

air quality



Air Quality Assessment and Review 2014 – Progress Report

Robbie Beattie, Scientific and Environmental Services Manager
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- Background to the report
- Introduction to and effects of particles
- Overview of highlights within report
- The proposed extension of AQMA's
- Overview of highlights and next steps

Background to the report

- **Statutory** requirement under the Environment Act 1995
- **Annual** reporting and 3 year repeating cycle (LAQM – Local Air Quality Management. Different from EU Directive DEFRA reports)
- **Summary** of all air quality monitoring carried out in 2013
- **Assessment** of measurements compared to Air Quality Standards and the trends in 2013
- **Description** and update of all measures including those in Air Quality Action Plan being pursued to improve air quality



Introduction to and effects of particles

- Nitrogen dioxide air pollutant not to be confused with Particulate Matter
- **Coarse particles** PM_{10} to $PM_{2.5}$ Re-suspended road dust, brake and tyre wear, sea salt, quarries and soil.
- **Fine particles** $PM_{2.5}$ and $PM_{0.1}$ Combustion particles; from diesel engine exhaust, bonfires/fireworks, and domestic biomass burning; and secondary particles of ammonium sulphate or nitrate from agriculture.
- **Ultrafine particles** ($PM_{<0.1}$) Emitted in large numbers from diesel engines.
- Sources of PM are numerous - no simple easy answer to a solution.

Introduction to and effects of particles

- Largest contributor to Particulate Matter is from non-local, trans-boundary sources including Europe and can account for 60 to 80% of local readings.
- Permitted annual concentration for PM_{10} is $18\mu\text{g}/\text{m}^3$ vs UK level of $40\mu\text{g}/\text{m}^3$
- Working with other stakeholders - Scottish Govt $PM_{2.5}$ air quality standard
- Likely to require AQMA's for PM_{10}



Overview of highlights within the report

- **Levels of nitrogen dioxide** (NO₂) continue to reduce overall across the city, continuing a trend – not fast enough to avoid AQMA declaration.
- The urban background **monitoring station at St Leonards** recorded the lowest annual mean concentration of NO₂ since it was established in 2004.
- Recorded concentrations of NO₂ at **St John's Road station complied** with the hourly mean AQS standard during 2013
- Legal submission to EU commission by UK Govt gave Edinburgh an **extension for compliance** with EU air quality directive **until 2015**.
- Data for 2014 will be key in determining legal compliance.

Overview of highlights within the report

Edinburgh ECOSTARS fleet recognition scheme

- Exemplar of good practice
- Encouraging and enabling commercial owners to operate cleaner, more-efficient, lower-polluting fleets
- Voluntary scheme
- CEC was a founding European member
- Has been in place for just over 3 years
- Nearly 60 members with over 4000 registered vehicles.



Plugged in Places

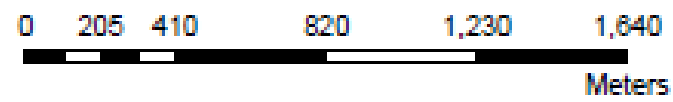
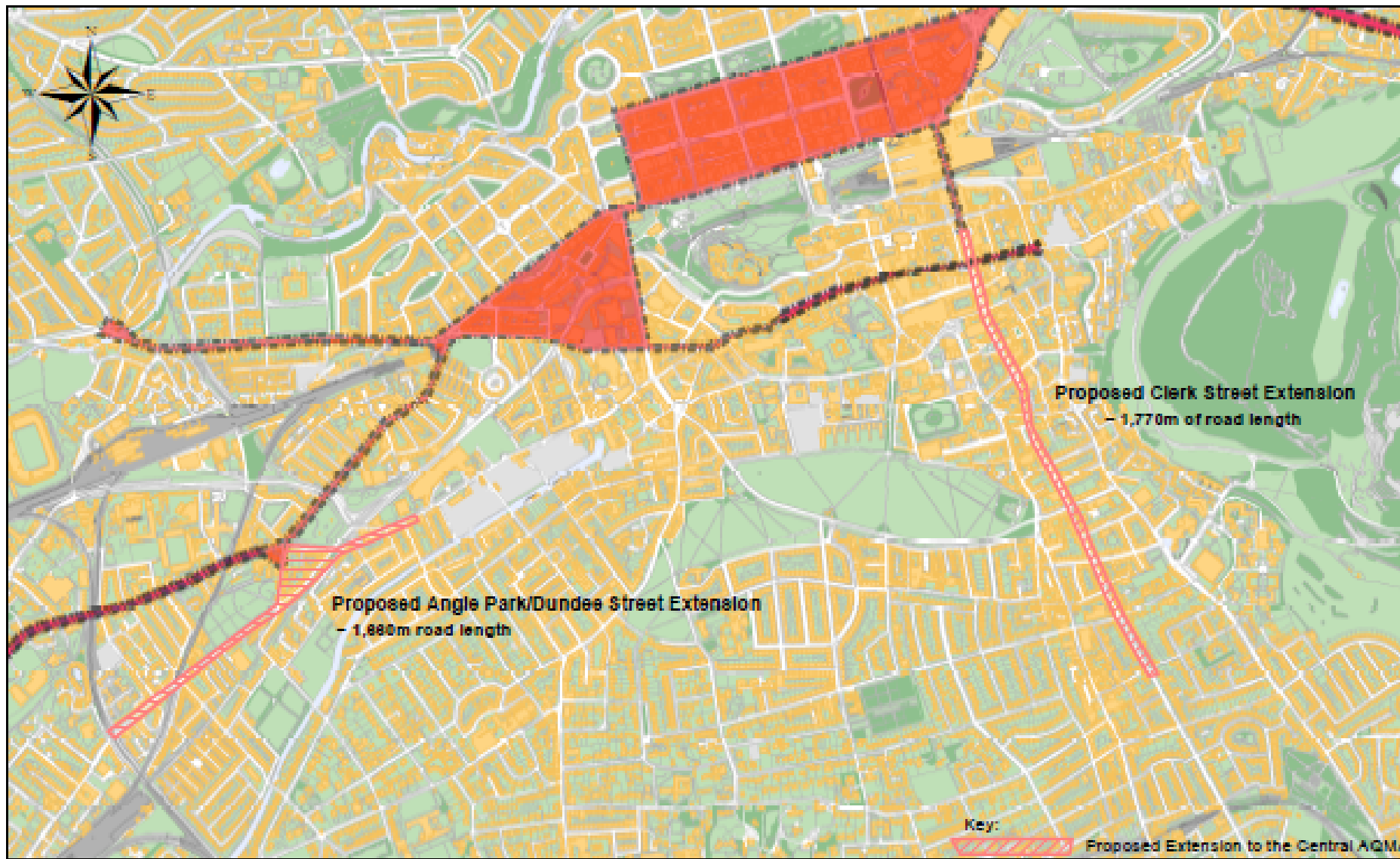
- CEC has led the (Transport Scotland funded) Edinburgh Partnership initiative
- Total number of (public-sponsored) charging sites to 26, with 58 individual charging heads: 7-fold increase since 2012.

The proposed extension of Central AQMA

- Where monitoring shows continuing breaches of an air quality standard (AQS) regulations require local authorities to declare (or extend) an AQMA to cover areas of exceedance and to take forward relevant measures to bring levels in line with the standards.
- Two areas where monitoring shows breaches of the annual mean AQS for Nitrogen Dioxide NO_2 adjacent to the existing Central AQMA;
 - to the south in Nicolson Street / South Clerk Street corridor
 - to the west, at Angle Park Terrace / Slateford Road.



Proposed Extension to the Central Air Quality Management Area (AQMA) 2014



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Overview of highlights and next steps

Bus Operators



Next Steps

- Requirement to extend the Central AQMA to include parts of Nicolson Street / South Clerk Street and Angle Park Terrace / Slateford Road (for NO₂)
- Need to revise the Air Quality Action Plan to include the new areas, as well as existing areas at Glasgow Road and Inverleith Row.
- Revised Local Transport Strategy, working with partners and stakeholders

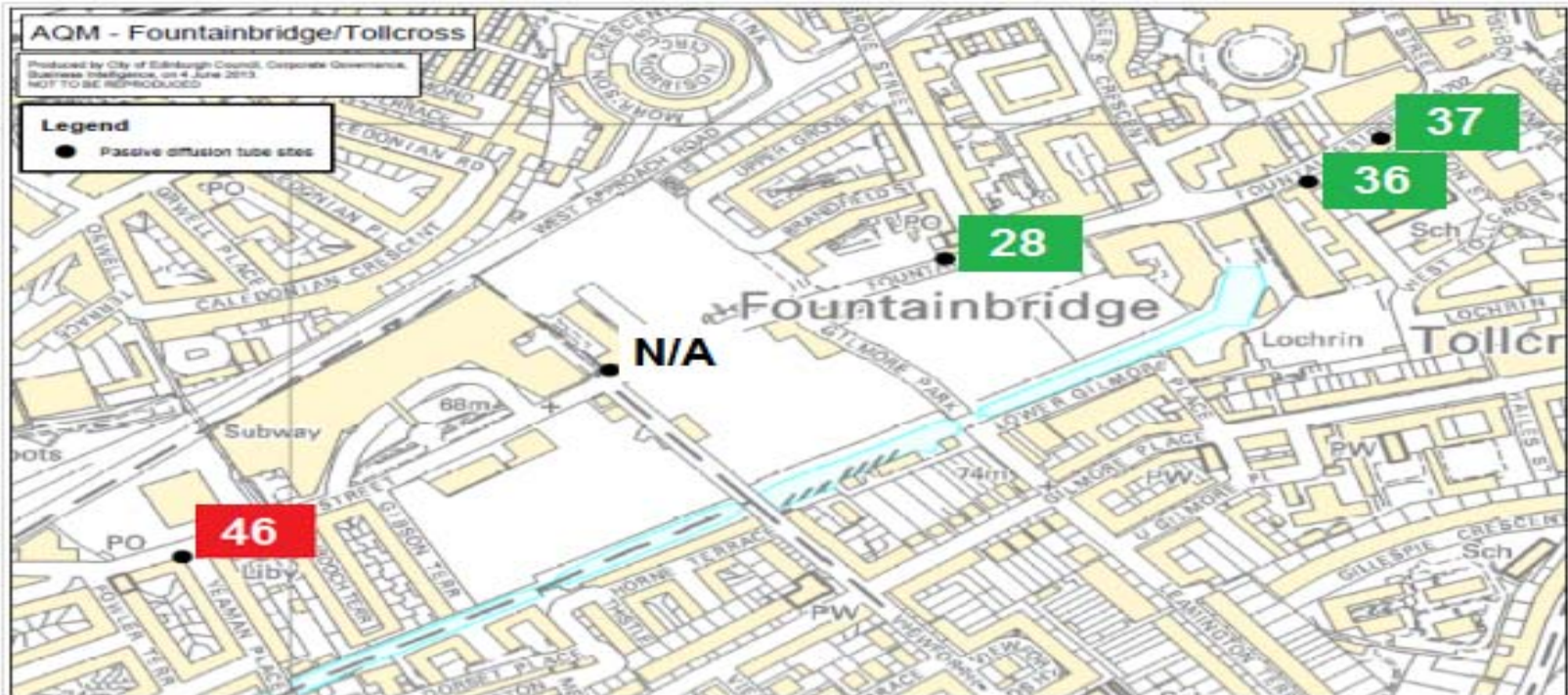
Thank you

..... any questions?

Supplementary Slides if Explantions Required

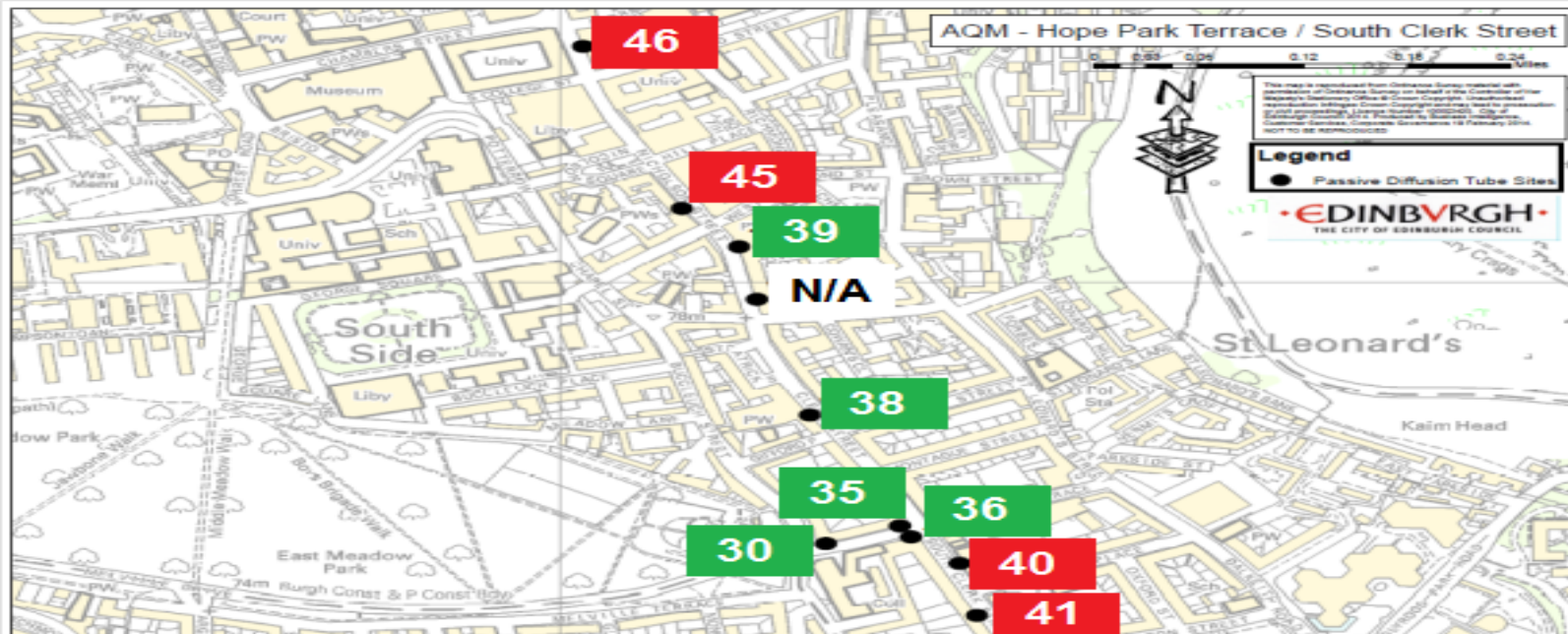
Detailed Assessment Fountainbridge / Dundee Street (p96)

Site ID	Site Name	Annual mean concentration Nitrogen Dioxide at relevant receptors, adjusted for bias ($\mu\text{g}/\text{m}^3$)			
		2010	2011	2012	2013
79d	Dundee St/Yeaman Place	-	-	46	46
79c	Dundee Street 114	-	-	-	N/A
79b	Fountainbridge/Grove St	-	-	32	28
79	Fountainbridge/Tollcross	42	36	37	36
79a	Fountainbridge 103	-	-	39	37



Detailed Assessment at Hope Park Terrace, Clerk Street (p72)

Site ID	Site Name	Annual mean concentration Nitrogen Dioxide at relevant receptors, adjusted for bias ($\mu\text{g}/\text{m}^3$)				
		2009	2010	2011	2012	2013
144	South Bridge	-	-	-	-	46
135	Nicolson Street 69	-	-	-	50	45
136	Nicolson Street 92	-	-	-	42	39
137	Nicolson Street 124	-	-	-	41	N/A
138	Clerk Street 15	-	-	-	40	38
139	Hope Park Terrace	-	-	-	34	30
17a	Hope Park Terrace	39	43	37	39	36
140	Hope Pk/Clerk St	-	-	-	35	35
142	South Clerk St 41a	-	-	-	42	40
141	South Clerk St 84	-	-	-	44	41



Detailed Assessment at Angle Park Terrace / Slateford Road

Site ID	Site Name	Annual mean concentration Nitrogen Dioxide at relevant receptors, adjusted for bias ($\mu\text{g}/\text{m}^3$)			
		2010	2011	2012	2013
78	Slateford Road	36	30	31	30
77	Slateford Road 97	48	38	43	40
77b	Slateford Road 93/95	-	-	46	42
77a	Slateford Road 51	-	-	41	37
76	Angle Pk/Harrison Rd	53	44	48	41
76a	Ardmillan Terrace 22	-	-	32	30
76b	Angle Park Terrace 74	-	-	51	46
76c	Angle Park Terrace 25	-	-	36	32
76d	Henderson Terrace	-	-	38	35

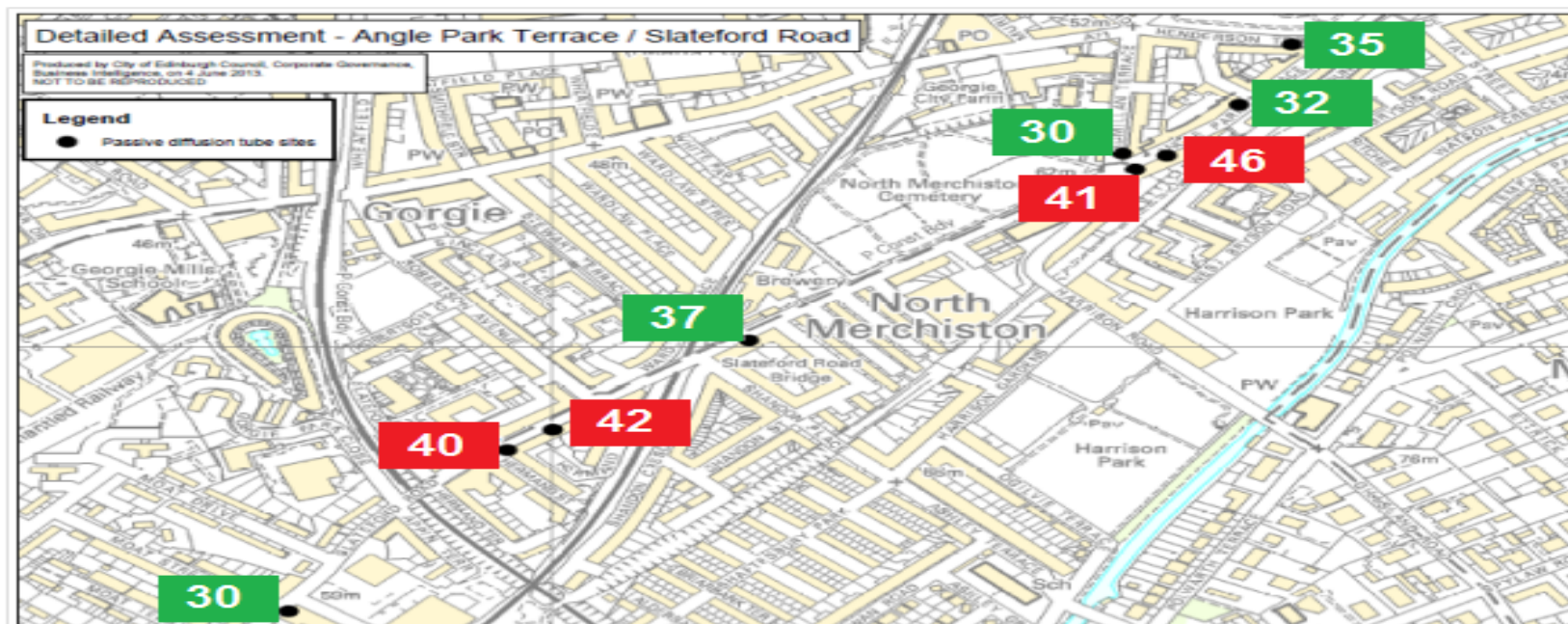


Table 8.3 Euro Standard of Service Bus Fleet (Lothian Buses 2006 to 2014)

Euro Standard	Base year 2006	Sept 2010	Oct 2011	Aug 2012	May 2013	May 2014
Pre Euro	63 (10%)	0	0	0	0	0
Euro 1	33 (5%)	0	0	0	0	0
Euro 2	202 (32%)	64 (10%)	7 (1%)	12 (2%)	0	0
Euro 3	317 (52%)	307 (52%)	257 (43%)	254 (42%)	251 (41%)	273 (43%)
Euro 4	0	79 (13%)	79 (13%)	81 (13%)	81 (13%)	75 (12%)
Euro 5	0	136 (23%)	141 (23%)	141 (23%)	141 (23%)	147 (23%)
EEV (5/6)	0	1 (0.1%)	117 (20%)	117 (19%)	142 (23%)	146 (23%)
Euro 6						1 (<1%)
Total	615	587	601	605	615	642

Table 8.5 First Scotland (East) Fleet operating in Edinburgh 2011 and 2014

Euro Standard	2011	2013	2014
Euro 1	23 (7%)	0	0
Euro 2	149 (45%)	0	0
Euro 3	116 (35%)	75 (69%)	53 (52%)
Euro 4	33 (10%)	24 (22%)	31 (30%)
Euro 5	9 (3%)	10 (9%)	18 (18%)
Total vehicles	330	109	102

Table 8.6 Stagecoach operating in Edinburgh 2012 - 2014

Euro Standard	2012	2013	2014
Euro 2	2 (5%)	0 (0%)	0 (0%)
Euro 3	4 (10%)	4 (10%)	8 (14%)
Euro 4	27 (69%)	27 (64%)	33 (59%)
Euro 5	6 (15%)	11 (26%)	15 (27%)
Total vehicles	39	42	56