission only. As shown in Table A8 verification against the exhaust portion of the modelled PM_{10} concentration results in an emission factor for site CM4 of 9.731.

Table A8 – Data Required for PM_{10} Adjustment Factor Calculation

Site ID	PM_{10} Concentration($\mu g/m^3$)						Verification Factor
	Monitored total	Monitored Road	Modelled Exhaust	Modelled BTWA	Modelled total	Monitored Road Exhaust (Monitored Roadside – Modelled BTWA)	Monitored Road Exhaust / Modelled Exhaust
CM4	16.5	5.1	0.46	0.64	1.09	4.5	9.731

PM_{10} results presented and discussed herein are those calculated following the process of model verification using an adjustment factor 9.731.

Appendix 4 – Figures



BC NO2 Concentration Ground Floor Level (ug/m3)

<30	(938)
30 to 36	(49)
36 to 40	(17)
>40	(25)

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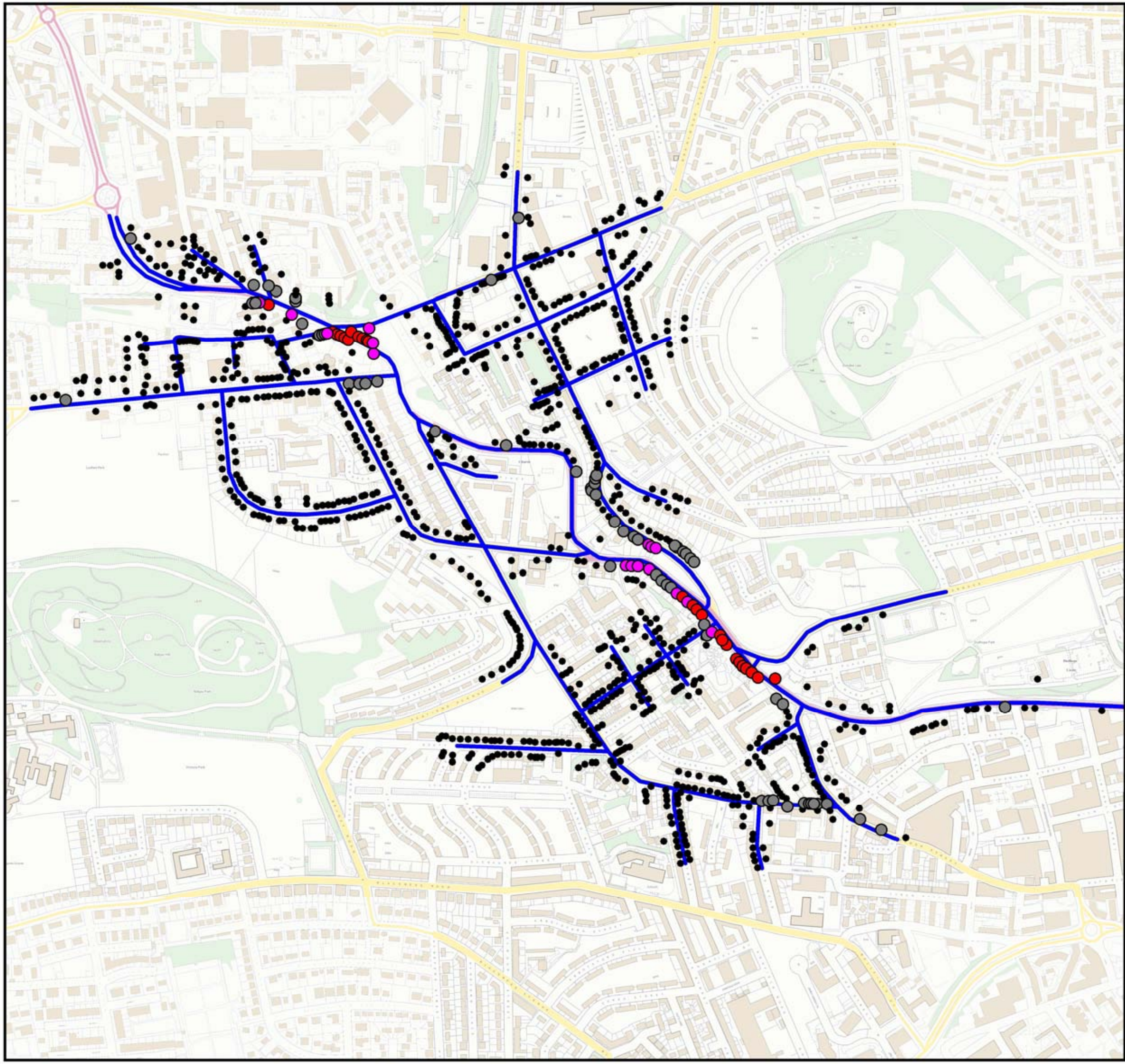
By	FL
Checked	JC
Approved	JC
Scale	N.T.S.
Date	April 2016
Job No.	AGGX7725624
Fig. No.	A7



SC1 NO2 Concentration Ground Floor Level (ug/m3)

- <30 (928)
- 30 to 36 (60)
- 36 to 40 (16)
- >40 (25)

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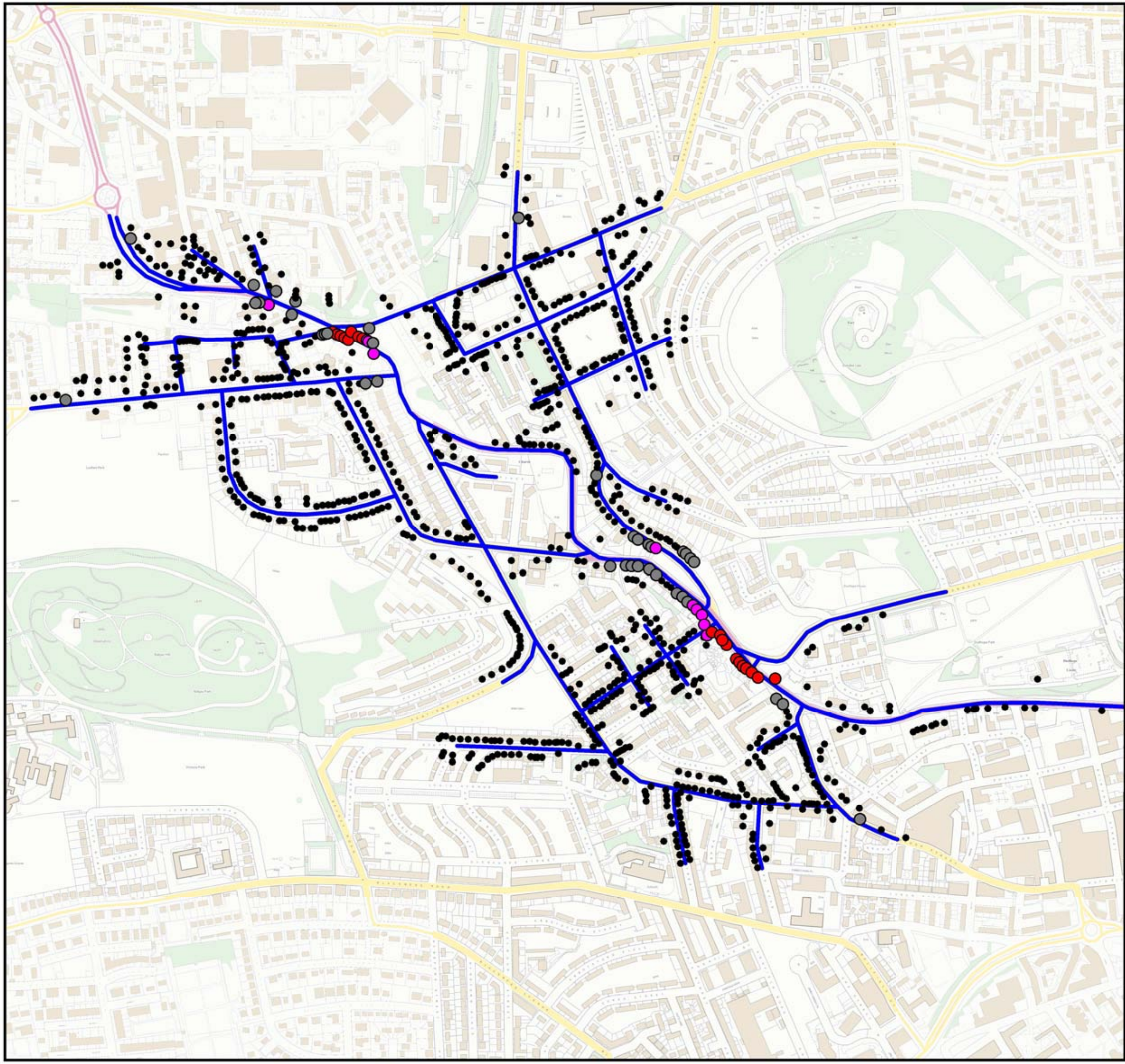
Job No.	Fig. No.
AGGX7725624	**A8**



SC3 NO2 Concentration Ground Floor Level (ug/m3)

- <30 (963)
- 30 to 36 (37)
- 36 to 40 (10)
- >40 (19)

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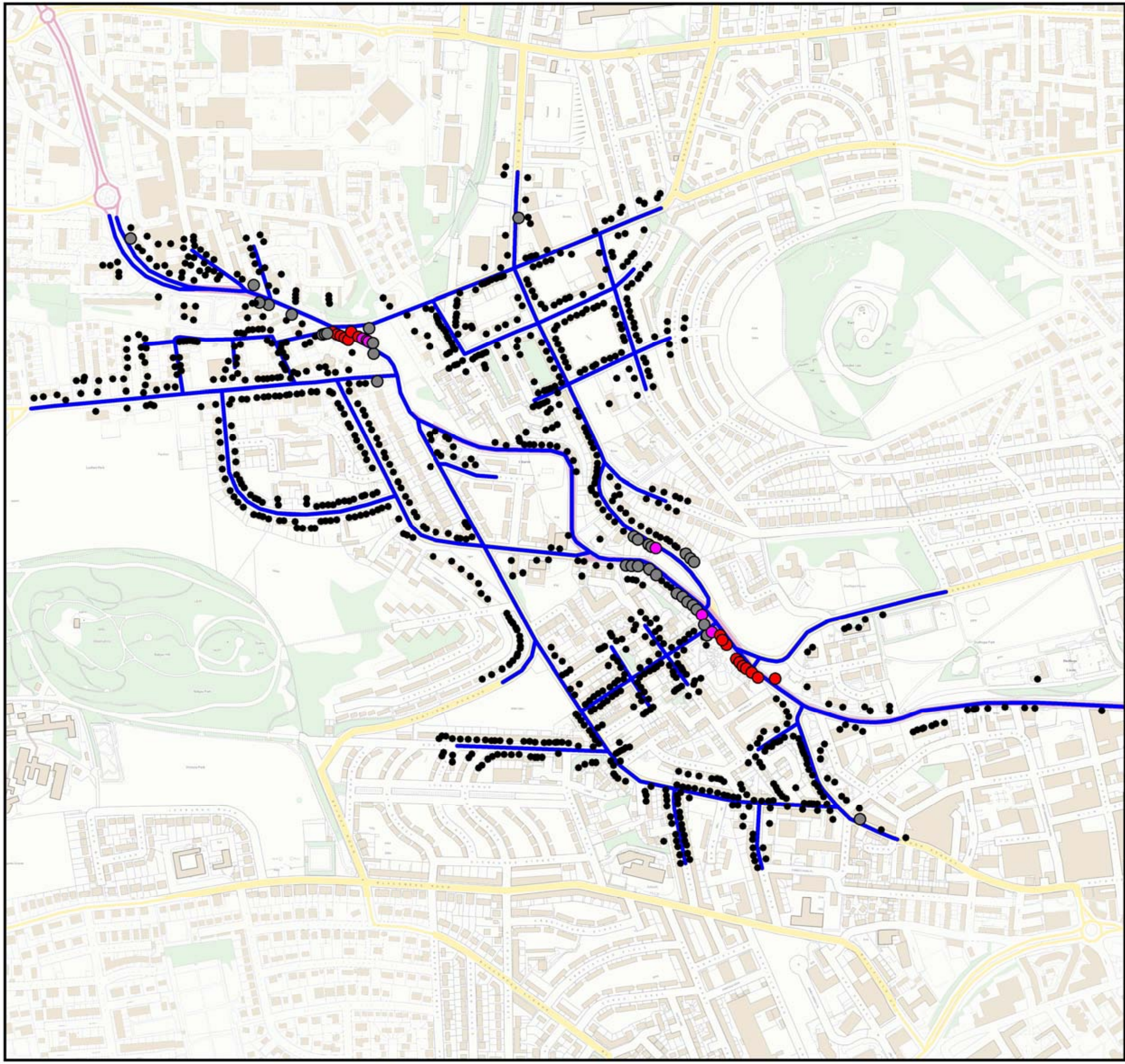
Scale: **N.T.S.**	Date: **April 2016**
Job No.: **AGGX7725624**	Fig. No.: **A9**



SC4 NO2 Concentration
Ground Floor Level (ug/m3)

•	<30	(973)
●	30 to 36	(33)
●	36 to 40	(6)
●	>40	(17)

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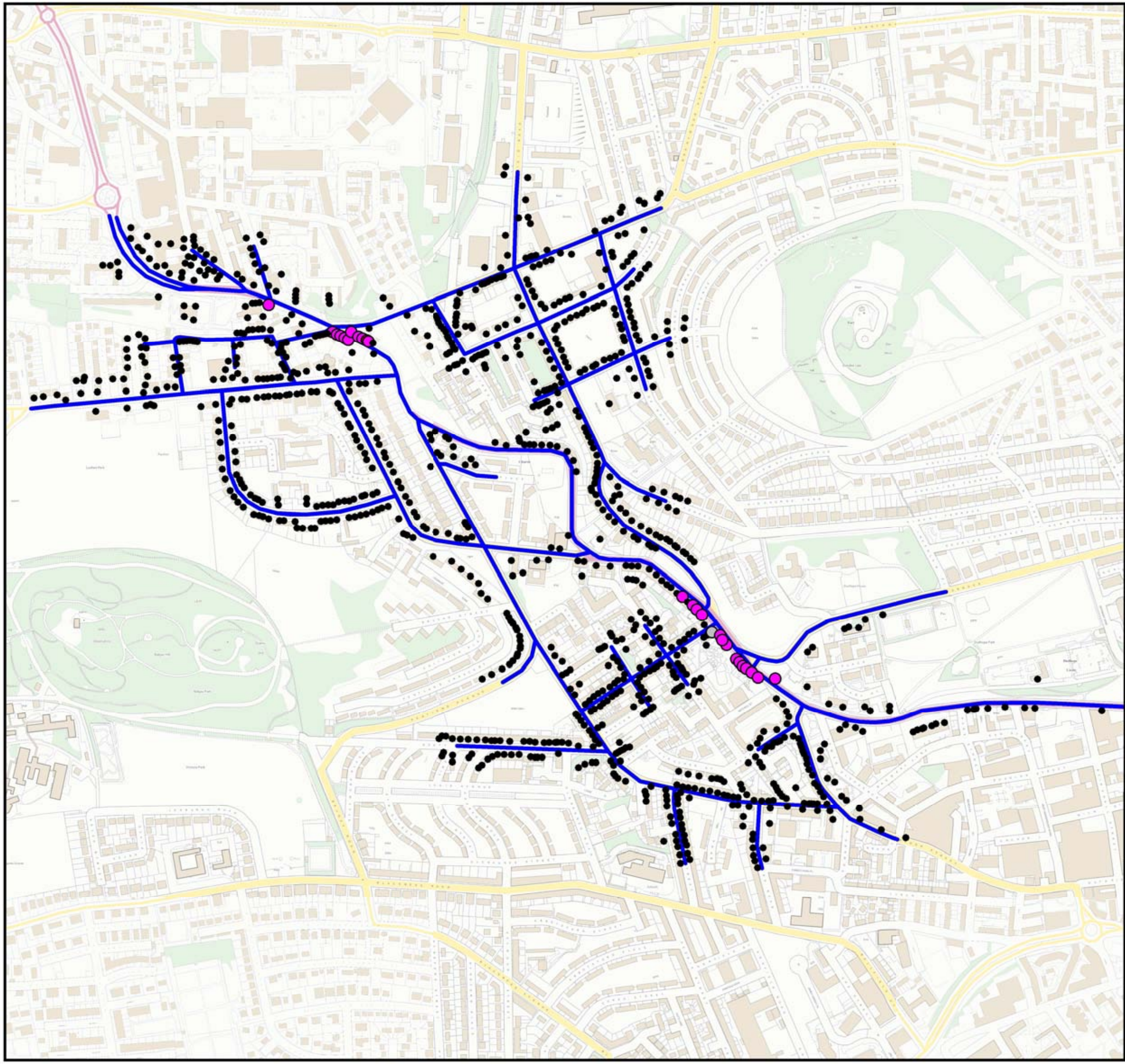
Job No.	Fig. No.
AGGX7725624	**A10**



SC1 Impact NO2
Ground Floor Level

• Not Exceeding	(1003)
Exceedence Remains	(24)
New Exceedence	(1)
Removes Exceedence	(1)

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Job No.	Fig. No.
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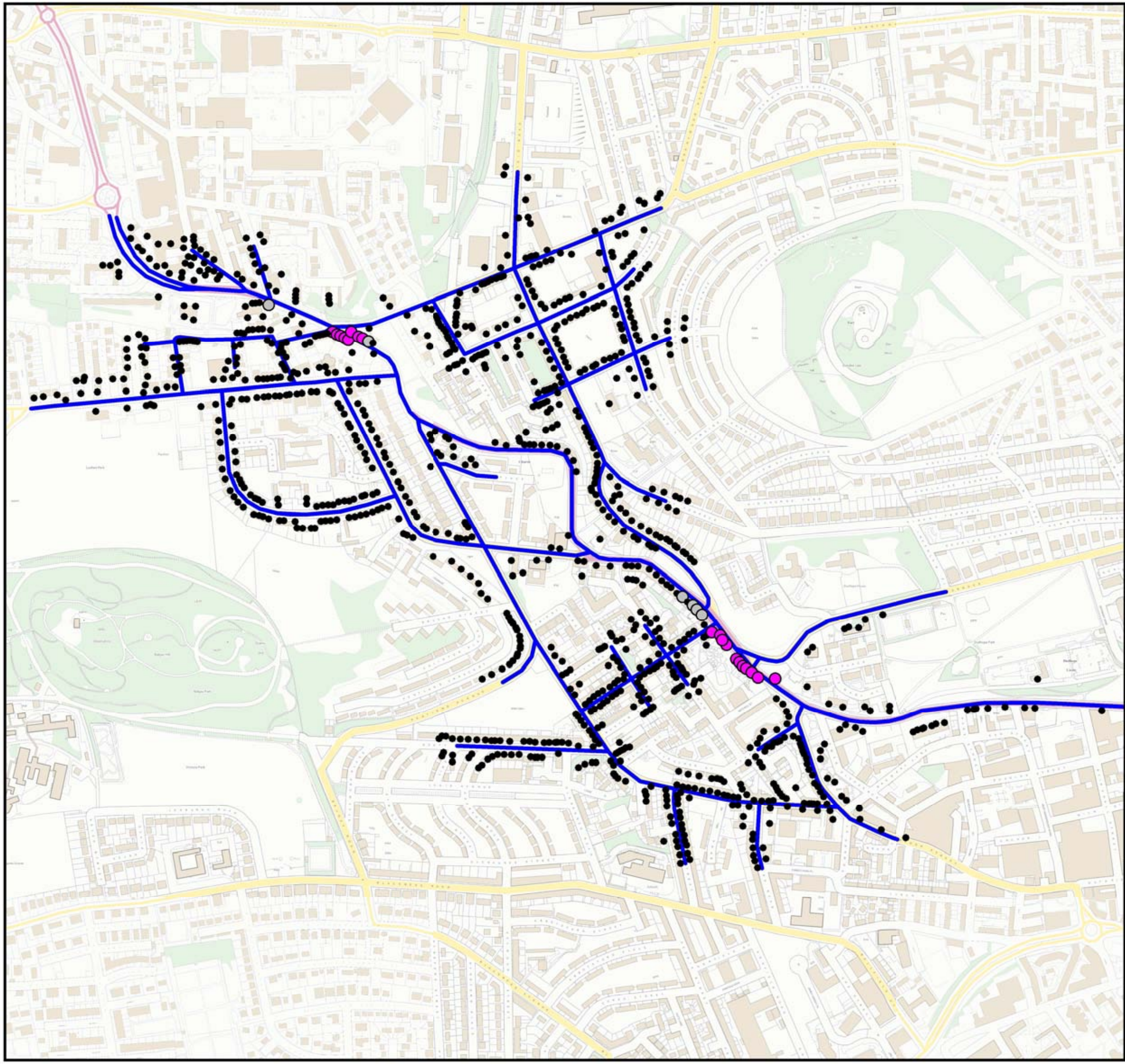

SC3 Impact NO2
Ground Floor Level

- Not Exceeding (1004)
- Exceedence Remains (19)
- New Exceedence (0)
- Removes Exceedence (6)

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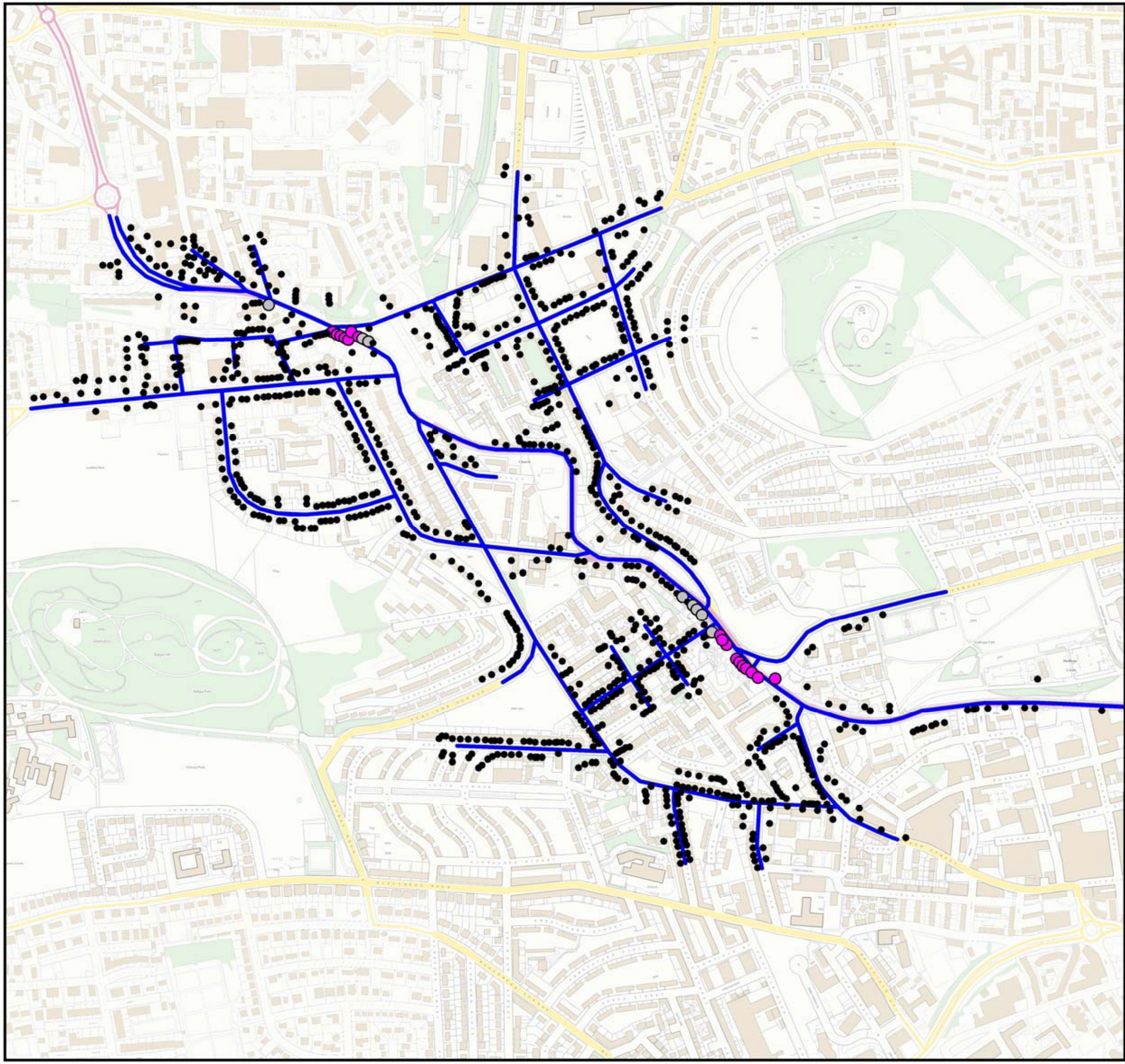
Job No.	Fig. No.
AGGX7725624	**A12**



SC4 Impact NO2 Ground Floor Level

- Not Exceeding (1004)
- Exceedence Remains (17)
- New Exceedence (0)
- Removes Exceedence (8)

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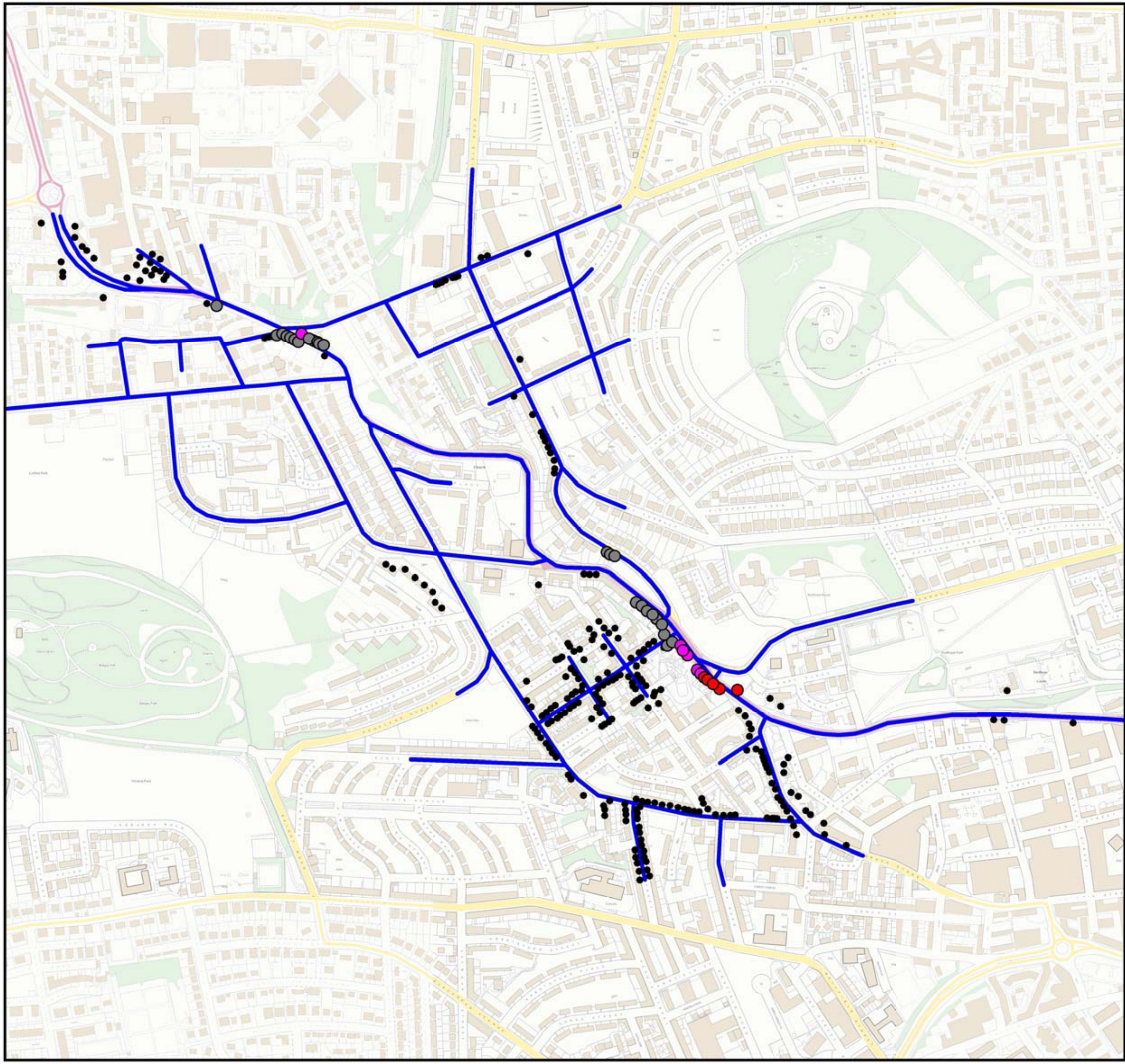
Job No.	Fig. No.
AGGX7725624	**A13**



BC NO2 Concentration First Floor Level (ug/m3)

- <30 (244)
- 30 to 36 (24)
- 36 to 40 (6)
- >40 (5)

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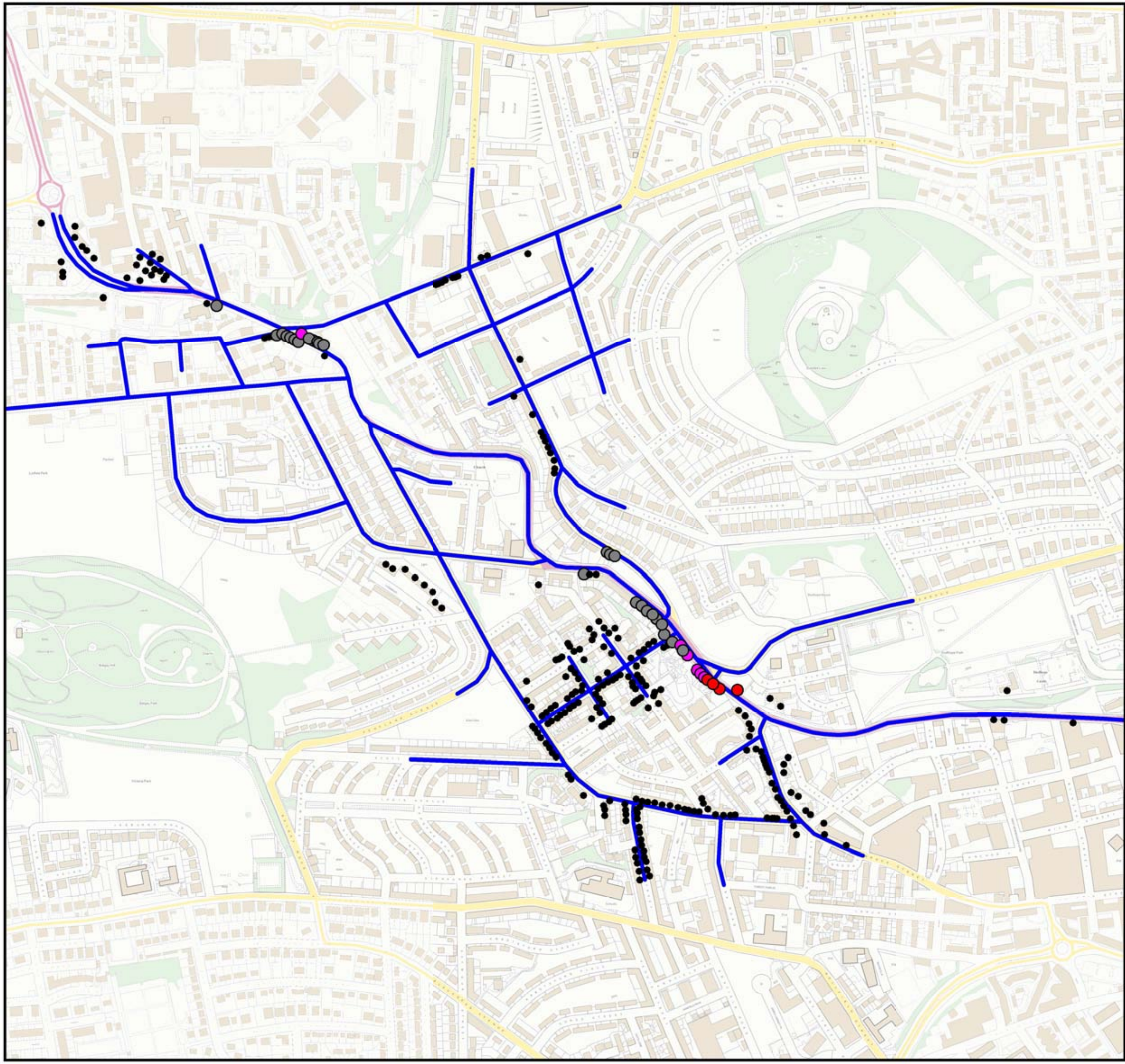
Job No.	Fig. No.
AGGX7725624	**A14**



SC1 NO2 Concentration First Floor Level (ug/m3)

- <30 (244)
- 30 to 36 (25)
- 36 to 40 (6)
- >40 (4)

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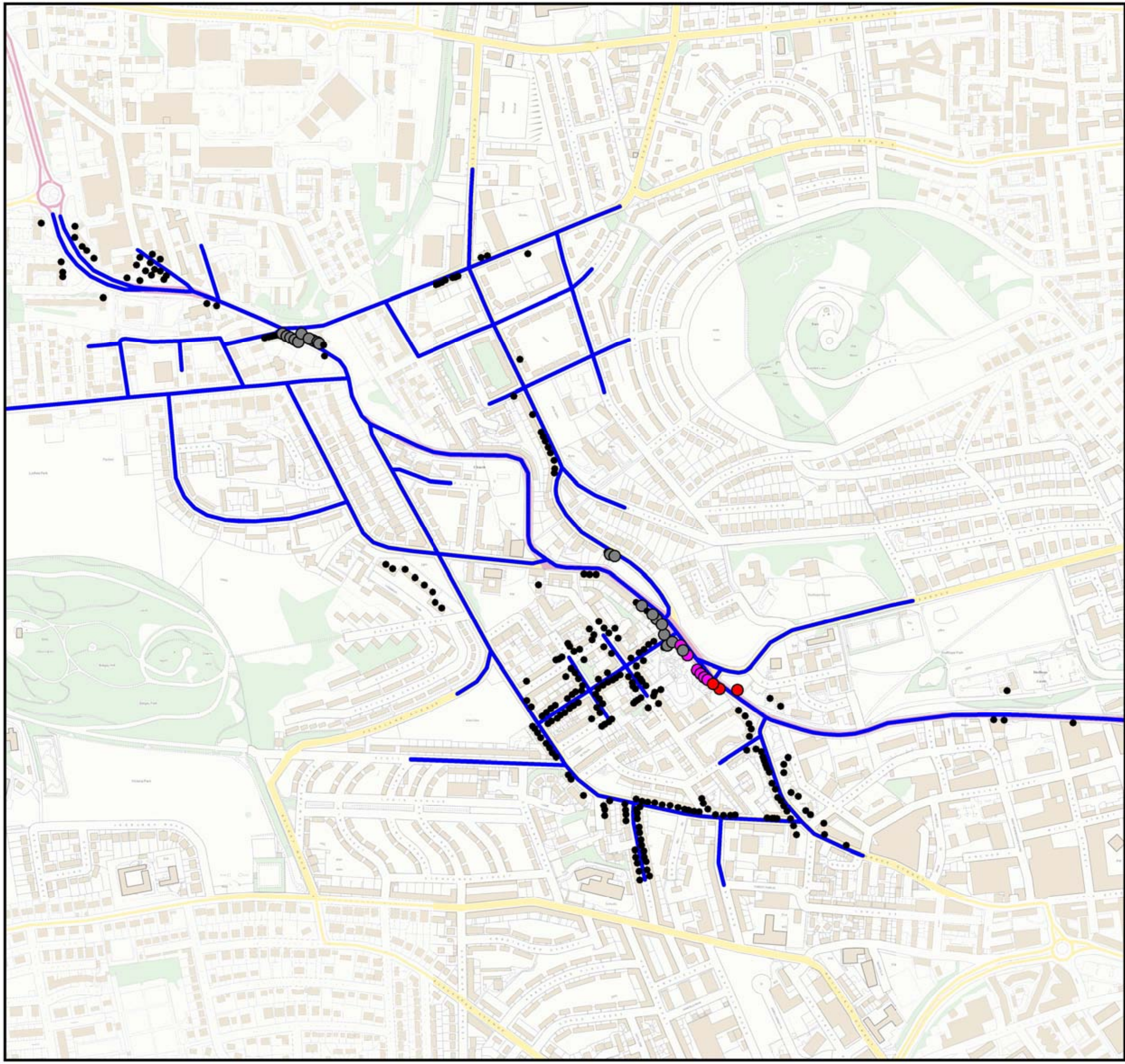
By **FL**	Checked **JC**	Approved **JC**
Scale **N.T.S.**	Date **April 2016**	
Job No. **AGGX7725624**	Fig. No. **A15**	



SC3 NO2 Concentration First Floor Level (ug/m3)

- <30 (250)
- 30 to 36 (20)
- 36 to 40 (6)
- >40 (3)

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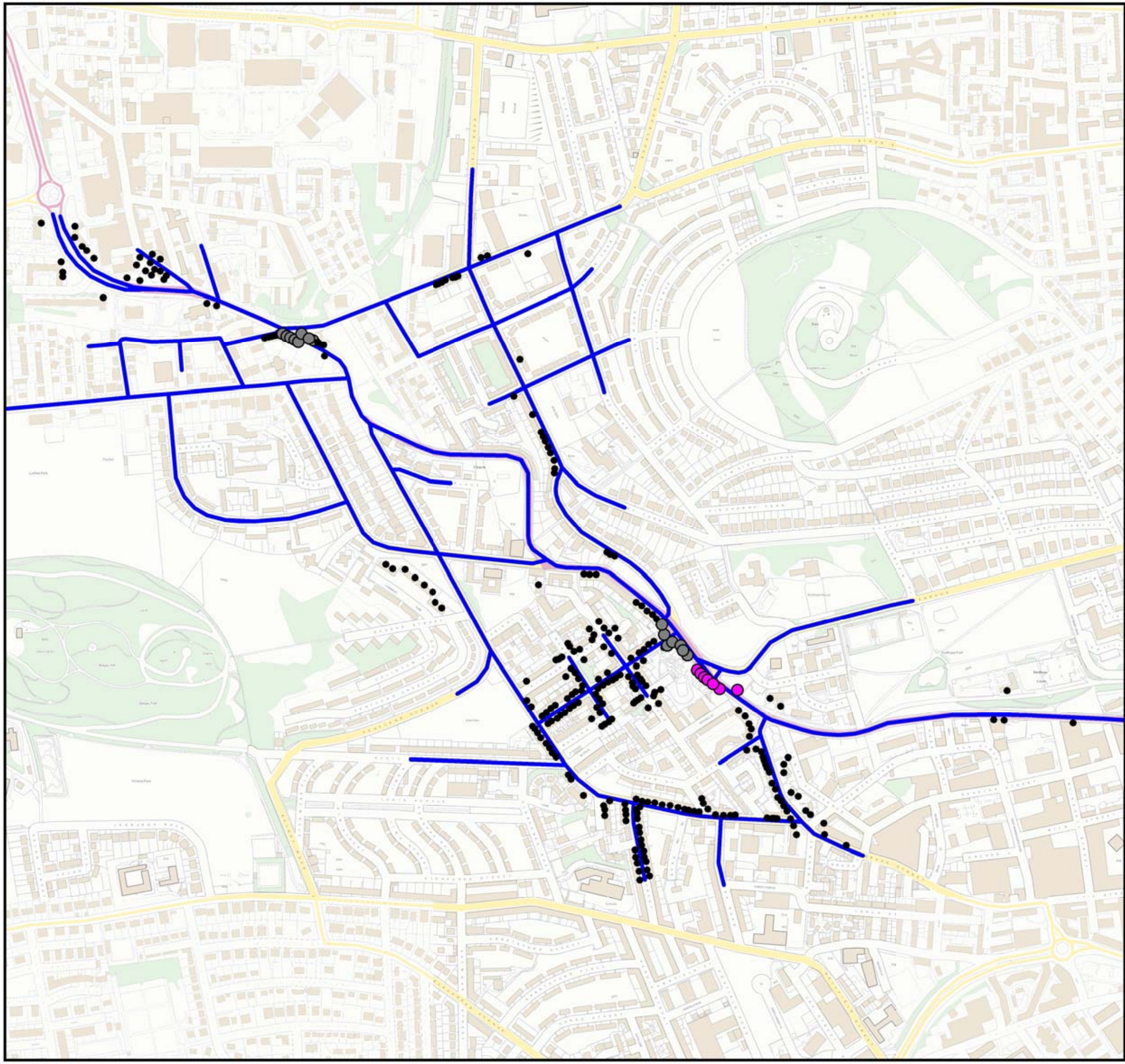
Approved	**JC**
Scale	**N.T.S.**
Date	**April 2016**
Job No.	**AGGX7725624**
Fig. No.	**A16**



SC4 NO2 Concentration First Floor Level (ug/m3)

- <30 (257)
- 30 to 36 (15)
- 36 to 40 (7)
- >40 (0)

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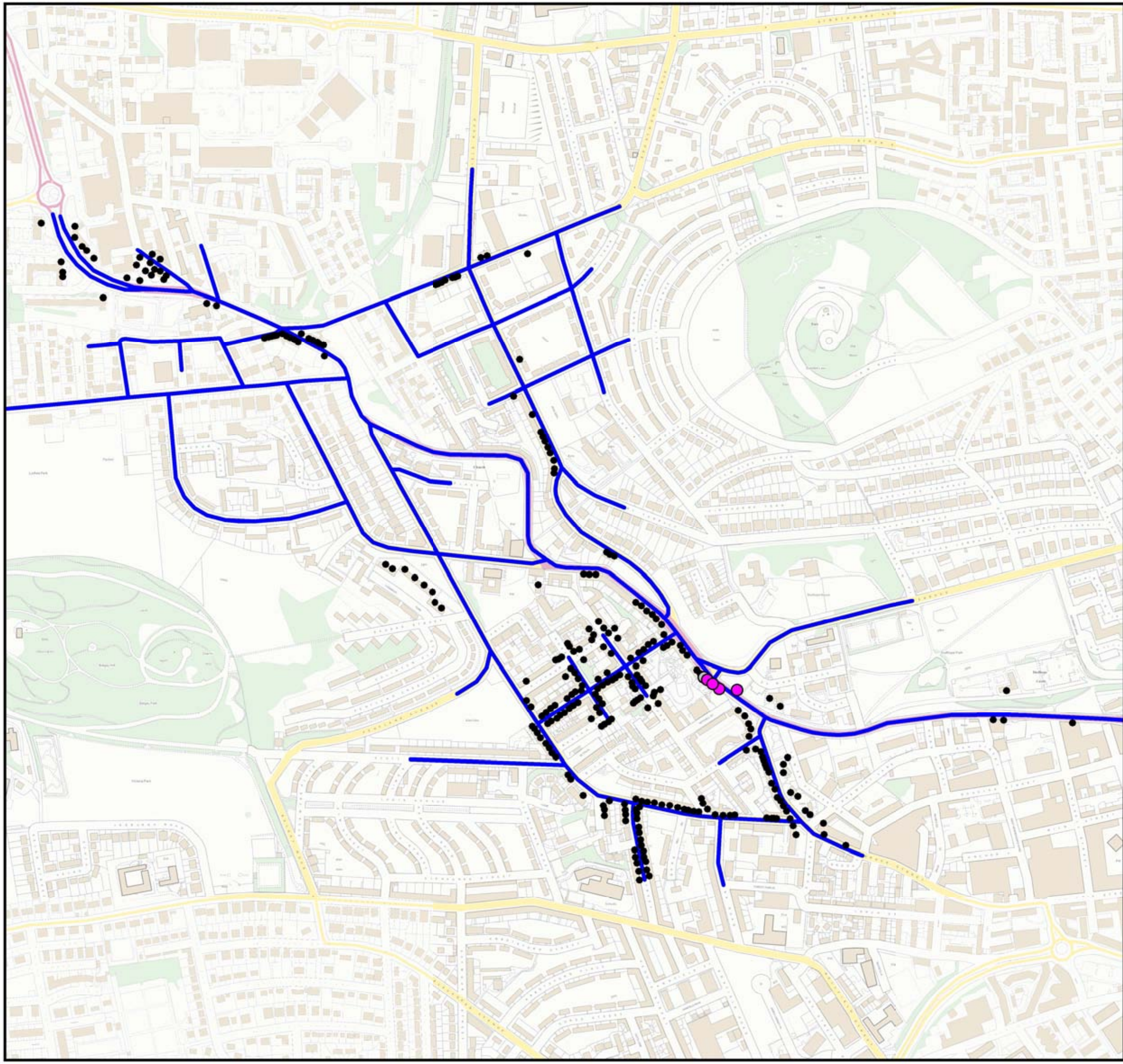
Scale **N.T.S.**	Date **April 2016**
Job No. **AGGX7725624**	Fig. No. **A17**



SC1 Impact NO2
First Floor Level

- Not Exceeding (274)
- Exceedance Remains (4)
- New Exceedance (0)
- Removes Exceedance (1)

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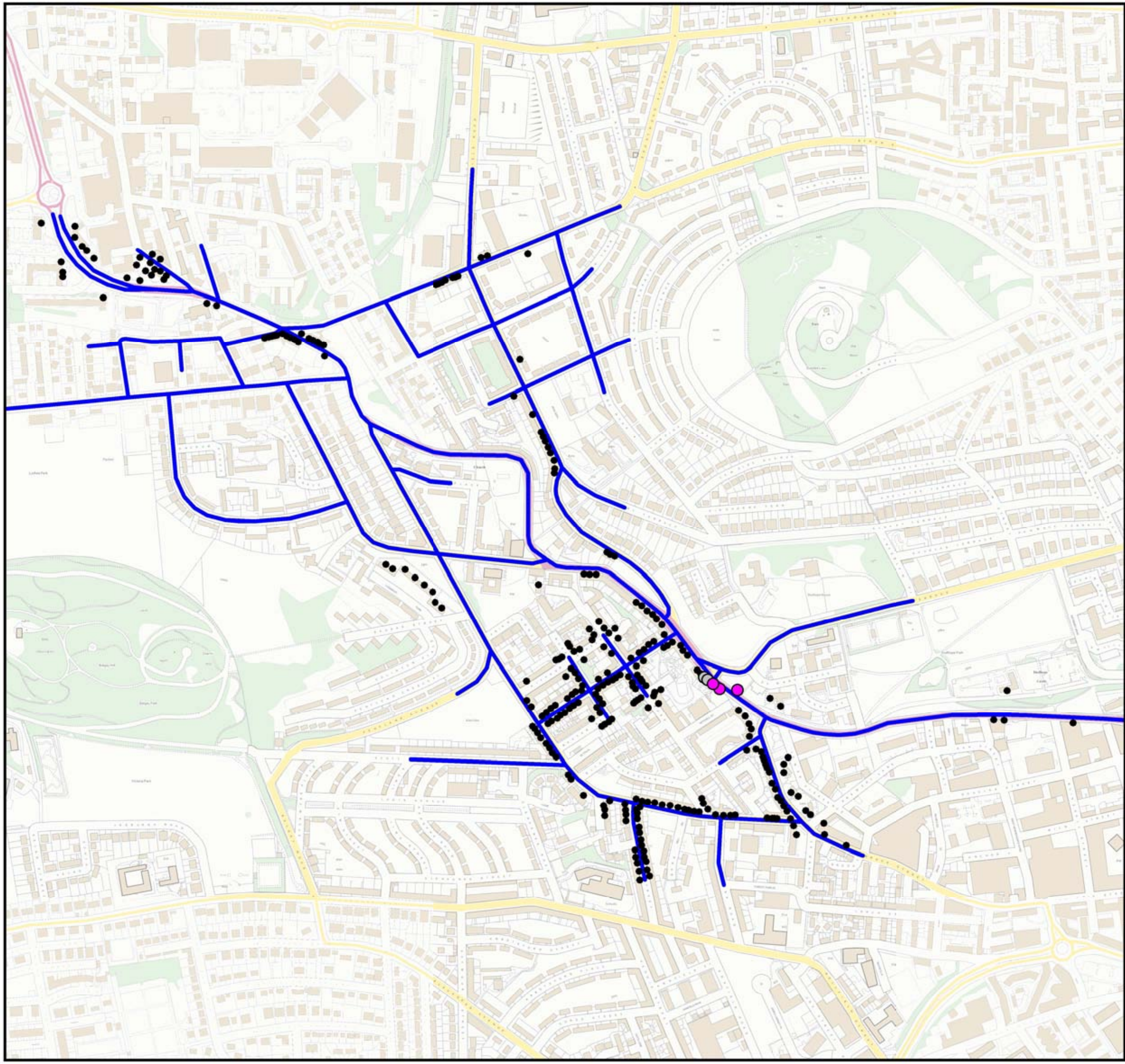
Job No.	Fig. No.
AGGX7725624	**A18**



SC3 Impact NO2
First Floor Level

•	Not Exceeding	(274)
●	Exceedance Remains	(3)
●	New Exceedance	(0)
●	Removes Exceedance	(2)

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Scale	Date
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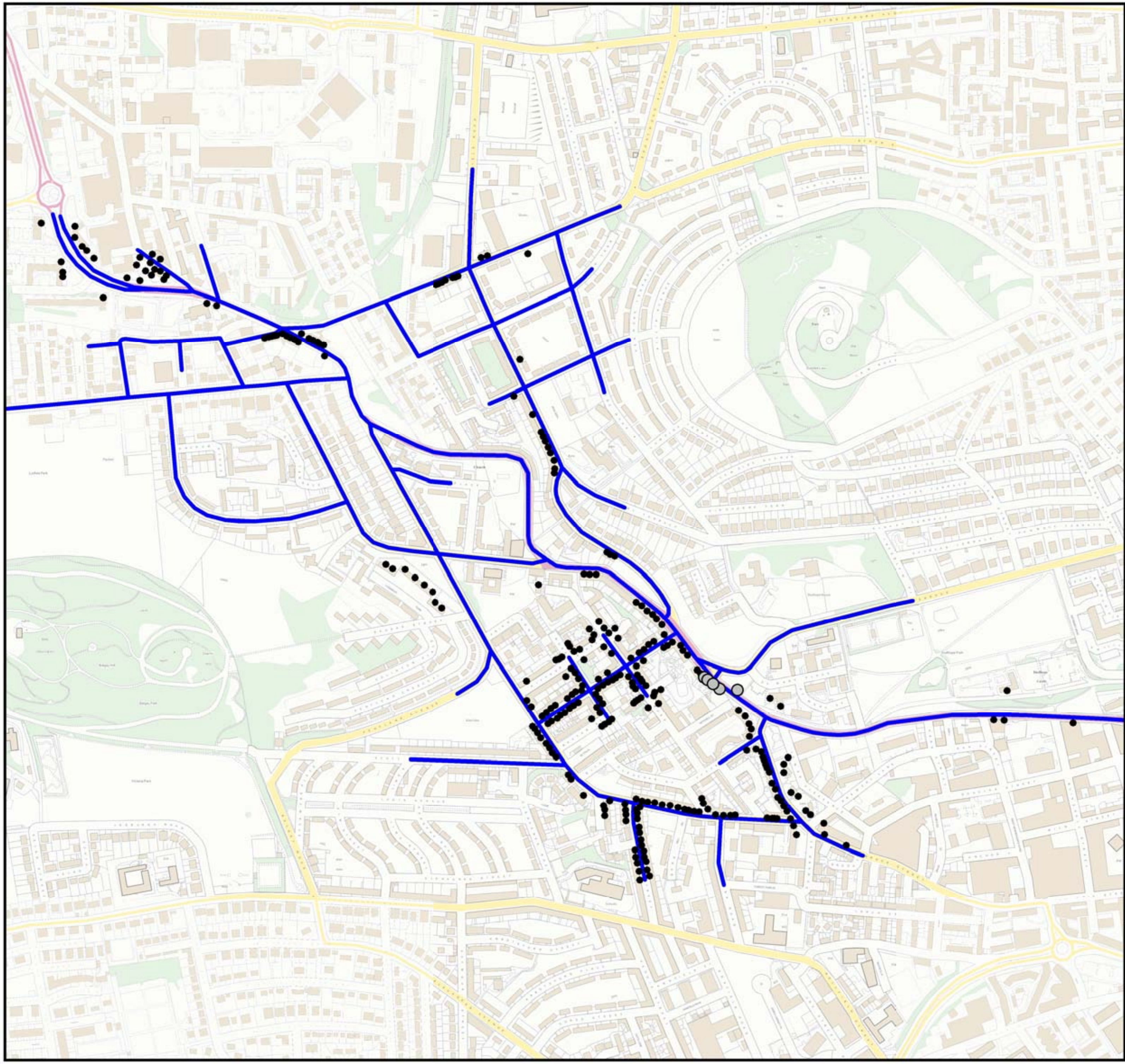
Job No.	Fig. No.
AGGX7725624	**A19**



SC4 Impact NO2
First Floor Level

- Not Exceeding (274)
- Exceedance Remains (0)
- New Exceedance (0)
- Removes Exceedance (5)

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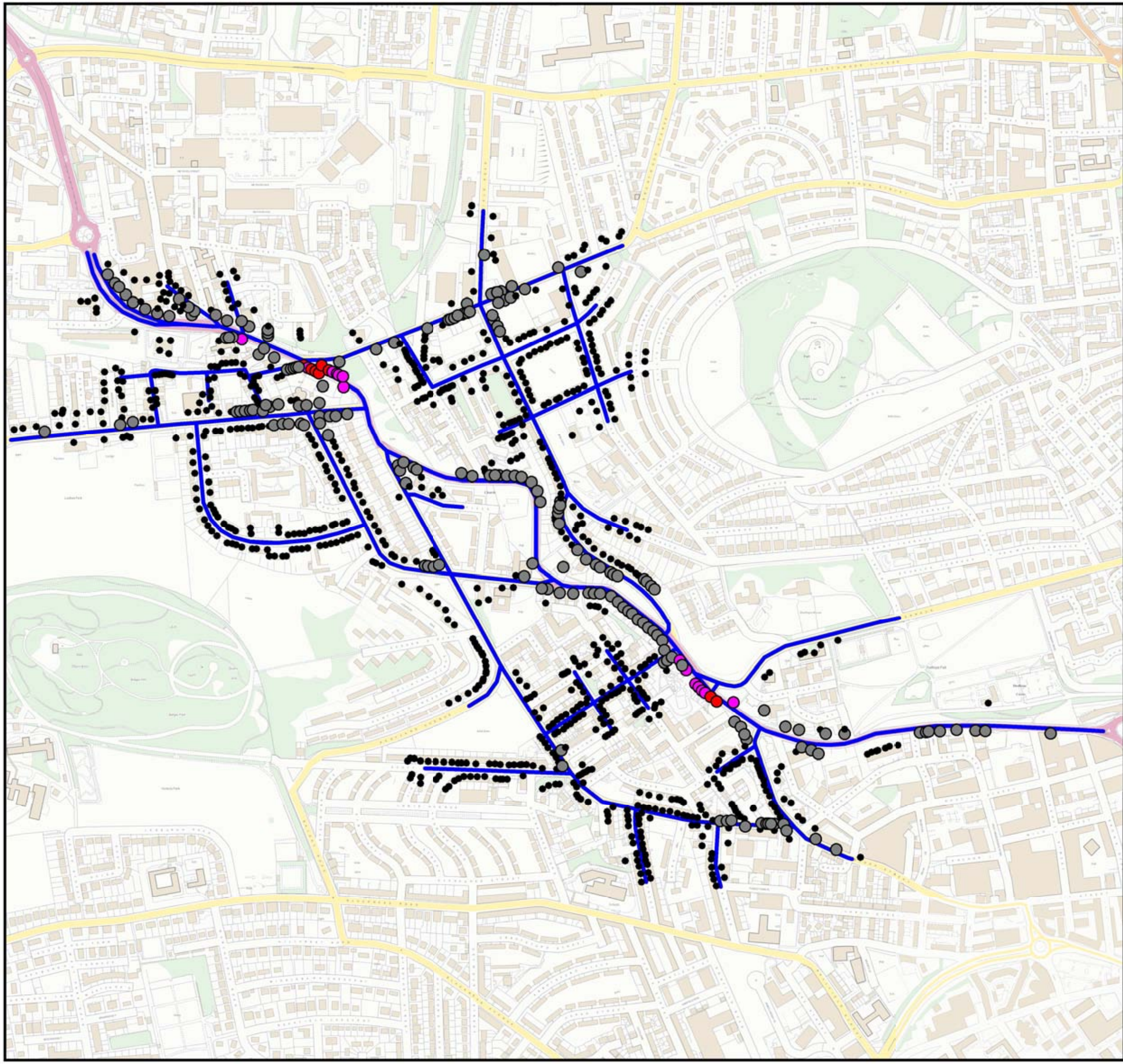
Job No.	Fig. No.
AGGX7725624	A20



BC PM10 Concentration Ground Floor Level (ug/m3)

<13.5	(823)
13.5 to 16.2	(184)
16.2 to 18	(14)
>18	(8)

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Scale	Date
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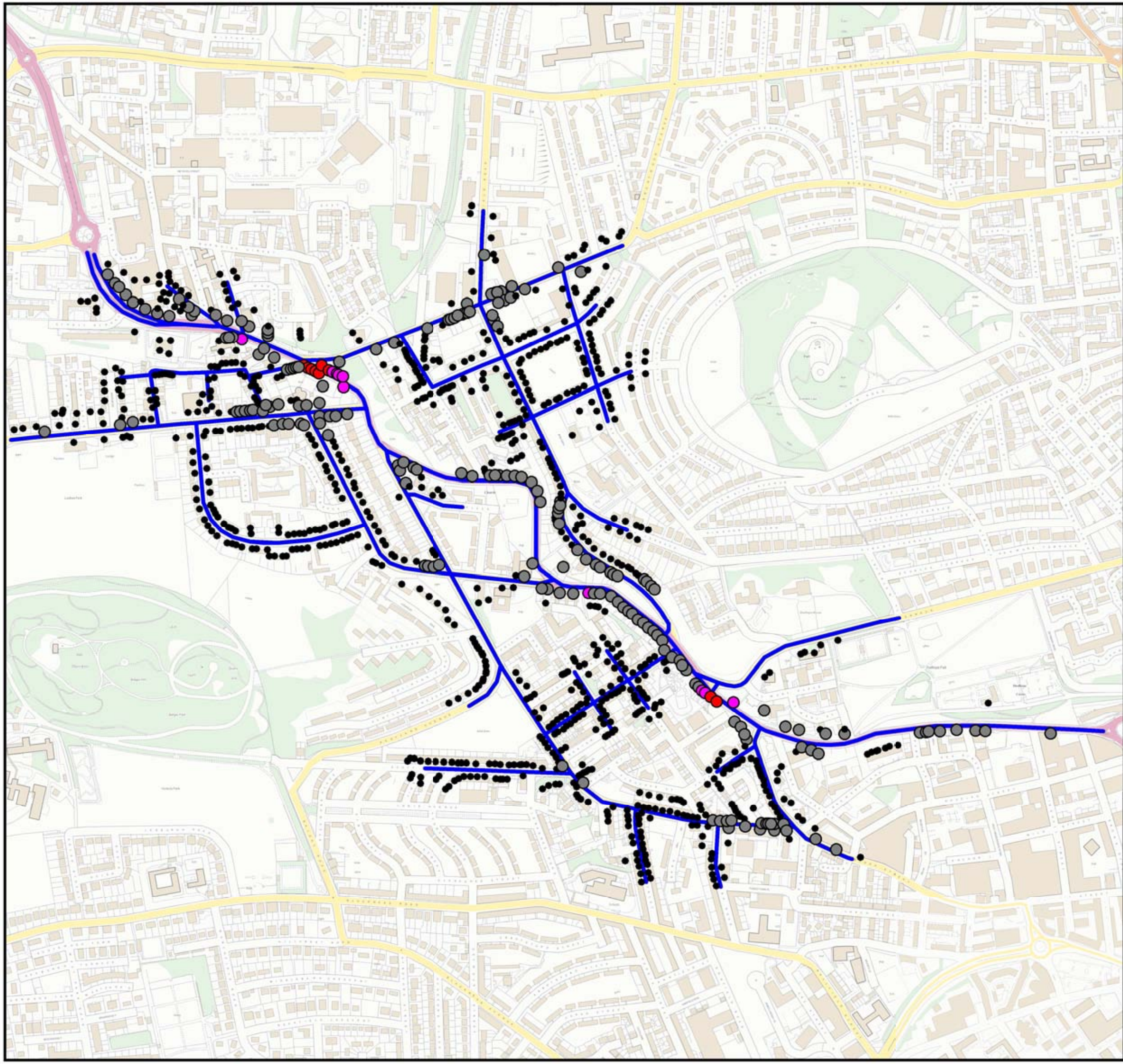
Job No.	Fig. No.
AGGX7725624	**A21**



SC1 PM10 Concentration Ground Floor Level (ug/m3)

•	<13.5	(822)
● grey	13.5 to 16.2	(188)
● magenta	16.2 to 18	(10)
● red	>18	(9)

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Title: **ADMS Model Results**

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Scale	Date
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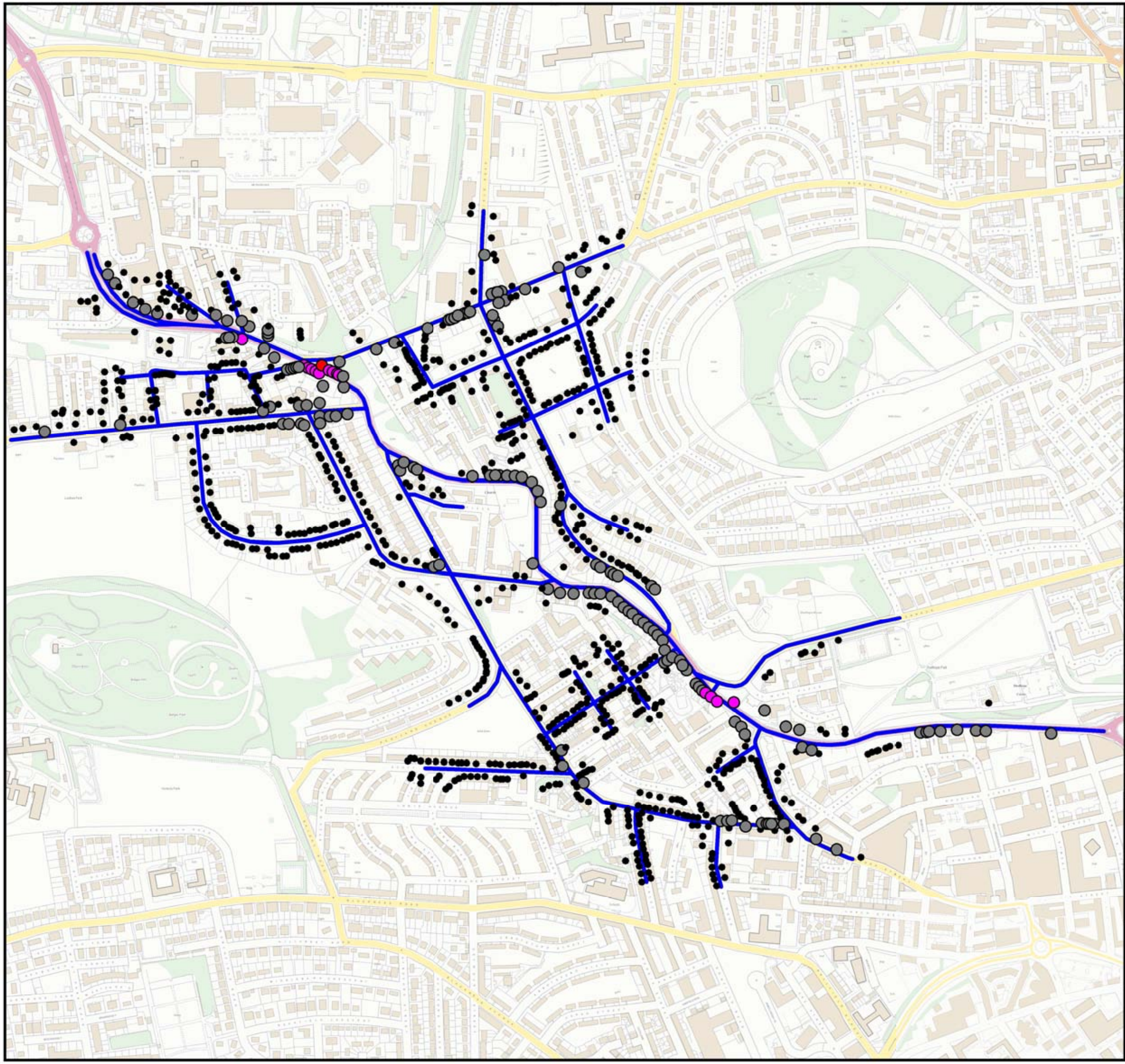
Job No.	Fig. No.
AGGX7725624	A22



SC3 PM10 Concentration Ground Floor Level (ug/m3)

<13.5	(863)
13.5 to 16.2	(151)
16.2 to 18	(14)
>18	(1)

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Location
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Title
ADMS Model Results

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FL	**JC**	**JC**

Scale	Date
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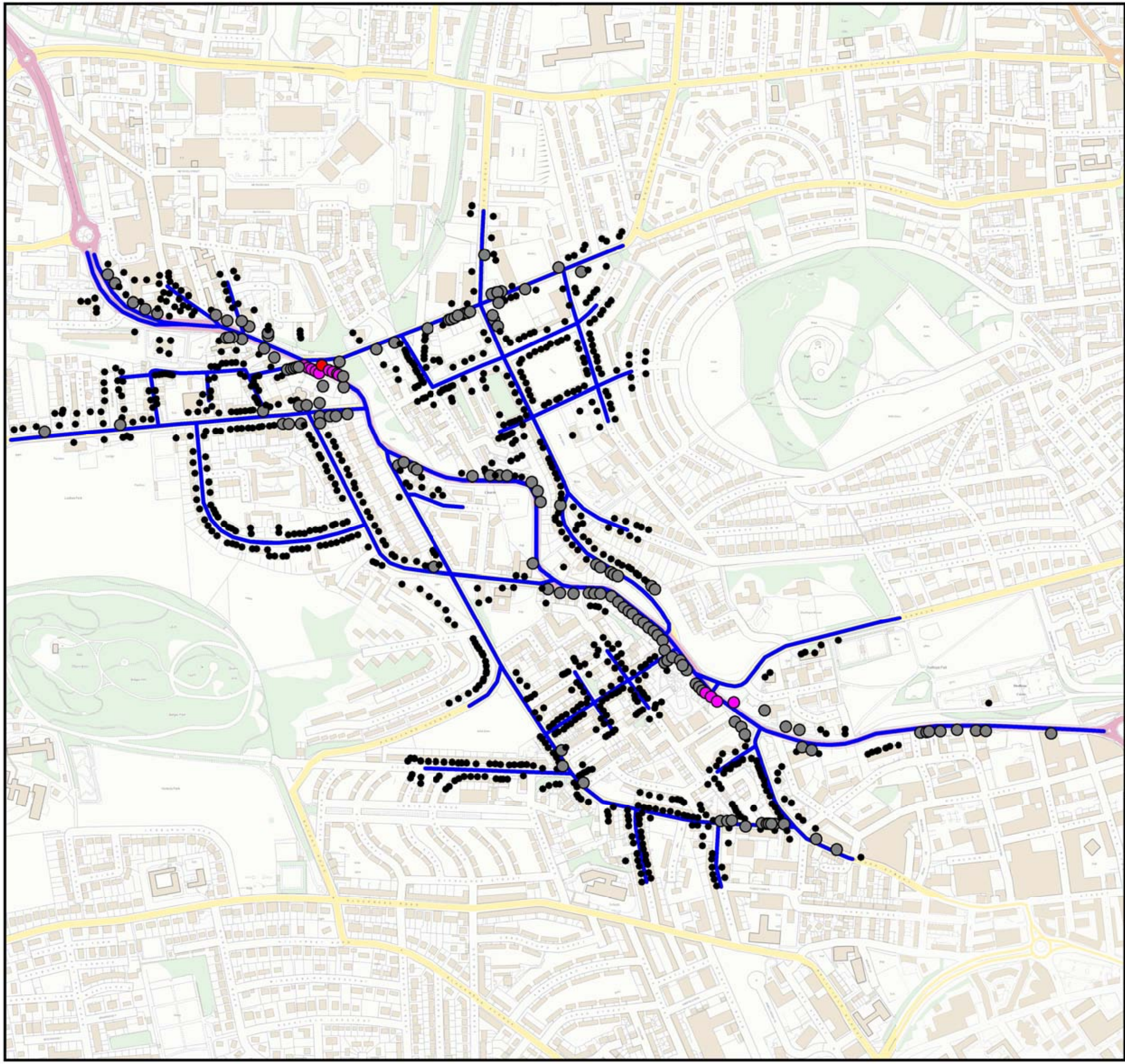
Job No.	Fig. No.
AGGX7725624	**A23**



SC4 PM10 Concentration Ground Floor Level (ug/m3)

- <13.5 (873)
- 13.5 to 16.2 (143)
- 16.2 to 18 (12)
- >18 (1)

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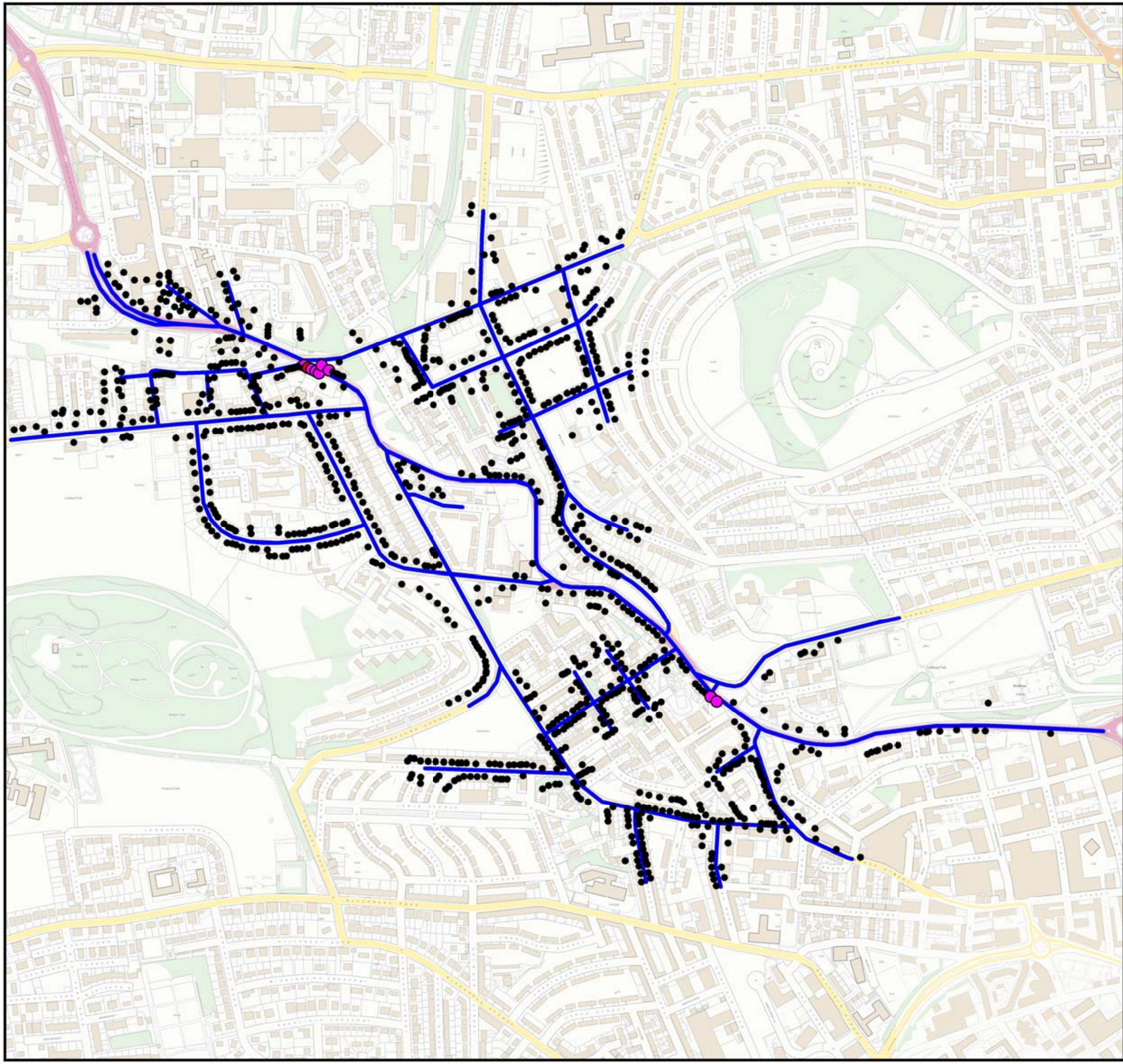
Location	Dundee - Lochee
Title	ADMS Model Results
By	FL
Checked	JC
Approved	JC
Scale	N.T.S.
Date	April 2016
Job No.	AGGX7725624
Fig. No.	A24



SC1 Impact PM10
Ground Floor Level

- • Not Exceeding (1020)
- Exceedence Remains (8)
- New Exceedence (1)
- Removes Exceedence (0)

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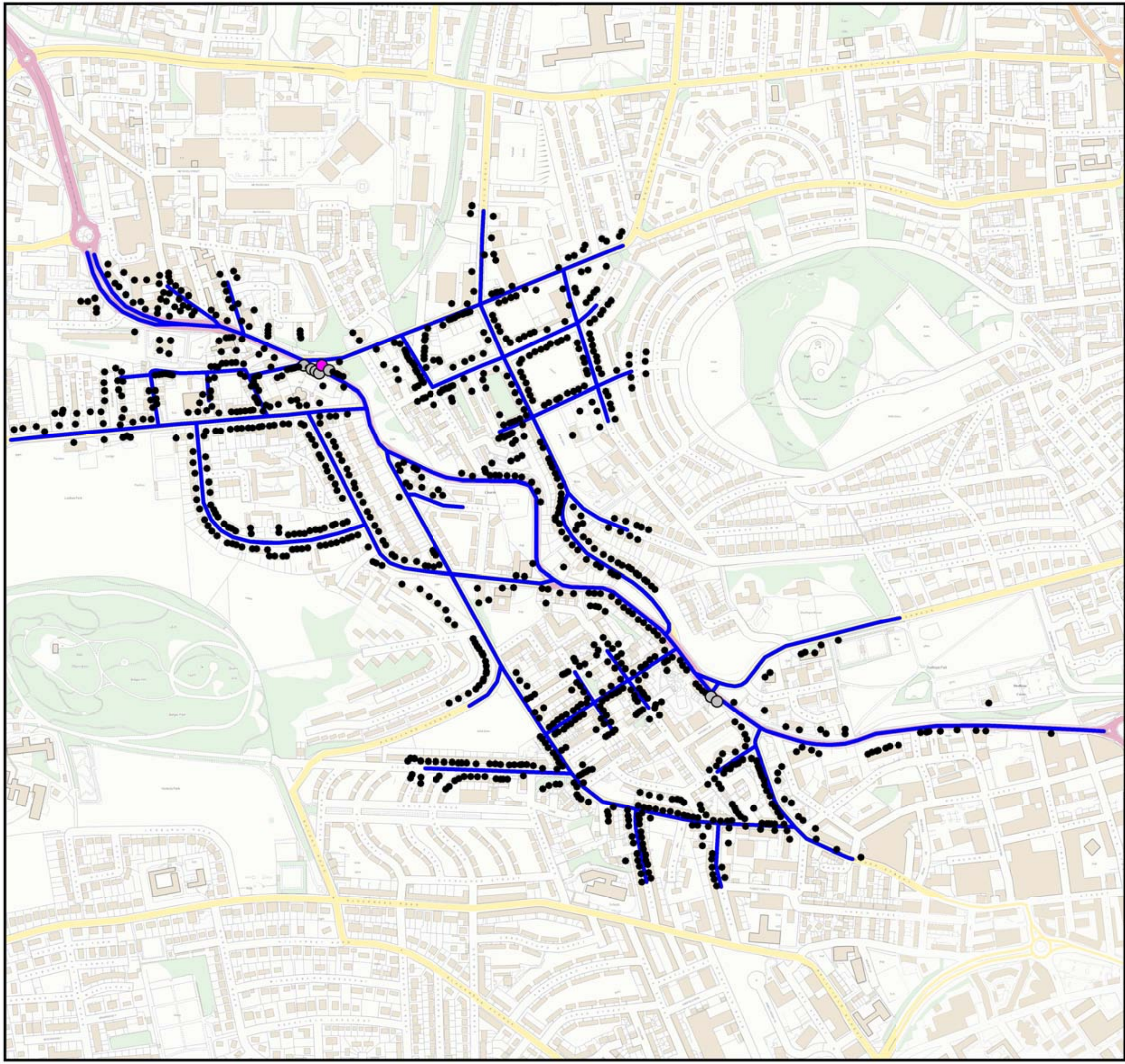
N.T.S.	**April 2016**

Job No.	Fig. No.
AGGX7725624	**A25**



SC3 Impact PM10
Ground Floor Level

• Not Exceeding	(1021)
Exceedence Remains	(1)
New Exceedence	(0)
Removes Exceedence	(7)

BUREAU VERITAS 1828

Air Quality
Parklands
825a Wilmslow Road
Didsbury
Manchester M20 2RE
Telephone: 0845 600 1828

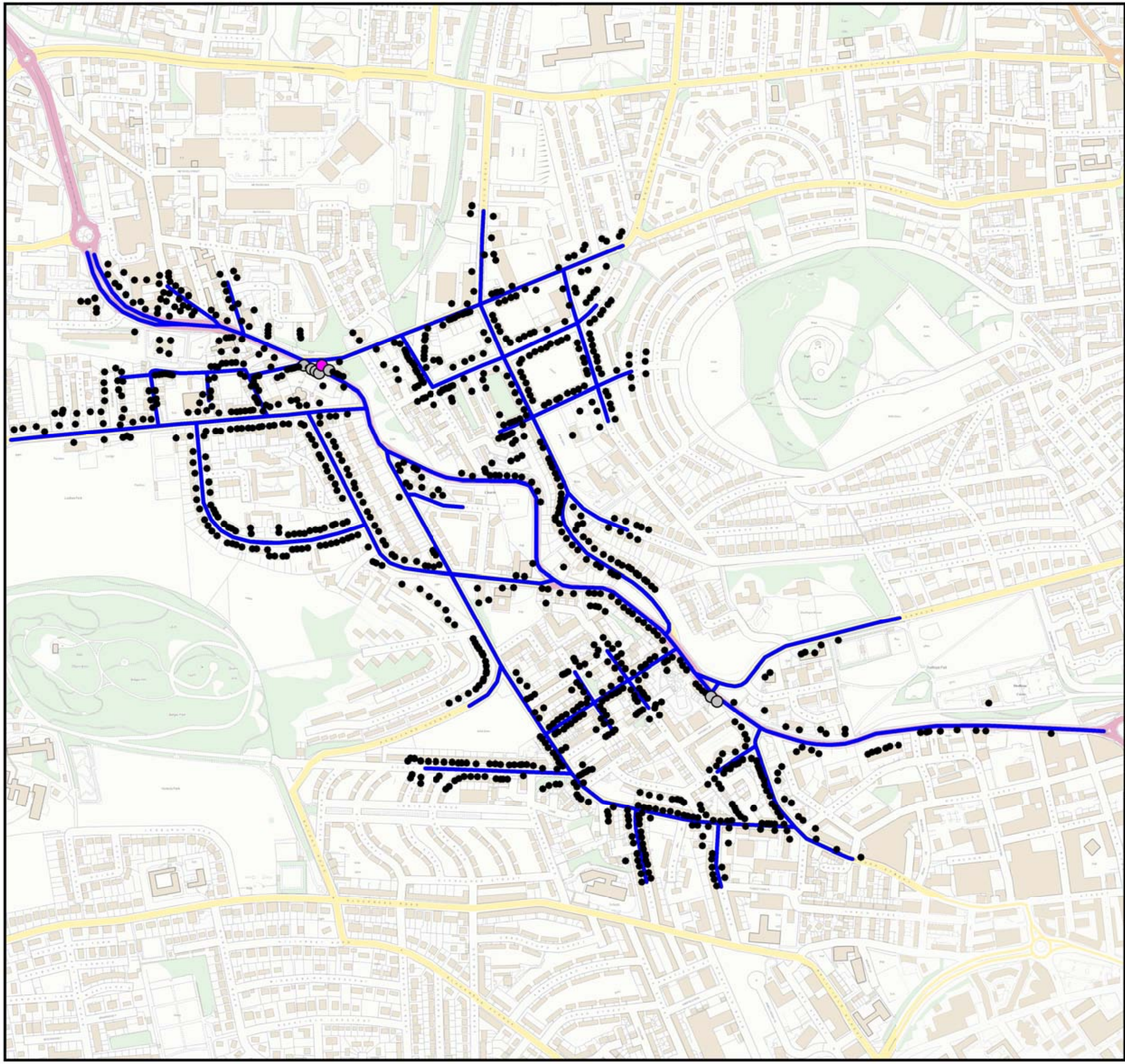
Location
Dundee - Lochee

Title
ADMS Model Results

By	Checked	Approved
FL	**JC**	**JC**

Scale	Date
N.T.S.	**April 2016**

Job No.	Fig. No.
AGGX7725624	**A26**



SC4 Impact PM10
Ground Floor Level

• Not Exceeding	(1021)
Exceedence Remains	(1)
New Exceedence	(0)
Removes Exceedence	(7)

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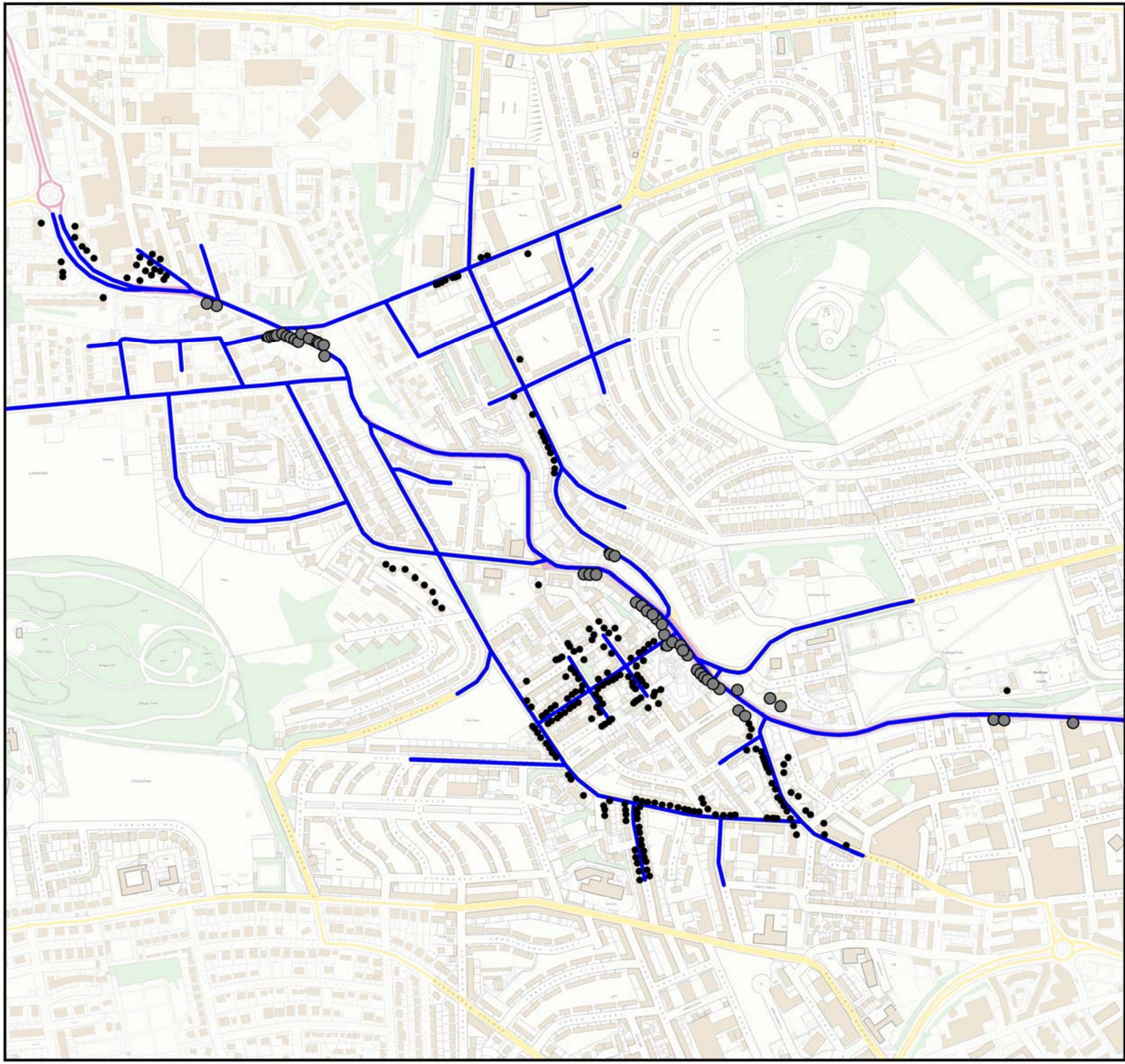
Location: **Dundee - Lochee**

Title: **ADMS Model Results**

By	Checked	Approved
FL	JC	JC

Scale	Date
N.T.S.	April 2016

Job No.	Fig. No.
AGGX7725624	A27



BC PM10 Concentration First Floor Level (ug/m3)

• <13.5	(230)
13.5 to 16.2	(49)
16.2 to 18	(0)
>18	(0)

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FL	**JC**	**JC**

Scale	Date
N.T.S.	**April 2016**

Job No.	Fig. No.
AGGX7725624	**A28**