

### Updating and Screening Assessment Summary Checklist for **Carbon Monoxide**

<b>Item</b>	<b>Response</b>
A) Monitoring data	Gateshead is not currently monitoring CO.
B) Very busy roads or junctions in built-up areas	There are no very busy roads as defined in the Technical Guidance TG(03) for CO in the Gateshead area.
<b>Conclusion</b>	There have been no significant changes with regards to CO emissions in Gateshead, and as such a Detailed Assessment will not be required.

### Updating and Screening Assessment Summary Checklist for **Benzene**

<b>Item</b>	<b>Response</b>
A) Monitoring data	Gateshead is not currently monitoring for benzene
B) Very busy roads or junctions in built-up areas	There are no very busy roads as defined in the Technical Guidance TG(03) for benzene in the Gateshead area.
C) New Industrial Sources D) Industrial sources with substantially increased emissions, or new relevant exposure	There are no industrial processes of relevance for benzene in Gateshead or any neighbouring authorities. There has been no change in the position since the 2003 USA.
E) Petrol stations	A busy petrol filling station site was examined for the 2003 USA, as a result of which detailed monitoring for benzene was carried out at the site. The results, which showed that there were no exceedences of the benzene objectives, were reported in the annual Progress Report of 2005. There has been no change in the position since then.
F) Major fuel storage depots (petrol only)	There are no major fuel storage depots in the Gateshead area.
<b>Conclusion</b>	There have been no significant changes with regards to benzene emissions in Gateshead, and as such a Detailed Assessment will not be required.

### Updating and Screening Assessment Summary Checklist for **1,3-butadiene**

<b>Item</b>	<b>Response</b>
A) Monitoring data	Gateshead is not currently monitoring for 1,3 butadiene.
B) New industrial sources C) Industrial sources with substantially increased emissions, or new relevant exposure	There are no industrial processes of relevance for 1,3 butadiene in Gateshead or any neighbouring authorities. There has been no change in the position since the 2003 USA.
<b>Conclusion</b>	There have been no significant changes with regards to 1,3 butadiene emissions in Gateshead, and as such a Detailed Assessment will not be required.

### Updating and Screening Assessment Summary Checklist for **Lead**

<b>Item</b>	<b>Response</b>
A) Monitoring data	Gateshead is not currently monitoring for lead.
B) New industrial sources. C) Industrial sources with substantially increased emissions, or new relevant exposure	There are no industrial processes of relevance for lead in Gateshead or any neighbouring authorities. There has been no change in the position since the 2003 USA.
<b>Conclusion</b>	There have been no significant changes with regards to lead emissions in Gateshead, and as such a Detailed Assessment will not be required.

Updating and Screening Assessment Summary Checklist for **Sulphur Dioxide**

<b>Item</b>	<b>Response</b>
A) Monitoring data	Gateshead is not currently monitoring for sulphur dioxide.
B) New industrial sources. C) Industrial sources with substantially increased emissions, or new relevant exposure	There are no industrial processes of relevance for sulphur dioxide in Gateshead or any neighbouring authorities. There has been no change in this position since the 2003 USA.
D) Areas of domestic coal burning	No areas of domestic coal burning were identified for the 2003 USA in Gateshead, and there has been no change in this position.
E) Small Boilers > 5 MW (thermal).	There have been no new small boilers within the Gateshead area since the 2003 USA.
F) Shipping	There are no local sources of shipping emissions in Gateshead.
G) Railway Locomotives	There are no locations where trains were likely to be an issue due to lack of enough periods of idling or relevant exposure. This position is unchanged since the 2003 USA.
<b>Conclusion</b>	There have been no significant changes with regards to SO <sub>2</sub> emissions in Gateshead, and as such a Detailed Assessment will not be required.

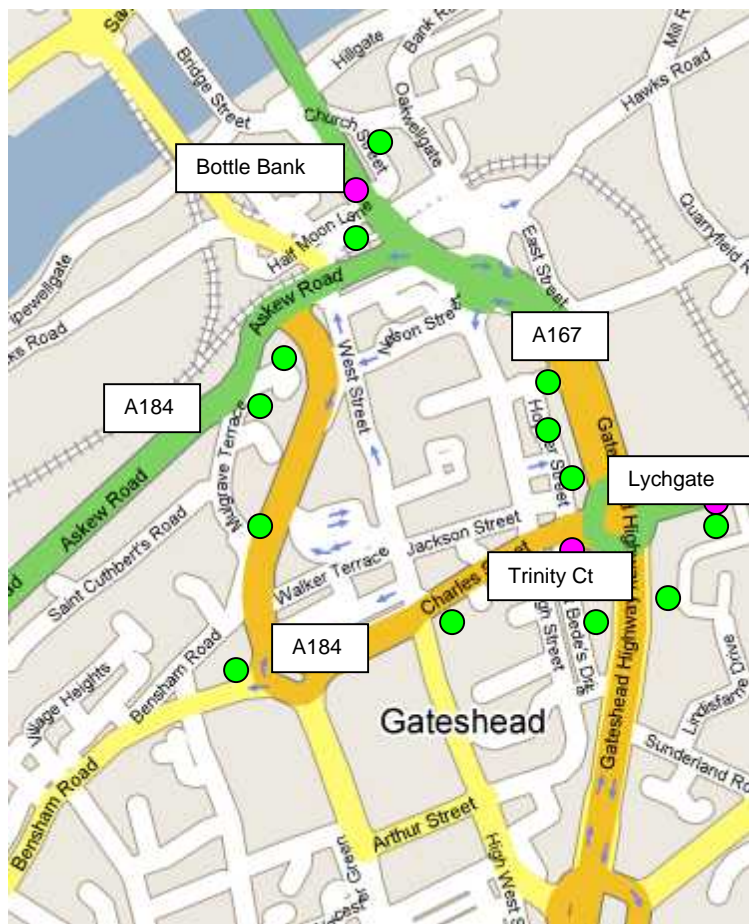
## Updating and Screening Assessment Summary Checklist for **Nitrogen Dioxide**

Item	Response
A) Monitoring data outside an AQMA	<p>Many road junctions were identified as 'busy' (AADT 10,000 or more) for the 2003 USA, and DMRB modelling of the busiest junctions showed exceedences at two locations in Gateshead town center. Monthly average NO<sub>2</sub> concentrations were measured using passive diffusion tubes (50% TEA in acetone) at the ten busiest junctions over a 12month period. The results from these and other monitoring locations, are summarized in Table 1. Three exceedences of the annual mean AQO were measured, at the façade of a property on Durham Road at the junction with Dryden Road, Gateshead; at the façade of a property on Station Lane at the junction with Durham Rd in Birtley; and at the façade of a property on Portobello Tce, Birtley. All of these locations represent relevant exposure, in the form of residential properties. The diffusion tubes are supplied and analysed by Jesmond Dene Laboratory who participate in the WASP QA/QC procedure. All data was bias corrected using the factor on the R&amp;A helpdesk website version 02/06 – the factor used is 1.07.</p> <p>Real time monitoring of NO<sub>2</sub> was continued at the A1 Dunston AQU site. The monitoring location is shown in Map 2 and results are summarized in Table 3 below. No exceedences of either the 1hour mean or annual mean air quality objectives were recorded.</p>
B) Monitoring data within an AQMA	<p>Gateshead town centre was declared an AQMA on 1 April 2005 as a result of a detailed assessment which confirmed an exceedence of the annual mean AQO at the busy junction of the A184 and A167. A further detailed assessment has recently been completed, which confirmed the need for the AQMA due to both measured and modelled exceedences of the objective. The full report, "Further Assessment of Air Quality in Gateshead Town Centre", prepared by Air Quality Consultants is currently being given full consideration by the Council, with a view to preparation of an action plan for the AQMA and public consultation.</p> <p>NO<sub>2</sub> concentrations were measured using real-time chemiluminescent monitors at 3 roadside locations – Trinity Court, Lychgate, and Bottle Bank. The monitors are operated by a suitably trained officer and are serviced twice per year in accordance with manufacturers instructions. Calibrations and filter changes are carried out at two-week intervals, and</p>

	<p>Lychgate also has an automatic daily calibration feature. An exceedence of the 40µgms/m<sup>3</sup> annual mean AQO was recorded at the Bottle Bank site, although only 7 months of data has been collated so far.</p> <p>Monitoring was also carried out at a large number of sites using passive diffusion tubes, including 3 co-located tubes with each real time monitor. Monitoring locations are shown in Map 1 below, and summaries of the results are shown in Tables 1, 2 and 3. Diffusion tube results showed exceedences of the annual mean objective at the Trinity Court, Curzon, and Bottle Bank sites. All of the sites represent relevant public exposure.</p>
C) Narrow congested streets with residential properties close to the kerb	There is one location, in Birtley, which was investigated for the 2003 USA, including real time monitoring. No exceedences of the NO <sub>2</sub> objectives were found. This position remains unchanged.
D) Junctions.	Many 'busy' junctions were identified and DMRB modelling carried out for the 2003 USA. There is no change in this position in that no further busy junctions have been identified, there has been no significant increase in traffic flows, and no new relevant exposure.
E) Busy streets where people may spend 1-hour or more close to traffic	There are no busy streets in Gateshead with >10,000 AADT and relevant exposure. This position remains unchanged from the 2003 USA.
F) Roads with high flow of buses and/or HGVs.	There are no roads with an unusually high proportion (>25%) of buses and/or HGV's and relevant exposure in the Gateshead area. This position remains unchanged from the 2003 USA.
G) New roads constructed or proposed since the previous round of R&A	No new roads have been constructed or proposed in Gateshead since the 2003 USA.
H) Roads with significantly changed traffic flows, or new relevant exposure	There are no roads in Gateshead which have had a large (25%) increase in the AADT traffic flow, or such an increase due to improved traffic data.
I) Bus Stations	There are no bus stations in Gateshead where the bus flow is > 1000 per day and relevant exposure.
J) New industrial sources. K) Industrial sources with substantially increased emissions, or new	There are no industrial sources of relevance to NO <sub>2</sub> in the Gateshead area or neighbouring authorities. However, an application for a Part A1 permit to operate a landfill gas generation plant has recently been submitted to the EA for a site in the west of the borough. Air quality

relevant exposure	assessments, including detailed dispersion modelling, made as part of the application show that there would be no predicted exceedences of the AQO's.
L) Aircraft	There are no airports to consider in the Gateshead area.
<b>Conclusion</b>	As measured concentrations have shown exceedences of the annual mean AQO at locations which represent relevant exposure, Gateshead will proceed to a Detailed Assessment for nitrogen dioxide with a view to determining whether to declare an AQMA for any of these locations.  This will run in parallel to preparation of an action plan, including full consultation, for the AQMA.

**Map 1: NO2 Monitoring Locations in Gateshead AQMA**



- Real Time Unit & Triplicate Diffusion Tubes
- Single Diffusion Tube

**Table 1: NO<sub>2</sub> concentrations measured from diffusion tube sites in 2005. Exceedences of the annual mean air quality objective (40µgms/m<sup>3</sup>) are shown in bold.**

Tube No.	Location	Easting	Northing	Within AQMA	Annual Mean 2005	Bias Adjusted X 1.07
2	Priory Court	425737	563251	Yes	34.33	36.73
4	North Dene, Birtley	427187	557230	No	30.29	32.41
10	Portobello Rd, Vigo	428254	554988	No	36.52	39.08
12	Coach Rd, Lobley Hill	423765	560510	No	27.9	29.85
13	Coach Rd, Lobley Hill	423791	560360	No	29.08	31.12
14	Park Tce, Dunston	422485	561863	No	28.05	29.12
16	Portobello Tce, Vigo	428254	554988	No	<b>44.05</b>	<b>47.13</b>
31	Westway, Dunston	423086	561543	No	28.79	30.81
35	A1 Dunston AQU 1*	422513	561925	No	34.38	36.79
37	Lychgate AQU 1*	425883	563103	Yes	33.26	35.59
38	Lychgate AQU 2*	425883	563103	Yes	32.21	33.28
39	Lychgate AQU 3*	425883	563103	Yes	31.08	33.26
40	A1 Dunston AQU 2*	422513	561925	Yes	33.58	35.93
41	A1 Dunston AQU 3*	422513	561925	Yes	31.26	33.45
42	Trinity Ct	425781	563055	Yes	38.86	<b>41.58</b>
43	Regent Court	425553	562965	Yes	29.39	31.45
44	Adelaide Ct	425292	563233	Yes	23.42	25.06
45	Melbourne Ct	425305	563093	Yes	26.97	28.86
46	Team Vale Villas	425297	562886	No	30.22	32.34
47	Dryden Rd	425760	561641	No	39.3	<b>42.05</b>
49	Station Lane, Birtley	427193	555830	No	38.81	<b>41.52</b>
50	Chowdene Bank	425862	559620	No	29.29	31.34
51	Cuthbert St	424833	562379	No	33.17	35.49
52	Coatsworth Rd	425034	562736	No	28.71	30.72
53	Curzon 1 <sup>a</sup>	425447	563528	Yes	35.53	38.02
55	Trinity Ct AQU 1**	425753	563061	Yes	36.82	39.40
54	Sage	425469	563760	No	27.99	29.95
56	Trinity Ct AQU 2**	425753	563061	Yes	34.97	37.42
57	Trinity Ct AQU 3**	425753	563061	Yes	33.28	35.60
58	Park Ct	425756	563193	Yes	31.41	33.61
59	Pearth Ct	425770	563135	Yes	31.16	33.34
60	Lychgate Ct	425912	563108	Yes	33.39	35.73
61	Monk Ct	425855	562994	Yes	30.68	32.82
62	St Mary's Ct	425798	562968	Yes	28.27	30.25
63	Bottle Bank AQU 1**	425425	563555	Yes	37.51	<b>40.14</b>
64	Baltic Flats	425899	563905	Yes	33.96	36.33
65	Bottle Bank AQU 2**	425425	563555	Yes	<b>42.67</b>	<b>45.66</b>
66	Bottle Bank AQU 3**	425425	563555	Yes	<b>49.3</b>	<b>49.54</b>

All monitoring locations are roadside and represent relevant exposure.

\* Diffusion tubes co-located with real time air quality monitoring units.

\*\* Diffusion tubes co-located with real time monitoring units, less than 9 months data – data for first 3 months of 2006, which show high exceedences, are shown in table 2 below.

<sup>a</sup> Less than 9 months data (7 months) for this location – data for February and March 2006 shown in table 2.

**Table 2: NO2 concentrations measured from diffusion tube sites for the first 3 months of 2006  
Exceedences of the annual mean air quality objective (40µgms/m<sup>3</sup>) shown in bold.**

Tube No.	Location	OS Map Reference	Within AQMA	Jan	Feb	March	Survey Mean	Survey Period
53	Curzon 1*	4254475 563528	Yes	-	56.1	42.7	<b>41.52</b>	April 05 Mar 06
55	Trinity Ct AQU 1*	4257535 563061	Yes	35	48.1	45	<b>41.49</b>	Jan 05 Mar 06
57	Trinity Ct AQU 2*	425753 563061	Yes	55	44.4	48.8	<b>42.56</b>	Jan 05 Mar 06
56	Trinity Ct AQU 3*	425753 563061	Yes	40.3	44.9	47.6	39.53	Jan 05 Mar 06
63	Bottle Bank AQU 1*	425425 563555	Yes	60.3	48.3	43.4	<b>42.85</b>	Feb 05 Mar 06
65	Bottle Bank AQU 2**	425425 563555	Yes	54.1	49.7	50.9	<b>50.42</b>	Oct 05 Mar 06
66	Bottle Bank AQU 3**	425425 563555	Yes	47.6	48.3	44.7	<b>51.45</b>	Oct 05 Mar 06

All data is bias adjusted using a factor of 1.07

\* Represents 9 months of data

\*\* Represents 6 months of data

**Table 3: NO2 measured concentrations (µgms/m<sup>3</sup>) from real time air quality units (AQU's)  
Exceedence of the annual mean air quality objective (40µgms/m<sup>3</sup>) shown in bold.**

Map Ref	Site	Time Period	24 Hour AQO	No. of Breaches (18 allowed)	24 Hour Max	Annual Mean AQO	Annual Mean µgms/m <sup>3</sup>	Data Capture %
422513 561925	A1 Dunston	Jan-Dec 2005	50	0	138.5	40	35.5	96.5
425883 563103	Lychgate	June 05– March 06	50	0	144	40	36.4	97.9
425753 563061	Trinity Ct	Jan-Dec 2005	50	0	139	40	34.5	92
425425 563555	Bottle Bank	Sept 05- March 06	50	0	148	40	<b>42.5</b>	94.5

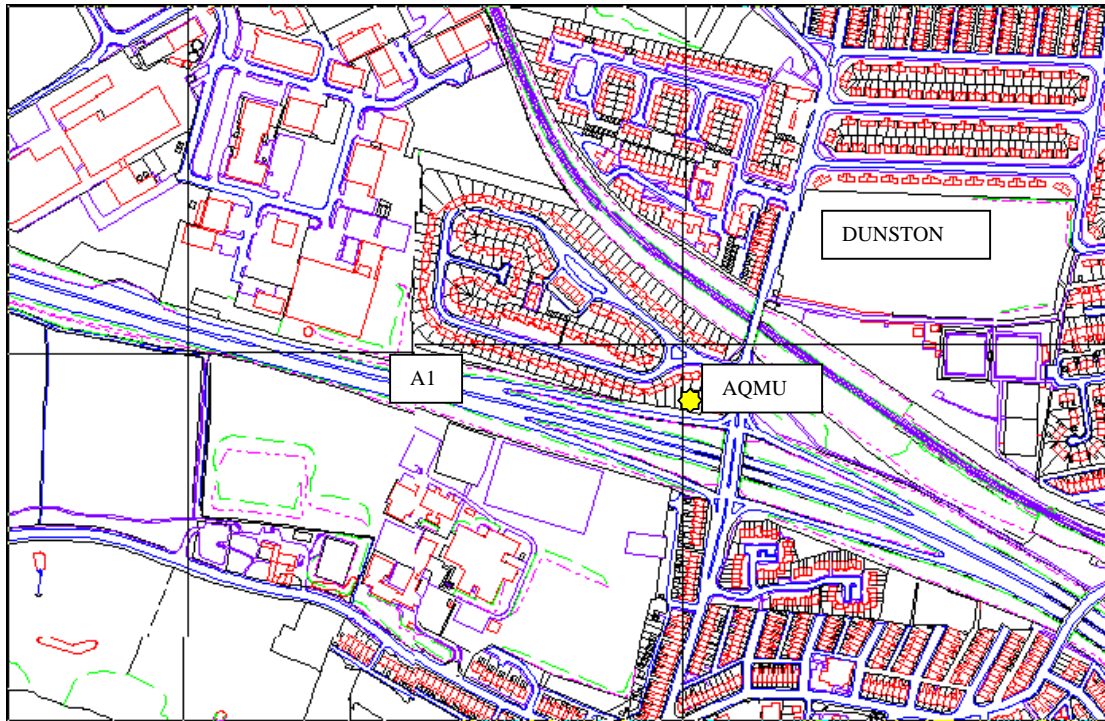


Updating and Screening Assessment Summary Checklist for **PM<sub>10</sub>**

Item	Response
A) Monitoring data outside an AQMA	Gateshead Council measured PM <sub>10</sub> concentrations using real time TEOM monitors at 2 roadside locations, the A1 on the Dunston South slip road, and the A184 at Lychgate, during 2005. Monitoring locations are shown on Maps 1 and 2. All data was QA/QC'd as per TG(03) guidance, and multiplied by 1.3 to give gravimetric values. The results for 2003-2005 for the A1 Dunston site, and May 2005 to March 2006 for the Lychgate site, are summarised in Table 4. There was only 1 exceedence of the 24hr mean AQO at the A1 Dunston site, and 3 at the Lychgate site, and annual means of 23.4µgms/m <sup>3</sup> were recorded for both sites. The results show that there were no exceedences of either of the AQO's at either of the monitoring locations.
B) Monitoring data within an AQMA	Not applicable as no AQMA for PM <sub>10</sub> (NO <sub>2</sub> only).
C) Busy roads and junctions	Many busy junctions with relevant exposure were identified in the 2003 USA. Computer modelling using the DMRB screening model was carried out for all of these locations and no exceedences of either of the 2004 air quality objectives were found. There is no change in this position in that no further busy junctions have been identified, there has been no significant increase in traffic flows, and no new relevant exposure.
D) Roads with high flow of buses and/or HGVs.	There are no roads with an unusually high proportion (>20%) of buses and/or HGV's and relevant exposure in the Gateshead area. This position remains unchanged from the 2003 USA.
E) New roads constructed or proposed since last round of R&A	No new roads have been constructed or proposed in Gateshead since the 2003 USA.

F) Roads with significantly changed traffic flows, or new relevant exposure.	There are no roads in Gateshead which have had a large (25%) increase in the AADT traffic flow, or such an increase due to improved traffic data.
G) Roads close to the objective during the second round of Review and Assessment	PM10 monitoring results for all monitoring sites showed well below 25 predictions of the 24hour objective at relevant locations.
H) New industrial sources. I) Industrial sources with substantially increased emissions, or new relevant exposure	There are no industrial sources of relevance to PM10 in the Gateshead area or neighbouring authorities. This position remains unchanged from the 2003 USA.
G) Areas of domestic solid fuel burning	There are no areas where significant solid fuel burning takes place in Gateshead. This position remains unchanged since the 2003 USA.
H) Quarries / landfill sites / opencast coal / handling of dusty cargoes at ports etc.	Planning applications have been received for 4 landfill sites, all in the west of the borough, since the 2003 USA. Permit applications for 3 of these have also submitted to the EA, copies of which have been received by the Council for consultation and the public register. Air quality assessments were undertaken as part of the planning consultation process, and these showed that no exceedences of the air quality objectives were likely for any of these sites.
L) Aircraft	There are no airports to consider in the Gateshead area.
<b>Conclusion</b>	As there have been no significant changes in PM10 emissions in Gateshead, and monitoring results show no exceedences of either of the PM10 objectives, a detailed assessment will not be required.

**Map 2: NO2 and PM10 Monitoring Location at A1 Dunston**



**Table 4: PM10 measured concentrations ( $\mu\text{gms}/\text{m}^3$ ) from real time A1 Dunston AQU Site - 2003 to 2005**

Map Ref	Year	24 Hour Mean AQO	No. of Breaches (35 allowed)	24 Hour Max	Annual Mean AQO	Annual Mean	Data Capture %
422513 561925	2003	50	<b>25</b>	91.3	40	<b>26.5</b>	84
	2004	50	<b>7</b>	60.3	40	<b>22.4</b>	87.3
	2005	50	<b>2</b>	58.5	40	<b>21.8</b>	88

**Table 5: PM10 measured concentrations ( $\mu\text{gms}/\text{m}^3$ ) from real time Lychgate AQU Site - May 2005 to March 2006**

Map Ref	Year	24 Hour Mean AQO	No. of Breaches (35 allowed)	24 Hour Max	Annual Mean AQO	Annual Mean	Data Capture %
425883 563103	May 05 - Mch 06	50	<b>3</b>	61	40	<b>23.4</b>	84

