

**REPORT TO: COMMUNITY SAFETY & PUBLIC PROTECTION COMMITTEE - 13 JUNE 2016**

**REPORT ON: AIR QUALITY UPDATE**

**REPORT BY: EXECUTIVE DIRECTOR OF NEIGHBOURHOOD SERVICES**

**REPORT NO: 203-2016**

**1.0 PURPOSE OF REPORT**

1.1 To advise Committee of the results of the 2015 air quality monitoring data and on the progress being made to improve air quality within the city via the corporate Air Quality Action Plan (AQAP).

**2.0 RECOMMENDATIONS**

2.1 It is recommended that committee note the contents of this report and remit the Executive Director of Neighbourhood Services to continue with the implementation of the measures and actions detailed within the AQAP.

**3.0 FINANCIAL IMPLICATIONS**

3.1 There are no direct financial implications arising from this report.

**4.0 MAIN TEXT**

4.1 Reference is made to Article V of the Environmental Services and Sustainability committee of 20th February 2006, which approved the establishment of an Air Quality Management Area in the city and the basis of the necessary air quality monitoring and measures the Council requires to implement to work towards meeting the required air quality standards. As well as meeting the EU/UK National Air Quality Standards (NAQS), for the purposes of Local Air Quality Management, local authorities in Scotland are also required to meet the more stringent statutory Scottish objectives.

4.2 Of the seven NAQS pollutants, there is no anticipated risk of exceeding the statutory objectives for benzene, carbon monoxide, 1,3-butadiene, sulphur dioxide and lead. Neighbourhood Services continues to closely monitor the levels of nitrogen dioxide (NO<sub>2</sub>) and particulates (PM<sub>10</sub>) at specific areas within the city via both continuous monitoring equipment and diffusion sampling tubes. Air quality real time monitoring was carried out at 13 sites for NO<sub>2</sub> and PM<sub>10</sub> where earlier problems with air quality have been identified.

4.3 The latest results and analysis of the ratified data for 2015, along with the progress in implementing the measures contained in the Air Quality Action Plan, will now be submitted to the Scottish Government and SEPA within the 2016 Air Quality Progress Report. During 2015, a positive improvement has continued in various aspects of air quality in the city and the main improvements measured are as follows:

- A significant reduction (8.4%) in the annual average concentration of NO<sub>2</sub> at the Seagate.
- The Seagate also met in full the NAQS and more stringent Scottish air quality objectives for NO<sub>2</sub> hourly averages, PM<sub>10</sub> annual averages and PM<sub>10</sub> daily averages.
- The annual average for NO<sub>2</sub> at Whitehall Street has fallen to within the target level of 40µg/m<sup>3</sup>
- There were no exceedances of the hourly levels of NO<sub>2</sub> measured at any of the real time monitors across the city and this objective was met in full for the second year running.

- Annual averages of PM<sub>10</sub> measured at all of the monitoring sites were well below the National Air Quality Standard objective of 40µg/m<sub>3</sub> and 9 of the 12 monitors met the much more stringent Scottish objective of 18µg/m<sub>3</sub>; and
  - The more stringent Scottish daily average for PM<sub>10</sub> was met at 10 of the 12 real time monitors.
- 4.4 Although there were a lot of positive improvements recorded, there remain a number of areas where further work is required to improve air quality in the city:
- Whilst there has been a significant improvement in the average annual level of NO<sub>2</sub> measured in the Seagate and the daily and hourly objective levels for PM<sub>10</sub> along with the hourly average for NO<sub>2</sub> have all been met in full in this area, the annual objective level of 40µg/m<sub>3</sub> continues to be exceeded.
  - The annual levels measured for NO<sub>2</sub> and PM<sub>10</sub> at Lochee Road continue to exceed the objectives (however the hourly objectives for both NO<sub>2</sub> and PM<sub>10</sub> were met in full).
- 4.5 In order to further improve air quality within the city and work towards compliance with all of the NAQS EU/UK and Scottish objectives, a number of measures detailed in the Air Quality Action Plan are being progressed and are shown in Appendix 1 of this report. The measures that were progressed in 2015/16 include:
- Review of the Transportation and Air Quality study reports that have been undertaken for the Seagate, North-West arterial route, Stannergate area, and Kingsway/Forfar Road junction by specialist consultants. A summary of the conclusions from the studies is contained in Appendix C of the 2016 Air Quality Progress Report;
  - Continuation and expansion of both ECOSTARS Schemes for Heavy Duty Vehicles and Taxis/Private Hire vehicles. There are now 79 members (3948 vehicles) in the HDV Scheme and 11 members (201 vehicles) in the Taxi/PHV Scheme;
  - Dundee City Council commissioned an Ultra Low Emission Vehicle (ULEV) freight distribution feasibility study in partnership with TACTRAN for an ULEV last mile delivery system operated by a social enterprise;
  - Provision of permanent infrastructure to increase separation distances between receptors (places and buildings occupied by people for significant periods of time) and road traffic at Meadowside will be completed in 2016. The 2015 NO<sub>2</sub> monitoring results demonstrate that the air quality improvements attributable to this infrastructure change have been maintained;
  - Introduction of “I-Bike” scheme. An officer was appointed in July 2015 initially working with Grove and Menzieshill Secondary Schools and their respective feed-in primary schools to encouraging cycling and promote modal shift for school journeys, and to help in securing long-term change in travel behaviour, and;
  - “Dr Bike” has visited Dundee City Square, Dundee University & Abertay University Campus several times offering bike maintenance workshops.
- 4.6 In addition to the implementation of the above measures Dundee City Council (Fleet Management Team) were awarded the Low Carbon Vehicle Operator of the year at the prestigious Low Carbon Champions Award in Milton Keynes in September 2015. The council also received the Public Sector Fleet of the Year (medium to large fleet) at the Green Fleet Awards in Birmingham, in October 2015, this was awarded to the UK public sector organisation with a fleet of more than 250 vehicles that demonstrated a reduction in CO<sub>2</sub> and other pollutants through fuel efficiency programmes, green fleet management and driver awareness training. This demonstrates the council’s strategic approach to both fleet and infrastructure and in leading the way in contributing to providing a cleaner and greener fleet in the city.
- 4.7 Proposed actions scheduled to be taken forward in 2016/17 include:

- Detailed assessment of traffic, air quality improvements and urban realm issues of the proposed traffic management changes in the Seagate to inform viability of the proposed changes ;
- Review of Bus movements in Crichton Street/Whitehall Street/Nethergate to investigate and identify measures to improve air quality;
- Continuation of both ECOSTARS Schemes for Heavy Duty Vehicles and Taxis/Private Hire vehicles to encourage engagement with and participation of these transport providers in the achievement of air quality improvements in the city;
- Continuation of delivery of air pollution and active/sustainable travel workshops to every Primary 5 class in Dundee and i-bike officer initiative to raise awareness and encourage modal shift to gain air quality improvements, and;
- Active participation in the Cleaner Air for Scotland Governance Group and in the implementation/consideration of aims and objectives of CAFS across all relevant service/policy areas to contribute to the achievement of the necessary air quality improvements.

4.8 JMP Consultants were earlier commissioned to undertake a review of transport activity on the Seagate with a specific focus on identifying actions that would address its poor air quality. Their commission included engagement with local bus operators given that buses account for around 60% of harmful emissions. The report concluded that whilst the cost of infrastructure change and vehicle upgrade are likely to be considerable, a range of other actions that could help reduce emissions should be further investigated. Subject to funding being secured from the Scottish Government Air Quality Fund, the Council will review the recommendations and undertake pollution dispersion modelling and traffic modelling.

4.9 The Scottish Government have refocussed the Local Air Quality Management (LAQM) system with the launch of the 'Cleaner Air for Scotland Strategy – The Road to a Healthier Future' on the 4<sup>th</sup> November 2015. This cross-government strategy provides a national framework which sets out how the Scottish Government and partner organisations propose to reduce air pollution further to protect human health. CAFS sets an ambitious five year target to achieve full compliance with the EU standards for air quality, make significant progress towards revocation of all AQMAs and to establish a new National Low Emission Framework (NLEF) by 2020. Full details of the new strategy are available via the Scottish Government's webpage: <http://www.gov.scot/Resource/0048/00488493.pdf>

The Corporate Air Quality Steering Group in developing the Councils AQAP shall be taking full cognisance of this strategy along with the recent Royal College of Paediatrics and Child Health (RCPCH) and Royal College of Physicians (RCP) report: 'Every breath we take: the lifelong impact of air pollution'.

## 5.0 POLICY IMPLICATIONS

5.1 This report has been screened for any policy implications in respect of Sustainability, Strategic Environmental Assessment, Anti-poverty, Equality Impact Assessment and Risk Management. There are no major issues.

## 6.0 CONSULTATIONS

6.1 The Chief Executive, Executive Director of Corporate Services, Head of Democratic and Legal Services and Executive Director of City Development have been consulted in the preparation of this report.

## 7.0 BACKGROUND PAPERS

7.1 None.

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Elaine Zwirlein  
**Executive Director of Neighbourhood Services**  
 13<sup>th</sup> June 2016

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Tom Stirling  
**Head of Community Safety and Protection**

**Appendix 1 - Progress with AQAP Measures**

**Potential Air Quality Benefits**

Small	0 - 0.5 µg/m <sup>3</sup>
Medium	0.5 - 1.0 µg/m <sup>3</sup>
High	greater than 1.0 µg/m <sup>3</sup>
n/a	not applicable

Action Plan Measure Priority Level	
High	
Medium	
Low	

Timescale (Years from 2011)	
Short	1 - 2
Medium	3 - 5
Long	6 +

2015 Updates are shown in blue text

**Table Error! No text of specified style in document..1 – Progress on Measures to Improve Air Quality**

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
1	<b>Measure M1:</b> Existing Road Infrastructure Improvements	Transport planning and infrastructure	► City Centre Improvements - Union St	DCC City Development Department (Transportation Division)			Implementation of improvements	High	Union Street Road Infrastructure improvements completed December 2011. Two way traffic was maintained. Pavement widths were altered and the bus stops have been removed to reduce congestion and bus idling.	Union Street Road infrastructure improvements completed 2011	The levels of NO <sub>2</sub> at Union St have shown a consistent improving downwards trend to well below the objective level since 2010. .



No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
1 cont		Transport planning and infrastructure	<input type="checkbox"/> City Centre Improvements - Meadowside		1 year trial of closing of nearside lane to increase distance between traffic and receptors successful. Funding received in 2015/16 to make temporary surface permanent.	2013 +		Not estimated	Meadowside – in 2012 trial of lane closure at the north end of street to increase separation distance between traffic and receptors was put in place for two weeks from the 26/11/12. As the monitoring results were <b>inconclusive</b> , it was agreed to install a temporary paving surface which was completed in October 2013 to allow the impact on monitored concentrations to be studied for a 12month period. During the extended trial period nitrogen dioxide concentrations reduced by 19% and there was an 11% reduction in PM <sub>10</sub> . Due to the significant improvement in pollutant concentrations permanent street infrastructure changes will be completed in Feb/March 2016	2015/16	The greatest improvement in pollutant concentrations between 2013 and 2014 was seen at the Meadowside automatic monitor. nitrogen dioxide concentrations, reduced by 19% and 11% for PM <sub>10</sub> .
1 cont		Transport planning and infrastructure	<input checked="" type="checkbox"/> Arterial Route Improvements - Stannergate		Traffic/Pollution Modelling Dundee East area (including Stannergate roundabout) to identify options for AQ improvement	2013		Not estimated	Consultants engaged in 2013 to carry out traffic micro-simulation modelling and air dispersion modelling.  Final draft of the AD Modelling received in April 2016, Dundee City Council currently reviewing the report and considering the implications of the modelled scenarios.	2015/16	
1 cont		Transport planning and infrastructure	<input type="checkbox"/> City Centre Improvements – Seagate / St. Andrews Street.		Funding provided in Financial Year 14/15 to provide engineering design and air dispersion modelling of changes to bus stop locations	2014/15		Not estimated	In late 2014, JMP were commissioned to undertake a review of transport activity on the Seagate with a specific focus on identifying actions that would address its poor air quality. Their commission included engagement with local bus operators given that buses account for around 60% of harmful emissions. . Subject to funding being secured from the Scottish Government Air Quality Fund, the Council will review the recommendations and undertake pollution dispersion modelling and traffic modelling.	2015/16	

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
2	<b>Measure M2:</b> DCC will enhance the Urban Traffic Management and Control (UTMC) system to reduce congestion	Traffic management	<ul style="list-style-type: none"> <li>▶ Real-time traffic monitoring.</li> <li>▶ Improved control regime to smooth out peak traffic.</li> </ul>	DCC City Development Department (Transportation Division)	Implementation of UTMC improvements and carry out annual review to measure % reduction in congestion in line with target		<ul style="list-style-type: none"> <li>▶ 10% reduction in congestion (journey times) in targeted areas during peak times before and after implementation of measure.</li> <li>▶ Annual review of impact</li> </ul>	Small	<p>Scheme designed to expand UTMC to two congested junctions in Lochee Rd AQ hotspots.</p> <p>Schemes now implemented and the traffic management improvements will be assessed in terms of AQ improvements by Environmental Protection Division. ▶ UTMC was implemented in March 2013 which will see further traffic management enhancements. ▶ Seagate / Commercial Street traffic light refurbishment to improve bus and traffic flows through this AQ hotspot on the main bus corridor completed Feb 2013. Coupled with increased enforcement of waiting restrictions to reduce congestion. ▶ Successful trial of bluetooth journey time monitoring of western arterial route, possibility of expansion to include AQ hotspots.</p> <p><i>Schemes now implemented and the traffic management improvements will be assessed in terms of AQ improvements by Neighbourhood Service.</i></p>	Completed 2013	NO <sub>2</sub> concentrations in Seagate reduced slightly between 2013 and 2014 but show an increasing trend. .

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
2 cont		Traffic management			TACTRAN Capital Grant funding for expanded automation of journey time monitoring to allow activation of traffic management systems to alleviate congestion.	2013		Not estimated	Funding provided in FY 14/15 to expand Bluetooth Traffic Speed Monitoring System to include the Lochee Road corridor a known air pollution hotspot was completed by 31 <sup>st</sup> March 2015  Equipment scheduled to be installed in the eastern part of the city in 2016. On going work with Transport Scotland to develop the system further.	2015	n/a
		Traffic management			Improve traffic flow/management strategies in Lochee Rd- introduce MOTES	2013		Not estimated	MOTES now unlikely to be deployed as it appears to have limited effect. Expansion of Bluetooth traffic speed monitoring to include the Lochee Road corridor was completed by 31 <sup>st</sup> March 2015	2015	n/a
		Traffic management			Paramic/AIR E modelling of key junctions – Kingsway/Forfar Road & Lochee Road Corridor to test option improvements	2013		Not estimated	Consultants engaged in 2013 to carry out traffic micro-simulation modelling and air dispersion modelling. Final Modelling received in April 2016 Dundee City Council currently reviewing reports and considering options. Summary of options contained in Appendix C of this report.	2016	Modelling work currently being reviewed.

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
3	<b>Measure M3:</b> DCC to identify partnership and funding to continue benefits of Smarter Choices/Smarter Places: Dundee Travel Active Programme	Promoting travel alternatives	<ul style="list-style-type: none"> <li>▶ Identify and implement wider partnership to continue programme.</li> <li>▶ Identify funding.</li> </ul>	DCC City Development Department (Transportation Division)			<ul style="list-style-type: none"> <li>▶ Increase % of people who walk and cycle to work in Dundee.</li> <li>▶ Identify funding for education</li> </ul>	Small	<ul style="list-style-type: none"> <li>▶ Social Marketing Campaign undertaken - focussing on the Lochee Road corridor (Reported in AQAP Progress Report 2012, Appendix 1).</li> <li>▶ DCC initiated partnership with a local social enterprise to develop a Behavioural Change Centre of Excellence.</li> <li>▶ Designed a programme of in-class workshops to promote sustainable and active travel in 11 primary schools.</li> <li>▶ Established a new Bike Boost programme to promote cycling to work and other journeys.</li> <li>▶ DCC is actively working to secure funds for future investment in Dundee Travel Active.</li> </ul> <p>2012 summary - Broughty Ferry targeted for Personalised Travel Planning delivered by Social Enterprise Positive Steps.</p> <ul style="list-style-type: none"> <li>▶ DCC staff travel policy now being implemented and this will further encourage modal shift to active modes.</li> <li>▶ Investigated a school based travel behaviour change programme for 2013.</li> <li>▶ 19.7% of people estimated to be walking or cycling to work in Dundee. The data is published by the Scottish Government every two years. The 19.7% data is taken from the Scottish Household Surveys undertaken in 2009 and 2010. The target in the City Development Service Plan 2012-2017 is 25%.</li> </ul> <p>Summary 2013▶ Broughty Ferry has had Personalised Travel Planning delivered by Social Enterprise Positive Steps.</p> <p>41% of trips to work by Active Travel (walking and cycling) in 2012. This figure is taken from Scottish households survey (SHS) undertaken in 2012 and relates to a very small sample size (92 people).</p> <p>Summary 2014--Sustans Funding used to help deliver improved cycling and walking connectivity. A limited level of SCSP funding has been used to improve signage around the Green circular. Doctor Bike has visited Dundee City Square several times offering bike maintenance workshops.</p> <p>Summary 2015-Dr Bike has visited the City Square, Dundee University and Abertay University Campus several times offering bike maintenance workshops. I-bike initiative also commenced in July as detailed below.</p>	2012+ on-going	A reduction in transport / unnecessary journeys is predicted however this may be difficult to measure.

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
		Promoting travel alternatives			Behavioural Change Primary School programme to promote sustainable travel options in all primary schools in Dundee. Funding provided in FY 2014/15 to extend programme to P5 pupils over two academic years Funding sought in FY for 2015/16.	2013+			Primary school focussed Personalised Travel Planning contract awarded and all P5 pupils in Dundee to be given classroom sessions on Air Quality, Sustainable Travel, Active Travel benefits March – October 2013. Summer term & Autumn Term 2014  Feedback from these sessions has been very positive.  It was the intention to undertake the Primary school focussed Personalised Travel Planning Sessions in-house but this was not feasible. The work was put out to tender and awarded to JMP Consultant in December 2015 with the intention of programming completion by the end of June 2016 for the 2015/16 intake of pupils.	Ongoing	
3 cont.		Promoting travel alternatives			3 "Doctor Bike" Safety Events planned for the City Square  Funding to provide match funding for I-bike initiative sought in FY for 2015/16	2013/14  2015/16			Doctor Bike has visited Dundee City Square several times offering bike maintenance workshops  i-bike officer in place from July 2015. Initially working with Grove and Menzieshill Secondary Schools and their respective feed-in primary schools encouraging cycling.		
4	<b>Measure M4:</b> DCC will introduce measures to improve bus services and reduce emissions	Transport planning and infrastructure  Vehicle Fleet efficiency	<ul style="list-style-type: none"> <li>†</li> <li>▶ Statutory Bus Quality Partnership.</li> <li>†</li> <li>▶ Voluntary Bus Quality Partnership</li> </ul>	DCC City Development Department (Transportation Division)		2011+	<ul style="list-style-type: none"> <li>▶ Identification of new corridors that directly benefit air quality.</li> <li>▶ Average age fleet and Euro category, fuel type</li> </ul>	Medium	Opportunities investigated as part of Air Quality Low Emission Charter  Publication of Cleaner Air for Scotland Strategy (launched November 2015)	Medium Term  2012+	



No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
4 cont.	Measure M4, cont.	Vehicle Fleet efficiency	† ► Fleet Renewal – Emissions Improvements	DCC City Development Department (Transportation Division)		2011+	► Fleet age, Euro class, fuel type	Medium	<p>► National Express Dundee introduced 15 new Euro V buses during December 2011 for use on Services 22 (Ninewells Hospital - City Centre-Downfield-Craigowl View) and 28/29 (Douglas-Charleston-Douglas via City Centre). ► During 2010/11 Stagecoach invested in 20 new Euro V double-deckers on its major Service 73 corridor (Ninewells-City Centre-Broughty Ferry-Carnoustie-Arbroath) and Service 20 (Dundee-Forfar). ► 4 new Euro V coaches also have also been introduced in new route (Dundee-Arbroath-Montrose-Aberdeen)</p> <p>2012 summary - ► No bids submitted for Green Bus fund 3 ► DCC looking at Hydrogen Fuel cell opportunities for buses in a collaborative approach through the Scottish Cities Alliance. ► National Express Dundee applied to Scottish Government's Green Bus Fund 2 and invest in hybrid engine technology. ► Stagecoach invested in 6 new Euro V buses on their Dundee to Blairgowrie route (Service 57)</p> <p>2013 Summary - Through the Scottish Cities Alliance (SCA) investigations into potential for Hydrogen fuel alternatives are being developed with major EU funding opportunity hopefully being available 2014 - 2020. SCA and ten Cities are engaged with EU proposal in terms of Scotland's suitability for Hydrogen Fuel cell bus expansion. 2014 Summary - In Dundee, National Express has been operating Diesel Electric Hybrid buses since 2013 and these have been operationally very successful in terms of the 'green' message and attracting users. National Express are also looking to modernise the smaller midi bus sized vehicles in their fleet. Stagecoach will introduce 15 Diesel Electric buses in Spring 2015 to Service 73 corridor Electric Vehicle operation and charging infrastructure expansion has put Dundee to the forefront of this technology. Dundee alongside the Scottish Cities Alliance is exploring Hydrogen Fuel cells as alternative fuel technology for buses, through EU funded Hydrogen Fuel cell Joint Undertaking. Stagecoach have announced that approximately 18 new Diesel Electric buses will replace existing Euro 5 buses in Spring 2015 and new Euro 6 diesel vehicles will replace Euro 5 vehicles later this year also. These major bus industry investments will have a positive impact on air quality in Dundee.</p> <p>2015 Summary- The Council continues to work in informal partnership with the main bus operators in Dundee. Stagecoach introduced 18 Euro VI electric-</p>	2013+	

										<p>hybrid buses on their Service 73 route in May 2015. Investment in new buses at Xplore Dundee has been limited with the arrival of just 5 new buses in 2015.. Some "younger" buses from the wider National Express group have been redeployed to Dundee during 2015.</p>	
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No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
		Vehicle Fleet efficiency					▶Lobby Scottish Government for fuel duty rebates for low carbon fleet		<p>Bus Service Operators Grant (BSOG) changes from April 2012 will reward use of cleaner fuels and incentivise the use of cleaner vehicles.</p> <p>2013 Summary-Current enhanced BSOG available for operation of Diesel Electric Hybrid buses. Further investigate enhanced BSOG where Hydrogen Fuel Cell vehicles are introduced.</p> <p>2014 –No Change</p> <p>2015 Summary - The government continues to review its BSOG payments and Dundee City Council officers have contributed to that discussion and debate.</p>		
4 cont.	Measure M4, cont.	Vehicle Fleet efficiency			National Express Dundee will introduce nine Diesel Electric Hybrid buses into their fleet in April / May 2013 as per Green Bus Fund 2 bid success	2013			<p>In 2013 High profile launch event for the nine Hybrid Buses introduced by National Express Dundee – coupled with promotional work with local schools</p> <p>Completed</p>	2013	New cleaner emission vehicles are now successfully in operation
		Vehicle Fleet efficiency			ECO Stars Dundee Fleet Management Recognition Scheme being introduced	2013/14			See Measure 6 – National Express Dundee one of the 12 inaugural members and Stagecoach joined the scheme in 2014		
		Traffic Management  Vehicle Fleet Efficiency	▶Tackling Idling Bus Emissions	DCC City Development Department (Transportation Division)		2011+	▶Traffic Regulation Conditions within the city centre. ▶' No-idling' signage on bus routes. ▶ Driver Training/ Awareness Raising	Small	▶Opportunities being investigated as part of Air Quality Low Emission Charter (Reported in AQAP 2012, Appendix 2). ▶National Express Dundee and Stagecoach have invested in in-vehicle monitoring systems and vehicles with auto-shutoff technology	2012+	

4 cont.	<b>Measure M4, cont.</b>	Promoting low emission transport •	<ul style="list-style-type: none"> <li>□ ► Low Emission Zones (LEZ) for buses</li> </ul>	DCC City Development Department (Transportation Division)		2013	<ul style="list-style-type: none"> <li>► Investigate the Traffic Regulation Conditions for LEZ in City Centre.</li> <li>► Route choice for clean buses see Park &amp; Ride facilities</li> </ul>	High	Opportunities being investigated as part of Air Quality Low Emission Charter. (Reported in AQAP 2012, Appendix 2)  see Measure 5 re Park and Ride Facilities)	Med Term, 2015-2016+	
No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
		Promoting low emission transport			Bus Emission Modelling being undertaken to test likely improvements associated with various scenarios including possible LEZ for buses by 2017	2013/14			<p>Model of main City Centre Bus Corridor set up to model the impact of the following low emission Scenarios:</p> <p>S1 – 2017 All Buses Euro V S2 –2017 All Buses Euro VI S3 – 2017 All Buses &amp; HGVs Euro V S4 – 2017 All Buses &amp; HGVs Euro VI</p> <p><a href="#">Modelling Report submitted July 2015, summary of findings available in Appendix C of this report.</a></p>	2015	
5	<b>Measure M5:</b> DCC will explore provision of Park and Ride facilities that do not have adverse impact on air quality	Alternatives to private vehicle use	<ul style="list-style-type: none"> <li>►† Provision of Park and Ride (P&amp;R) facilities</li> </ul>	DCC City Development Department (Transportation Division) & Tayside and Central Scotland Transport Partnership (TACTRAN)			<ul style="list-style-type: none"> <li>► Report on identification and prioritisation of P&amp;R facilities</li> <li>► Implementation of scheme</li> <li>► Passenger numbers</li> </ul>	Medium	<p>Site at Wright Avenue selected as preferred location for P&amp;R at Dundee West and at site on south side of Tay Road Bridge identified for Dundee South and confirmed by NE Local Plan reporter.</p> <p>► Both sites taken forward with detailed design. Dundee West underwent pre - planning application consultation and detailed planning consent applied for in mid 2013.</p> <p>Dundee West site at Wright Avenue rejected by Development Management Committee In October 2013.This will require TACTRAN and DCC to review Dundee area Park and Ride strategy.</p> <p>Summary 2014-TACTRAN and DCC to review Dundee area Park and Ride strategy. Also to engage with Transport Scotland as there are national transport policy implications in terms of Park and Ride around Scotland's cities It is not anticipated that Dundee West Park and Ride option will be revisited in the timeframe of this monitoring framework. Wider strategy around city under review with TACTRAN, SESTRAN, Fife Council and Transport Scotland DCC, Fife Council, TACTRAN and SESTRAN actively investigating funding opportunities to secure land purchase at Dundee South (Tay Road Bridge)</p>	+	



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6	<b>Measure M6:</b> DCC will introduce measures to reduce emissions from Heavy Goods Vehicles	Freight and delivery management	† ►Perth & Dundee Retail Freight Consolidation Centre	DCC City Development Department Transportation Division)& TACTRAN		2011+	►Implementa tion of scheme ► Vehicle fleet in the AQMA ► Study for the alternate system of retail freight	Small	<p>Opportunities being investigated as part of Air Quality Low Emission Charter (See AQAP2012 Appendix 2)</p> <p>Summary 2013-LaMILO (Last Mile Logistics) projects to deliver exploratory social enterprise model freight consolidation based on successful Dutch model. ENCLOSE project developed and looking at Sustainable Urban Logistics Plan for Dundee (SULP)</p> <p>Summary 2014- Dundee City Council is working with the Heavy Duty Vehicle operators to reduce environmental impact of these vehicles. An accreditation scheme - ECO STARS is operating that recognises green fleets. DCC are also partners in an EU funded project ENCLOSE that is looking to make City Logistics more efficient and environmentally friendly. The Dundee Sustainable Urban Logistics Plan was approved by the City Development Committee on 27.10.14</p> <p>Summary 2015-A number of new members joined ECO STARS Scheme for Heavy Duty Vehicles in 2015 with the membership increasing to 79 by the 31<sup>st</sup> December.</p>	2012+	
6 cont	<b>Measure M6 cont.</b>	Freight and delivery management	† ►Freight Quality Partnership (FQP)	DCC City Development Department Transportation Division)& TACTRAN			►Implementa tion of partnership ► Changes in hourly profile of HGVs in AQMA	Small	<p>Dundee is included as part of Tactran's Regional Freight Quality Partnership</p> <p>Summary 2015 - A Freight Consolidation business plan has been prepared and ongoing discussions with a potential operator to develop a small scale Freight consolidation centre in the city.</p>	Long term	

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6 cont		Freight and delivery management			A freight routing planning tool will be launched by TACTRAN which should encourage HGVs to follow appropriate routes	Jan-13			The Tactran Freight Planning Tool was established in The 2013		
		Freight and delivery management			Dundee is participating in a pan European project (ENCLOSE) investigating city logistics with carbon and emission reduction as important factors under investigation	2013			The Dundee Sustainable Urban Logistics Plan (SULP) was developed to give legacy post ENCLOSE project in terms of energy efficient and 'green' city logistics. The Plan was approved by the City Development Committee on 27.10.14		
6 cont		Vehicle Fleet Efficiency			ECO Stars Dundee Fleet Management Recognition Scheme being introduced in 2013 Funding to continue in 2015/16 Seeking funding for 2016/17	2013			Dundee ECO Stars Fleet Recognition Scheme was successfully launched on the 13th December 2013 with 12 inaugural members. This is a fleet accreditation system that acknowledges greener fleets. The Corporate Air Quality Steering Group intends to seek funding for future years.  Dundee ECO Stars Recognition Scheme for heavy duty vehicles fleets had 79 members by the 31 <sup>st</sup> December 2015	Ongoing	A number of participating members are now demonstrating working towards operating cleaner /greener fleets.
		Promoting Low Emission Transport			Seeking match funding for feasibility study for ULEV/ZEV deliveries in 2015/16 FY				A Freight Consolidation business plan has been prepared and ongoing discussions with a potential operator to develop a small scale Freight consolidation centre in the city.		

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7	<b>Measure M7:</b> DCC will seek improvements in emissions standards, including NO2 and PM <sub>10</sub> for the council fleet and public service vehicles	Promoting Low Emission Transport	<ul style="list-style-type: none"> <li>□ ► Development of Green Procurement Strategy</li> <li>► To set target for Euro category/fuel type</li> </ul>	<ul style="list-style-type: none"> <li>► DCC Corporate Fleet Manager</li> <li>► DCC Environment Department</li> </ul>			<ul style="list-style-type: none"> <li>► Approval of Strategy (Asset Management Plan)</li> <li>► Average age fleet and Euro category, fuel type</li> </ul>	Small	<ul style="list-style-type: none"> <li>► New Corporate Fleet Manager appointed December 2011</li> <li>► New Fleet Section to develop a reporting procedure to compare replacement vehicles in relation to emission improvements</li> <li>► New Fleet Section will create a replacement plan for all vehicles to maintain fleet age profile</li> <li>► 2011 make up of the waste collection fleet - 12 x Euro 3, 17 x Euro 4 and 23 x Euro 5. Fleet is continually moving towards newest Euro Category</li> <li>► The Fleet section replaced 60 vehicles 2012/13 all with improved emissions standards</li> </ul> <p>Summary 2013 The Fleet Section has bought in over 50 new vehicles in 2013 replacing the oldest and most polluting vehicles where possible. And have also undertaken an exercise with hire company to replace over 30 of the oldest hire vehicles in the fleet.</p> <ul style="list-style-type: none"> <li>► 2 new Euro 6 engine Refuse Collection vehicles have been ordered to join the fleet in 2014.</li> </ul> <p>There are also 39 electric vehicles in the Council Fleet contributing to lower emissions. DCC Transportation delivering in partnership with Developing Car Clubs in Scotland and Co-Wheels seven additional car club vehicles all of which are Electric Vehicles</p> <p>Summary 2014- Following the introduction of 7 Euro 6 refuse collection vehicles in 2014. The Fleet are looking to introduce another 5 in 2015. A further 7 electric cars have been added to the Fleet towards the end of 2014 with further cars and 1 van on order. The Fleet Section have also been offered a government grant to lease a number of vehicles, the leasing is currently out to tender but it is hoped to lease a further 7 vehicles.</p> <p>Summary 2015- The Fleet Section has spent approximately £1.8 million in 2015/16 replacing 31 vehicles and 45 items of plant.</p> <ul style="list-style-type: none"> <li>► See also Measure 14</li> </ul>	2014+	

	Promoting Low Emission Transport		The development of an Asset Management Plan which will incorporate environmental issues as part of the replacement criteria	2013/14		An asset management plan has been created providing details of the ongoing replacement plan. Due to financial restrictions and vehicle variations the replacement programme will be done on a cost and condition basis. The emphasis of the plan will remain however the oldest and most polluting vehicles		
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No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
		Promoting Low Emission Transport			Initial discussions for 2013/14 vehicle/plant replacement programme has identified improved emissions as a high priority	2013/14			Summary 2013/14-Replaced over 30 of the oldest hire vehicles in the fleet. . <a href="#">See Measure 7 above</a>		An equivalent number of poorer quality emission vehicles have now been removed from service.
		Vehicle Fleet Efficiency			Participation in ECO Stars Dundee-Fleet Management Recognition Scheme	2013			DCC Fleet Achieved 4-Star Rating in ECO Stars Recognition Scheme as recognition for reducing the environmental impact of the Council's Fleet.	Ongoing	
8	<b>Measure M8:</b> DCC in consultation with the Taxi Liaison Group will explore means of reducing emissions from taxis and private car hire vehicles in AQMA	Promoting low emission transport	<ul style="list-style-type: none"> <li>▶ Enforce No idling for taxis ▶ † Increase cleaner taxis</li> </ul>	<ul style="list-style-type: none"> <li>▶ DCC Support Services</li> <li>▶ DCC City Development Department</li> <li>▶ Tayside Police</li> </ul>			<ul style="list-style-type: none"> <li>▶ Traffic Regulation Conditions for 'No Idling' of taxis</li> <li>▶ Explore the potential of introducing Licensing Conditions for minimum taxi Euro category for certain classes of vehicles</li> <li>▶ Provide 'No Idling' street signage</li> <li>▶ Monitoring for idling in place</li> </ul>	Medium	<ul style="list-style-type: none"> <li>▶ Opportunities are being investigated as part of Air Quality Low Emission Charter (See AQAP 2012 Appendix 2). ▶ Education Transport contracts to be let with condition that all vehicles must be Euro 4 compliant. ▶ Approximately 400 Taxi / PHC driver training sessions were made available in FY 2013/14 -limited uptake alternative training options being considered</li> </ul> <p>Summary 2014-As part of Air Quality Low Emission Charter, opportunities are being investigated for: Traffic Regulation Conditions for 'No Idling' of taxis; Explore the potential of introducing Licensing Conditions for minimum taxi Euro category for certain classes of vehicles; Provide 'No Idling' street signage; Monitoring for idling. Education Transport contracts were let with condition that all vehicles must be Euro 4 compliant. Engaging with taxi operators who are actively investigating electrification of taxi fleet - one operator has indicated desire to convert diesel fleet to all electric (100+ vehicles), currently DCC working with partners to support this major proposal.</p> <p>Summary 2015- ECO Stars fleet recognition scheme for Taxis was launched on the 11<sup>th</sup> March 2015. There were 11 members in the scheme by the 31<sup>st</sup> December 2015. DCC also looking at collaborative work with taxi operators in developing an Electric Vehicle trial for taxis in Dundee. Dundee was successful in the 1<sup>st</sup> stage of bidding to Office of Low Emission Vehicles Ultra Low Taxi Scheme. This awarded us a fully funded feasibility study to be carried out by Energy Savings Trust. This was undertaken in December 2015 and we are waiting on final report.</p>	Ongoing+	Objective to remove poor emission vehicles from service

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
8		Transport Management			As part of Air Quality Low Emission Charter, continue to investigate opportunities for: Traffic Regulation Conditions for 'No Idling' of taxis;	2013/2014+			Ongoing		
8		Vehicle Fleet Efficiency			Explore the potential of introducing Licensing Conditions for minimum taxi Euro category for certain classes of vehicles;				2013-Assuming successful implementation of the proposed ECOSTARS scheme for Taxi Operators, the Council will consider making achievement of a certain minimum star rating a pre-requisite for Council Contracted work.  In 2015 DCC introduced a condition within the school transport contracts requiring any successful applicant to become a member of the ECOSTARS Scheme for Taxi Operators by July 2016.		
		Traffic Management			Provide 'No Idling' street signage; Monitoring for idling.				No progress as the funding that was provided in 2015/16 was allocated to cover the additional costs of installing permanent infrastructure in Meadowside.  ➤ See Measure 1		
8 cont.		Promoting low emission transport			DCC also looking at collaborative work with taxi operators in developing an Electric Vehicle trial for taxis in Dundee				2014-Looking at City Wide rapid charger network to support individuals use, where they can't easily home charge and this will support a taxi fleet of EVs (over and above their home / depot charging infrastructure). Up to seven rapid chargers would be located in neighbourhoods city wide  2015- Dundee was successful in the 1st stage of bidding to Office of Low Emission Vehicles Ultra Low Taxi Scheme. This awarded us a fully funded feasibility study to be carried out by Energy Savings Trust. This was undertaken in December 2015 and we are waiting on final report.		
		Vehicle Fleet Efficiency			Expansion of ECOSTARS to include taxi / private hire operators				2014/15		



No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
9	<b>Measure M9:</b> DCC will investigate to initiate a Roadside Emission Testing (RET) scheme inside the AQMA and routes leading to AQMA	Traffic Management	<input type="checkbox"/> ► To investigate into the establishment of a programme of RET in the AQMA	►VOSA ►Tayside Police ►DCC Environment Department.			► Approval/no n-approval of RET scheme ► Traffic Regulation Conditions if necessary.	Small	Project on hold until funding identified	2013+	
		Traffic Management			To seek funding to undertake feasibility study of introduction of RET	2015/16+			Project on hold		
10	<b>Measure M10:</b> DCC will ensure local air quality is fully integrated into the Local Development Plan (LDP) process and development scenarios are appropriately assessed with respect to the potential impacts on air quality	Policy Guidance And Development Control	► Provide AQ policy within Local Development Plan with commitment to improve air quality ► Produce air quality Supplementary Planning Guidance (SPG)	► DCC City Development (Planning Division) ► DCC Environment Department.			► Adoption of Local Development Plan ► Adoption of Air Quality SPG	Small	► Main Issues Report Consultation exercise completed 2/12/2011. Proposed Plan by late autumn 2012. ► Method of integrating AQ into SPG considered. ► Air Quality Policy incorporated into draft LDP. Air Quality Supplementary Planning Guidance approved as part of a package of SPGs for adoption of the Local Development Plan.  Supplementary Guidance approved at Committee in February 2015. Implications of Cleaner Air for Scotland Strategy to be considered in future LDPs.	2015 +	

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11	<b>Measure M11:</b> DCC will ensure effective co-ordination between climate change and air quality strategies and action plan measures	Policy Guidance And Development Control	<input type="checkbox"/> ► Strategy to be developed to improve co-ordination between climate change and air quality strategies and action plan measures	► DCC Corporate Planning Department ► DCC City Development - (Property Division) ► DCC Environment Department.		2011+	► Implementation of co-ordination strategy ► Reciprocal attendance of air quality and climate change working groups/steering committees	Small	Procedure implemented for exchange of information between the Climate Change Board & Corporate Air Quality Steering Group.  All matters (e.g. Action Plan updates) that the Climate Change Board & Corporate Air Quality Steering Group require attention in general, will be dealt with by the Executive Director of Neighbourhood Services and / or the Strategic Management Team. In addition an update on Air Quality progress was presented to the Climate Change Board in December 2014 and the 2015 AQ Update Report included the implications of the Cleaner Air for Scotland Strategy (CAFS).	2014+	
12	<b>Measure M12:</b> DCC will continue its active involvement and support of TACTRAN	Policy Guidance And Development Control	<input type="checkbox"/> ► Regularly attend meetings ► Provide feedback ► Provide necessary support	► DCC City Development Department. (Transport Division)			► Number of TACTRAN policies and proposals implemented	n/a	DCC continue to support TACTRAN and focus on implementation of Regional Transport Strategy  Ongoing.	On-going	

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
<b>LEADING BY EXAMPLE MEASURES</b>											
13	<b>Measure M13:</b> ►DCC will promote the uptake and use of cleaner and/or alternative fuels where possible for transport ►DCC will explore the development of electric charging point infrastructure	Promoting low emission transport	<input type="checkbox"/> ►Determine strategy/advise note and annually review content ►Install Electric Charging Facilities in Car Parks	DCC City Development Department (Transportation Division)			► List of any promotion campaigns planned / implemented ► Number / proportion of cleaner vehicles within fleets or clean fuels infrastructure in each financial year ► Number of electric charging points installed	Small	►See also Measures 7 and 14 ►►Electric vehicle charging station infrastructure for council vehicles has been implemented with Electric Charging points installed in underground car park (below City Square). ►Pool EVs now available for city centre DCC staff and expanded across several DCC Multi Storey Car Parks and out of city centre DCC offices. ►Also investigating alternative Low Carbon Vehicle technologies i.e. Hydrogen Fuel cells ►8 Electric vehicle charging stations installed by DCC (double-headed)  2014-Electric vehicle charging station infrastructure for council vehicles has been implemented with Electric Charging points installed in underground car park (below City Square. Pool EVs now available for city centre DCC staff and further expansion now being implemented across several DCC Multi Storey Car Parks and out of city centre DCC offices. Also investigating alternative Low Carbon Vehicle technologies i.e. Hydrogen Fuel cells Looking at City Wide rapid charger network to support individuals use and taxi fleet of EVs  2015- DCC have submitted final bid to OLEV for their Go Ultra Low City Scheme and are waiting for the announcement which is due in early 2106. Dundee City Council have installed 2 x 22kw chargers within the city funded by Transport Scotland as well as a number of charge points in the city centre which will be shared with Car Clubs. Work is also underway on new car park at the rear of council headquarters which will accommodate 12 of the council's electric pool cars therefore freeing up the spaces in car parks for more use by the public. Four on-street public charging bays were created in Spring 2015. Trades Lane, Dock Street, South Tay Street and Nethergate. Co-wheels introduced 7 EVs into their Dundee fleet – available for hire by Co-wheels members	2012+ on-going	
					See also Measure 7-	2013/14+					

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
14	<b>Measure M14:</b> DCC will establish and implement a rolling programme for replacing older more polluting vehicles with newer cleaner vehicles, which comply with the prevailing EURO standard	Vehicle Fleet Efficiency	<ul style="list-style-type: none"> <li>▣ ► Development of Green Procurement Strategy</li> </ul>	<ul style="list-style-type: none"> <li>► DCC Corporate Fleet Manager</li> </ul>		2011+	<ul style="list-style-type: none"> <li>α Number / proportion of new/improved vehicles within fleets in each financial year</li> </ul>	Small	<ul style="list-style-type: none"> <li>► New Corporate Fleet Manager appointed December 2011. ► Procurement of vehicles through Scotland Excel Framework which gives consideration to Green Credentials. 2011 saw the introduction of 6 electric vehicles with a further 6 by end March 2012</li> <li>► The Fleet section has replaced 60 vehicles 2012/13 all with improved emissions standards</li> <li>2013-The oldest and some of the most polluting vehicles have been identified and will be replaced with the current Euro 5 engines in the 2013/14 replacement plan. ► 2 new Euro 6 engine refuse collection vehicles ordered and will add to the existing rolling programme of replacing older and more polluting vehicles. ► Over 80 vehicles were replaced in 2013</li> <li>2014-A draft asset management plan has been created providing details of the ongoing replacement plan. Due to financial restrictions and vehicle variations the replacement programme will be done on a cost and condition basis. The emphasis of the plan will remain however the oldest and most polluting vehicles.</li> <li>2015- An annual replacement programme has been introduced to replace older and more polluting vehicles. The Fleet Section has spent approximately £1.8 million in 2015/16 replacing 31 vehicles and 45 items of plant.</li> <li>► See also Measure 7</li> </ul>	2014+	

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
15	<b>Measure M15:</b> DCC will improve the Council's vehicle fuel consumption efficiency by better management of fleet activities	Vehicle Fleet Efficiency	↑ ▶ Develop fleet management plan to improve fuel efficiency. ▶ Investigate fleet activities in relation to pollution hotspots e.g. waste management fleet routes	▶ DCC Corporate Fleet Manager ▶ DCC Environment Department		2011+	▶ Implementation of smarter driver programme ▶ Preparation / Implementation of Fleet management plan ▶ 10% reduction by 2013 for staff business travel and Corporate Fleet	Small	▶ New Fleet Section created (2012) ▶ Environment Department LGV drivers have undertaken SAFED (Safe & Fuel Efficient Driving) as part of their decision driving training and there is a proposal to roll this out across all council drivers. ▶ New computerised Fleet Management Systems to be introduced will help monitor fuel use across the council. Fuel saving measures being trialled in vehicles including Throttle Intervention Systems and Gear Box Prognostics. Fleet Section are developing reports to help tackle idling issues, which will improve fuel efficiency. 25 of the new small vans are fitted with stop/start technology which will be monitored to ascertain benefits.  ▶ 2013 Summary - Fleet Section are working with other departments and telematics company to develop reporting tools to monitor mileage and driving styles. ▶ Fleet section is beginning to develop action plan for rolling out Routesmart to plan routes for all council vehicles to assist with reducing mileage. ▶ Fuel cards have been introduced to reduce mileage for RCV's in the east of the city.  ▶ 2014 Summary-The Routesmart officers introduced the 1st new route in January 2014 and have an extensive programme to look at all refuse collection routes.  ▶ 2015 Summary – A recent trial of rev technology failed to produce any noticeable impact. A recent crack down on speeding events across the council fleet will hopefully help improve fuel consumption. No further developments in the use of the Routesmart technology that would help with AQ improvement.  See Also Measures 7,13,14	2014+	
		Vehicle Fleet Efficiency			Analysis of the information provided by the telematics system in relation to idling time etc.	2014+		A monthly review is undertaken of the telematics data that includes total mileage, idling time and drivers' behaviour. This data is used to identify any trends and help departments manage their fuel usage			



No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
16	<b>Measure M16:</b> DCC will promote options for better travel planning amongst Dundee City Council employees	Promoting Travel Alternatives	<ul style="list-style-type: none"> <li>▣ ► Review DCC Travel Plan</li> <li>► † DCC to investigate use of annual survey on how/what modes of transport employees use to travel to work</li> </ul>	DCC City Development (Transportation Division)		2011+	<ul style="list-style-type: none"> <li>► Implementation of DCC Travel Plan &amp; review of progress with targets</li> <li>► 10% reduction by 2013 in staff business travel</li> <li>► % DCC employees walking/cycling to work</li> </ul>	Small	<ul style="list-style-type: none"> <li>► Staff Travel Policy adopted Autumn 2011. This includes CO2 usages for lease vehicles</li> <li>► DCC senior managers monitor effectiveness of staff travel policy</li> </ul> <p>The staff travel policy is encouraging innovation in terms of pool fleet, public and active travel by DCC officers / management to support staff travel.(2012).</p> <p>2015-2015 - Office bikes made available at Dundee House from October 2015. Increased engagement with cyclists through the development of a Cycling Strategy for Dundee</p>	2015+	
17	<b>Measure M17:</b> DCC will continue to promote and encourage their employees to consider the use of bicycles in their daily duties by providing cycle usage mileage	Promoting Travel Alternatives	<ul style="list-style-type: none"> <li>† ► Continue to investigate and develop the use of various incentive schemes</li> <li>► Develop cycling strategies</li> <li>► DCC to investigate use of annual survey on how/what modes of transport employees use to travel to work</li> </ul>	DCC City Development (Transportation Division)		2011+	<ul style="list-style-type: none"> <li>► % DCC employees walking/cycling to work</li> <li>► Incorporate cycling measures within DCC Travel Plan in line with the new DCC Cycling Strategy to be developed</li> </ul>	Small	<ul style="list-style-type: none"> <li>► Get Cycling engaged to deliver cycling initiatives at DCC and other major employers in Dundee.</li> <li>► Improved cycling facilities provided at Dundee House (Dundee City Council Headquarters) and other Council properties.</li> <li>► Bike Boost and Cycle to Work initiatives delivered over the summer of 2012 to encourage staff to consider cycling.</li> <li>► 2014 - Staff Travel Policy now fully implemented and walking and cycling modes are encouraged for shorter distances.</li> <li>► 2015- Staff Travel Policy now fully implemented and walking and cycling modes are encouraged for shorter distances. No data being collected</li> </ul>	2014+	

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18	<b>Measure M18:</b> DCC will assess the Council's energy needs, make recommendations and implement reductions of carbon emissions which result in corresponding reductions of NO <sub>2</sub> and PM <sub>10</sub> .	Policy Guidance And Development Control	† ► DCC to implement annual energy reduction action plan	DCC City Development (Property Division)			► 10% reduction by 2013	Small	<p>The Climate Change Board continues to implement the Council's Carbon Management Plan and current energy management projects. However, while there are a number of initiatives that when fully implemented should realise reductions in our CO<sub>2</sub> emission, the current performance is not consistently improving. The agreed procedural arrangements to enable the Council to comply with the new mandatory UK-wide Carbon Reduction Commitment - Energy Efficiency Scheme have been implemented.</p> <p>The Council's recorded Total Footprint Emissions for property in</p> <p>2011/12 - 36,506 tonnes of CO<sub>2</sub>  2012/13 - 39,570 tonnes of CO<sub>2</sub>  2013/14 - 34,645 tonnes of CO<sub>2</sub>  2014/15 - 34,001 tonnes of CO<sub>2</sub></p> <p>Fleet transport baseline figure of 5,976 tonnes (i.e. reported 2007 estimate) has reduced to</p> <p>4,164 in 2013/14  3,965 in 2014/15  3776 tonnes in 2015/16</p>	On-going	
					New annual aspirational reduction target of 5% until 2020	2013+					

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
19	<b>Measure M19:</b> DCC to promote and support localised energy generation that doesn't compromise Air Quality in private households	Promoting Low Emission Plant	†► Determine strategy/advise note and annually review content	►DCC Housing Department ►Solar Cities		2011+	► List of any promotion campaigns planned/implemented	Small	<p>► In 2012 Solar PV – Annual 25,055kg CO2 (nominated installers calculated figures) ► Solar thermal – Annual 197 kg CO2 (nominated installers calculated figures)The above figures are all annual savings as not all installation dates have been collected yet to allow calculation of the actual amount saved within the project period. ► Participant in Maryfield and Coldside areas CO<sub>2</sub> reduction ► Groups pending start date = 59 ► Groups working with = 23 ► Groups Complete= 2 ► Total number of people engaged = 853</p> <p>Summary 2013 City-wide Solar PV review carried out following the Westminster Government's resolution of the Feed In tariff (FIT). 25 DCC locations are FIT compliant. A further 18 additional locations being considered based on energy generation and pay back periods. Financial assessment complete. Report to be brought forward recommending approval to proceed.</p> <p>Summary 2014-PV Scheme business plan is being prepared for 28 Feb 2015</p> <p>Further review of PV Scheme being undertaken due to further reductions in FIT payments.</p>	2012+	

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
20	<b>Measure M20:</b> DCC will provide the public with relevant air quality information.	Public Information	<ul style="list-style-type: none"> <li>▶ Investigating the potential for uptake of an air pollution information system, such as Air Alert</li> <li>▶ Improvements to AQ website information</li> <li>▶ Make up to date air quality information available to the public through Councils digital website</li> </ul>	<ul style="list-style-type: none"> <li>▶ DCC Environment Department</li> <li>▶ DCC City Development (Transportation Division)</li> </ul>			<ul style="list-style-type: none"> <li>▶ Investigate funding sources</li> <li>▶ Implement Air Alert or similar service</li> <li>▶ Improved rating of website in peer review</li> <li>▶ Make AQ information available through Council's website</li> <li>▶ Real Time Travel Information</li> </ul>	Small	<p>▶ Funding to improve air quality pages on the Council Website identified. The Scottish Government took forward their "Know &amp; Respond" service linked to the new air quality index in 2012. This allows people with respiratory conditions to be alerted when moderate and high pollution levels are forecast. The Council have provided a link and information about this service on the web-site.▶ The existing website achieved a higher rating in the 2012 peer review than the previous year.▶ Real-time pollutant monitoring concentrations are available from the Scottish Air Quality Website (<a href="http://www.scottishairquality.co.uk">www.scottishairquality.co.uk</a>). The Council have provided a link on the web-site to this service.▶ No progress on provision of real-time information on pollution levels to assist traffic management through pollution hotspots.</p> <p>In 2013 -the new air quality webpages completed apart from section on Air Quality Planning due to Supplementary Planning Guidance not yet being finalised. Historical data for all monitoring points for 2006 to 2012 available via interactive map while address search function for smoke control areas also available. LAQM reports available for download including 2013 Progress report. Previous air quality pages have been removed. Air quality information was included on new bus route map that was delivered to 75000 residences in Dundee at end of June to start of July 2013. Workshops held at four primary schools in Broughty Ferry in April / May which included discussions on air quality.</p> <p>In 2014-The air quality webpages on the DCC website have been updated however the section on Air Quality and Planning is still to be finalised as the Supplementary Planning Guidance is awaiting Committee approval. The DCC AQ pages were ranked at number 7 in the UK for local authority AQ webpages in the 2014 peer review, with top marks of 5 stars awarded for the AQ content available on the DCC website.</p> <p>The Air Quality pages of the DCC website have been upgraded with features available to enable the public to view historical data for the 2006 - 2013 period for all monitoring stations via an interactive map. This page also creates a graph for the monitoring results for those years to provide trend at monitoring location. A link to the Scottish Air Quality website is also present to allow real-time data to be viewed. All LAQM reports are summarised with some available for downloading, with most recent addition being the 2015 USA report. ECO Stars pages updated to ensure that lists of members up to date. The peer review for local authority air quality websites not conducted in 2015.</p>	2012+	



No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
20		Public Information			► Complete improvements to AQ website	2013/15			Almost completed (see above)		
		Public Information			► Develop Database to enable DCC staff to better manage large volume of AQ data and make it more readily available to stakeholders	2013/15			Initial discussions held with IT Department in regards to development of a database for the handling and retrieval of air quality monitoring data.  2014 Summary -Development of the AQ database has progressed with the DCC IT Department building a specification for the database for AQ monitoring data, However the proposed period for development of the database in November to December 2014 delayed due to be undertaken in early 2015.  2015 Summary- Information on website updated as necessary to ensure that links to external websites correct. ECO Stars pages updated to ensure that lists of members up to date. The peer review for local authority air quality websites not conducted in 2015. Data base for air quality monitoring data still to be completed so historical monitoring information for 2014 still to be uploaded.		

21	<p><b>Measure M21:</b> DCC will continue its work to increase uptake and implementation of School and Workplace Travel Plans, particularly where likely to impact on the AQMA</p>	Promoting Travel Alternatives	<ul style="list-style-type: none"> <li>▶ DCC to ensure all relevant commercial planning applications have travel plan conditions applied in accordance with current best practice.</li> <li>▶ DCC to produce Travel Plan Strategy which: <ul style="list-style-type: none"> <li>▶ Details procedure for tracking &amp; possible requirement for enforcement of planning conditions requiring travel plans.</li> <li>▶ Details procedure for Travel Plan Information storage at DCC</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▶ DCC City Development Department, (Planning Division, Transportation Division) ▶ DCC Education Department</li> </ul>			<ul style="list-style-type: none"> <li>▶ Develop Business Case for Travel Co-ordinator &amp; identify potential funding streams.</li> <li>▶ Number of new travel plans (need to show in terms of walking cycling - % of journeys saved).</li> <li>▶ Identify &amp; report on any Air Quality related Travel Plan targets from travel plan strategy and any relevant Travel Planning Team targets.</li> <li>▶ Promotion of Travel Plan initiatives e.g. Sustrans' Travel Smart</li> <li>▶ Implement &amp; regularly review Travel Plan Strategy</li> </ul>	Small	<ul style="list-style-type: none"> <li>▶ Work in 2011 focussed on reducing the impacts of school traffic on the Lochee Road hotspots. (See AQAP 2012 Appendix 1) ▶ Further work to promote sustainable travel in primary schools across Dundee scheduled for 2012.</li> <li>▶ Planning applications for significant developments are required to submit travel plans. The submission of travel plans is actively pursued and approved, if appropriate.</li> <li>▶ In 2012 investigated development of city wide programme of pupil involvement (P5 - 7) in travel behaviour change. Education Department also encouraged to refresh all school travel plans</li> </ul> <p>In 2013 Funding secured to commence a city wide programme of pupil involvement (P5 - 7) in travel behaviour change. Education Department agreed that all school travel plans would be reviewed over 13/14. Tender issued 22 November 2013 .Contract Awarded and in class sessions commenced March through to September 2014, all P5 pupils in Dundee reached through in class sessions.</p> <p><i>Travel Behaviour Change Programme for (P5-P7) now being delivered annually the current contract runs to 2016/17</i></p> <p><i>All primary schools were given support during 2015 in updating their school travel plans. A number of primary schools have engaged in active travel initiatives but many have not engaged positively.</i></p>	2014+	
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No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
22	<b>Measure M22:</b> DCC will continue working in partnerships with TACTRAN and local active travel networks to ensure that walking and cycling initiatives are promoted and supported in Dundee	Promoting Travel Alternatives	<ul style="list-style-type: none"> <li>▶ Identify walking &amp; cycling schemes (such as Park &amp; Cycle).</li> <li>▶ Identify walking &amp; cycling promotional opportunities around Dundee City</li> </ul>	DCC City Development (Transportation Division)		2011+	<ul style="list-style-type: none"> <li>▶ Number of walking and/or cycling initiatives in operation.</li> <li>▶ Establish the use of cycle monitoring counts at key points on cycle routes</li> </ul>	Small	<ul style="list-style-type: none"> <li>▶ Get Cycling engaged to undertake promotion of cycling and delivered Bike Boost. ▶ Positive Steps implemented Dundee Travel Active Personal Travel Plans in Broughty Ferry ▶ Cycle to Work Scheme promoted during August 2012 ▶ City Engineer currently implementing major cycling scheme at Douglas Terrace</li> </ul> <p>2013 Summary - Transportation Division have secured further funding from Sustrans for FY13/14, which will deliver several off and on road cycle schemes.</p> <p>2014-Working with City Engineers at Riverside Drive / Seabraes Pedestrian Bridge, including pedestrian crossing improvements on Riverside Drive Sustrans officer embedded in TACTRAN will encourage more focus on Community Based active travel initiatives</p> <p>Works all underway and additional 'Safer Routes to School' funds bid for to implement minor improvements to support active travel to and from school</p> <p><a href="#">2015 - Key developments in 2015 included the new Seabraes Bridge, improvements on Coupar Angus Road near Camperdown Park, Lower Broughty Ferry Road (west end of Grassy Beach) and Riverside Avenue to Perth Road.</a></p>	2014+	
					Preliminary Works to achieve off-road cycle route around the Port of Dundee	2013/14			<ul style="list-style-type: none"> <li>Permission to commence on Nynas land to undertake preliminary works to achieve off-road route around Port of Dundee</li> </ul> <p>On hold until resolution of land ownership</p>		
					Provide Pedestrian Bridge over the railway at Riverside Drive / Seabraes	2013/14			<ul style="list-style-type: none"> <li>Transportation Division &amp; City Engineers at Riverside Drive / Seabraes Pedestrian Bridge, including pedestrian crossing improvements on Riverside Drive</li> </ul> <p>As above</p>		

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23	<b>Measure M23:</b> DCC will continue to work with transport providers to support and promote increased uptake of public transport modes	Transport planning and infrastructure	<ul style="list-style-type: none"> <li>□ ► Promote schemes such as the SQUID card including Dundee and surrounding towns. ► †</li> <li>Introduce smart and integrated ticketing</li> </ul>	<ul style="list-style-type: none"> <li>► DCC City Development (Transportation Division)</li> </ul>		2011+	<ul style="list-style-type: none"> <li>► % uptake schemes</li> <li>► Passenger numbers</li> </ul>	Small	<p>The development of Smart Card based integrated ticketing (National Entitlement Card) is being undertaken by DCC, National Express and Transport Scotland. .</p> <p>2013 Summary -This matter has the support of the Scottish Cities Alliance with a view to proof of concept for a Scottish roll out. Initial smart ticketing has been successfully deployed by National Express Dundee and Dundee College. DCC commenced discussion with other transport operators in support of the Scottish Cities Alliance priority for smart ticketing - Delivery action Group hosted by DCC 06 December 2013. .</p> <p>2014 Summary-Projects now being implemented nation wide, the new Green Buses and the EcoMobility SHIFT assessment, potential Bus Innovation Fund bid with Angus Council, Tactran and NHS Tayside and additional off peak bus services (funded by DCC) will raise profile and attractiveness of travelling by bus in Dundee. Scottish government review of Dundee rail fares will also attract new and retain existing passengers by making rail travel an attractive and more affordable option</p> <p>2015 - DCC continues to promote public transport as an attractive and affordable alternative to private car. Significant work and investment is invested in infrastructure and promotion.</p>	2012+	

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
		Transport planning and infrastructure			NEC SMART Ticketing to Go Live 2014	2014			Completed	July 2014	
24	<b>Measure M24:</b> DCC will continue to work in partnership with other organisations to promote and implement energy efficiency measures in Dundee	Policy Guidance and Development Control	► To implement an Annual Action Plan of energy efficiency measures.	► DCC City Development (Property Division)			► Implementation of Annual Energy Efficiency Action Plan. ► Report reductions in energy use	Small	The Climate Change Board re-introduced the Carbon Management Action Plan in 2013  Examples of partnership initiatives undertaken by DCC can be viewed in the Council's annual 'Scotland's Climate Change Declaration' Report: <a href="http://www.keepsotlandbeautiful.org/sustainability-climate-change/sustainable-scotland-network/climate-change/scotlands-climate-change-declaration/">http://www.keepsotlandbeautiful.org/sustainability-climate-change/sustainable-scotland-network/climate-change/scotlands-climate-change-declaration/</a>  Examples include: Dundee Energy Advice Project; European ENCLOSE project (Energy Efficiency in City Logistics Services).  <a href="#">The Climate Change Board's continuous review of the Carbon Management Action Plan has identified a number of revisions required to support the climate change aspirations and to improve work in partnership with other organisations to promote and implement energy efficiency measures.</a>	2012+	

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
<b>MEASURES SECURING AIR QUALITY BENEFITS THROUGH STATUTORY FUNCTIONS</b>											
25	<b>Measure M25:</b> DCC Environment Department will comment upon planning applications to ensure that all relevant air quality issues are highlighted and mitigation measures are considered wherever possible	Policy Guidance and Development Control	►The Environment Department (Environmental Protection Division) will continue to work with City Development (Planning Division) as Statutory Consultees	►DCC City Development Department (Planning Division) ► DCC Environment Department			► Total number of planning applications responded to in each calendar year (changed from financial year) ► Percentage of the total planning applications responded to with air quality conditions/ assessments	Small	Environment Department Officers check weekly planning lists and comment on all applications which may adversely impact on local air quality.  ► In 2011 19 planning applications responded to. ► 16% had air quality conditions/ assessments (this included smoke control area informatives)  ► 19 planning applications in 2012. ► 38% of the planning applications determined in the calendar year had air quality conditions.  ► . 31 planning applications were responded to in 2013.  ► . 30 planning applications were responded to in 2014.  ► . 37 planning applications were responded to in 2015.	n/a	<i>Suggestions on best practice and mitigation measures advised accordingly.</i>
					see Measure 10 regarding the introduction of Supplementary Planning Guidance						

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
26	<b>Measure M26:</b> DCC will enforce statutory legislation to control smoke, dust, fumes or gas emissions from commercial and domestic premises which are causing a nuisance or are prejudicial to health	N/A	<input type="checkbox"/> ► DCC will continue to monitor and enforce statutory legislation in this area	► DCC Environment Department.			► Number of relevant complaints in each financial year. ► % resolved	Small	<p>► For period in 2010-11 financial year (01/01/11-31/03/11) a total of 15 relevant complaints were investigated of which 93% were resolved. ► For period in 2011-12 financial year (01/04/11 - 31/12/11), a total of 26 relevant complaints were investigated of which 69% had been resolved by 31/12/2011.</p> <p>In 2012, officers investigated 21 relevant complaints, of which 90% were resolved</p> <p>In 2013, officers investigated a total of 10 relevant complaints were investigated of which 90% have been resolved and one complaint is still being investigated.</p> <p>In 2014, officers investigated a total of 22 relevant complaints of which 90.9% have been resolved and two complaints are still being investigated.</p> <p><i>In 2015, officers investigated a total of 17 relevant complaints of which 94% have been resolved and one complaint is still being investigated.</i></p>	n/a	
27	<b>Measure M27:</b> DCC will enforce relevant legislation to reduce the burning of commercial and domestic waste	N/A	<input type="checkbox"/> ► DCC will continue to monitor and enforce legislation in this area	► DCC Environment Department			► Number of relevant complaints ► % resolved	Small	<p>► In 2011 - 1 complaint of the burning of commercial waste was investigated under the Environmental Protection Act 1990 (EPA) Section 33 requirements which was resolved. ► 7 complaints of smoke from commercial bonfires were investigated under EPA Section 79 and Clean Air Act legislation. ► 11 complaints of smoke from the burning of domestic waste (domestic bonfires) were investigated under EPA Section 79 and Clean Air Act legislation in 2011 of which 94% of these complaints had been resolved by 31/12/2011</p> <p>In 2012 Officers dealt with 9 complaints of smoke from commercial bonfires and 17 complaints of smoke from the burning of domestic waste. 92% of these complaints were resolved.</p> <p>In 2013, officers investigated 11 complaints of smoke from commercial bonfires under Environmental Protection and Clean Air legislation. 12 complaints of smoke from the burning of domestic waste (domestic bonfires) were investigated under the same legislation. 96% of these complaints were resolved..</p> <p>During 2014 officers investigated 9 complaints of smoke from commercial bonfires under Environmental Protection and Clean Air legislation. 13 complaints of smoke from the burning of domestic waste (domestic bonfires) were investigated under the same legislation. 100% of these complaints have been resolved.</p> <p><i>During 2015 officers investigated 10 complaints of smoke from commercial bonfires under Environmental</i></p>	n/a	

											Protection and Clean Air legislation. 25 complaints of smoke from the burning of domestic waste (domestic bonfires) were investigated under the same legislation. 100% of these complaints have been resolved.	
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28	<p><b>Measure M28:</b> DCC will promote composting in a bid to reduce pollution from domestic bonfires</p>	<p>Policy Guidance and Development Control</p>	<p>▶ Reintroduce discount/promotion campaign for compost bins</p>	<p>▶ DCC Environment Department</p>	<p>2011+</p>	<p>▶ % uptake composting bins</p>	<p>Small</p>	<p>▶ The Waste Resources Action Programme (WRAP) subsidised discount compost bins ended due to funding cuts in March 2011 with a total of 5243 discounted bins being sold in the DCC area in the period between 2006 and end 2010 representing 2% of the total discounted bins for Scotland. The promotion of home composting continues under the Zero Waste Scotland campaign banner with a Recycling Projects Officer employed in the Environment Department. ▶ Composting is undertaken at the Environment Department's green waste processing facility at Riverside Drive. 37,526 brown bins for garden waste have been issued.</p> <p>In 2013 - The area Zero Waste Scotland Volunteer Co-Ordinator helped to promote the home composting message across Dundee. DCC staff continued to utilise educational talks etc. to reaffirm the message.</p> <p>A total of 48 composting bins (and associated accessories) were purchased through the home composting framework scheme during 2013</p> <p>In 2014 the Council continued to participate in the national home composting framework scheme - an online retail network of subsidised composting bins &amp; accessories to help encourage self-management of organic waste - as well as providing a fortnightly kerbside collection service for garden waste across the city with seasonal additional uplifts for real Christmas trees which may otherwise end up in domestic bonfires. A total of 28 composting bins were purchased through the home composting framework scheme between January - Dec 2014</p> <p>In 2015 -Promotion of the separate collection of garden waste for central composting by Dundee City Council continues throughout the city, with a total of 1821 brown bins being requested between June / December 2015. In addition, we continued to participate in the national home composting framework which allows residents who are keen to compost their own garden waste rather than have this collected by the council, to purchase discounted composting containers and accessories through an online retail network. From June to November 2015 a total of 13 units were purchased by Dundee residents. Both the home composting purchases &amp; garden waste bin requests reflect the work ongoing within the Projects team to promote the composting process as an alternative to burning domestic garden waste.</p>	<p>On-going</p>	
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No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
29	<p><b>Measure M29:</b> DCC will continue to monitor a range of air pollutants throughout Dundee and make the monitoring information freely available to the public in an easily understandable form</p>	Public Information	<p>† ► Continued support for Dundee Air Quality Monitoring Network</p>	<p>► DCC Environment Department.</p>			<p>► Number of monitoring sites ► Identification of sites in new hotspots ► Monitoring data via DCC website</p>	n/a	<p>► Dundee City Council operate an extensive network of real-time monitoring sites. The majority are located at roadside sites (Meadowside, Logie Street, Lochee Road, Seagate, Union Street, Whitehall St, Albert Street/Arbroath Road, Myrekirk Terrace and Stannergate). There is also a background monitoring site (Mains Loan), and an urban industrial location: (Broughty Ferry Road). The monitors at Albert Street/Arbroath Road, Myrekirk Terrace and Stannergate were installed at these locations in September 2012. One new real-time monitoring site added in 2011 for PM<sub>10</sub> and NO<sub>2</sub> in hotspot area (Meadowside). ► 2 additional PM<sub>10</sub> "reference equivalent" analysers installed at hotspot locations in Lochee Road and Seagate in 2011. ► New NOx analyser installed at background location in 2011. <a href="#">The real time monitor in Union Street is due to be decommissioned in January 2016 as Nitrogen Dioxide Levels have been below the annual mean objective since 2011.</a></p> <p>► DCC operate an extensive network of NO<sub>2</sub> diffusion tube sites across the city. Located at busy roads and junctions and a number of background locations. 14 new diffusion tube locations added in 2011. 2 new NO<sub>2</sub> diffusion tube locations were added in 2012 while one 2011 diffusion tube was stopped in 2012. One 2011 site has been moved at it's location due to infrastructure changes. A comprehensive review of the diffusion tube network took place in 2013. The network was extended to investigate new potential exceedance areas and a large number of sites that were consistently below the objective were removed from the network. 25 new diffusion tube sites were added to the network in 2013 and 30 were discontinued.</p> <p>► One potential new hotspot identified for NO<sub>2</sub> in Strathmore Avenue based on 2009 data. Additional tubes deployed in the area in 2011 (see Measure 31). The potential new hotspot identified for NO<sub>2</sub> in Strathmore was assessed and it was determined that monitoring with the additional tubes in the area could cease. Additional potential exceedance area identified at South Road (Denbank) in 2012.. A new exceedance of the annual mean NO<sub>2</sub> objective was identified at West Marketgait near Guthrie Street in 2013.</p> <p>In 2014 2 new diffusion tube sites were added to the network in 2014 and a further 12 were discontinued.</p> <p>In 2014 Sulphur Dioxide monitoring ceased at the urban industrial monitoring location at Broughty Ferry Road. Monitored levels were consistently below the air quality objectives.</p>	n/a	<p>Annual mean concentrations of NO<sub>2</sub> at Strathmore Avenue and South Road (Denbank) were below the NAQS in 2014 when predicted to façade. West Marketgait /.</p>

									<p>2015-The details of diffusion tube changes undertaken in 2015 are detailed in Section 3 of the main report. ▶ See also Measure 20 re monitoring data on the website.</p>	
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No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
30	<b>Measure M30:</b> DCC will ensure that all air quality monitoring data reported to the public is both accurate and precise by implementing quality control measures	Public Information	<ul style="list-style-type: none"> <li>□ ►Regular calibrations and filter changing of continuous monitoring equipment in DCC's air quality stations ►At least annual audit of air quality stations' equipment</li> <li>□ ► Appropriate use and care of NO<sub>2</sub> diffusion tubes regularly deployed around the City Council area.</li> </ul>	<ul style="list-style-type: none"> <li>► DCC Environment Department/ Tayside Scientific Services</li> </ul>			<ul style="list-style-type: none"> <li>► QA/QC measures adopted</li> <li>► Auditing reports</li> </ul>	n/a	<ul style="list-style-type: none"> <li>► External consultant undertakes calibrations and filter changing of the continuous monitoring equipment in the air quality monitoring stations. ► Osiris meters - indicative PM<sub>10</sub> meters - filter change undertaken on quarterly basis and annual calibration. ► Audits of continuous monitoring stations' equipment undertaken by external consultants and auditing reports received.</li> <li>► Public Analyst participates in AIR PT Scheme and field inter-comparison study.</li> </ul> <p>Ongoing, -AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL WASP PT scheme. AIR NO2 PT forms an integral part of the UK NO2 Network's QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM)</p>	n/a	
					Develop Database to enable DCC staff to better manage large volume of AQ data and make it more readily available to stakeholders	2013/15			Initial discussions held with IT Department in regards to development of a database for the handling and retrieval of air quality monitoring data.	The DCC IT Department are in the process of development of a database for the handling and retrieval of air quality monitoring data. Specifications of database have been built by the IT Department which were discussed during a meeting held in August 2014. The development of the database was planned to be carried out in November - <b>December 2014 however this has been rescheduled</b>	2015

No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments relating to emission reductions
31	<b>Measure M31:</b> DCC will establish additional monitoring sites across the City in locations where poor air quality is suspected	N/A	<ul style="list-style-type: none"> <li>□ ► DCC will continue to carry out and report on their statutory duties under the Review &amp; Assessment process for LAQM</li> </ul>	<ul style="list-style-type: none"> <li>► DCC Environment Department</li> </ul>			<ul style="list-style-type: none"> <li>► Poor air quality sites identified monitored and dealt with through the process of Review &amp; Assessment. ► Additional monitoring sites established as and when required</li> </ul>	n/a	<ul style="list-style-type: none"> <li>► See Measure 29 ► The potential new hotspot identified for NO2 in Strathmore was assessed and it was determined that monitoring with the additional tubes in the area could cease.</li> <li>► See Measure 29 ► A review of the diffusion tube locations was undertaken in 2012 and 21 new sites identified as requiring monitoring during 2013</li> </ul> <p style="text-align: center;"><a href="#">See Measure 29</a></p>	n/a	
32	<b>Measure M32:</b> DCC will implement road traffic counts to inform the review and assessment process.	Traffic Management	<ul style="list-style-type: none"> <li>† ► Undertake classified traffic counts</li> </ul>	<ul style="list-style-type: none"> <li>► DCC Environment Department</li> </ul>			<ul style="list-style-type: none"> <li>► Classified traffic counts undertaken</li> </ul>	n/a	<p>Classified Traffic Counts Undertaken at 18 junctions in 2011 ► Classified Traffic Counts undertaken at 18 junctions in Sept 2012.</p> <p>Classified Traffic Counts were undertaken at 9 junctions in 2013.</p> <p><a href="#">There were no traffic counts undertaken for air quality purposes in 2014 or in 2015</a></p>	On-going	