ITEM No …2……..

REPORT TO: **COMMUNITY SAFETY & PUBLIC PROTECTION COMMITTEE – 28 SEPTEMBER 2020**

REPORT ON: **AIR QUALITY AND LOW EMISSION ZONE UPDATE**

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

REPORT NO: **224-2020**

1.0 PURPOSE OF REPORT

1.1 To provide an update on the Councils Air Quality Action Plan and to summarise the results of the most recent full years (2019) monitoring data.

1.2 To provide an update on the work undertaken by Neighbourhood Services and City Development on the development of a Low Emission Zone (LEZ) for Dundee and confirmation of the 2020-21 Programme for Government commitment for the revised introduction date for LEZ's in Scotland.

1.3 To provide a briefing on the impact of COVID-19 on local air pollutant levels in Dundee during the lock down period between 23 March to 31 August 2020.

2.0 RECOMMENDATIONS

2.1 It is recommended that Committee note the contents of this report and to:

1. Remit the Executive Director of Neighbourhood Services to continue to take forward the Council's Air Quality Action Plan (AQAP) measures, noting the improvements that have been achieved, and continue to work with the Scottish Government and its partners with the Cleaner Air for Scotland (CAFS) strategy and it's review in order to further improve air quality throughout the city, and;

2. Submit the 2020 Air Quality Annual Progress Report to the Scottish Government and the Scottish Environmental Protection Agency. A copy of the proposed report has been circulated to all elected members in advance of this Committee.

3. Give delegated authority to the Executive Directors of Neighbourhood Services and City Development to utilise the grant funding allocated to Dundee City Council as outlined in sections 4.7 and 5.3 of this report to aid progression with measures contained within the Air Quality Action Plan and the development of the Dundee LEZ in order to meet the revised introductory date for LEZ's in Scotland as outlined in Section 5.2.

3.0 FINANCIAL IMPLICATIONS

3.1 Costs associated with the progression of AQAP measures and the further development of the Dundee LEZ are contained within the grant funding allocated to the Council from the Scottish Government and Transport Scotland, as outline in Sections 4.7 and 5.3.

4.0 AIR QUALITY UPDATE

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 (AQMA) 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 continues to be no anticipated risk of exceeding the statutory objectives for benzene, carbon monoxide, 1,3-butadiene, sulphur dioxide and lead.

4.3 Continuous monitoring for nitrogen dioxide (NO_2) takes place at six locations in Dundee, being Broughty Ferry Road, Lochee Road, Mains Loan (background reference monitor), Meadowside, the Seagate, and Whitehall Street. Continuous monitoring of Particulate Matter (PM) takes place at 10 locations: Albert Street, Broughty Ferry Road, Lochee Road, Logie Street, Mains Loan (background reference monitor), Meadowside, Myrekirk Terrace, the Stannergate, and Whitehall Street.

4.4 The 2019 ratified monitoring data shows further improvements in most locations with the main positive results including the following:

- The Hourly Average Objective for NO_2 was met at all sites. This objective has been met in full since 2014. The 2019 data identified that the 99.8th percentile of hourly means of NO_2 concentrations at the Lochee Road continuous monitor site reached a downward trend for the first time. An established downward trend is necessary for the revocation of the current AQMA for NO_2 hourly mean in Dundee.

- The Annual Average Objective for PM_{10} was met at all monitoring sites

- The Daily Average Objective for PM_{10} was met at all monitoring sites

- The Annual Average Objective for $PM_{2.5}$ was met at all monitoring sites

- The Annual Average Objective for NO_2 was met at four of the six continuous monitoring sites (Broughty Ferry Road, Mains Loan (background monitoring site), Meadowside, and Whitehall Street).

A table of 2019 ratified monitoring data results for each of the pollutants monitored at the continuous monitoring locations listed in 4.3 against the Air Quality Objectives for Scotland is contained in Appendix 1.

4.5 In 2019 the Annual Average Objectives for PM_{10} & $PM_{2.5}$, the Daily Average Objective for PM_{10}, and the Hourly Average Objective for NO_2 were met in full at the Lochee Road and the Seagate continuous monitoring sites. Although improved compared to measured concentrations for 2018, the Annual Average Objective for NO_2 was exceeded at both these locations.

4.6 A continuous monitor capable of monitoring both PM_{10} and $PM_{2.5}$ was installed at the Broughty Ferry Road site in January 2020 to replace the existing PM_{10} monitor there. Ratified data for $PM_{2.5}$ for this site will be available for reporting in 2021 while the current (2020) unratified data can be viewed on the Scottish Government's Air Quality website.

4.7 The Council's Air Quality Action Plan includes a range of measures that continue to be progressed in order to achieve further improvements in air quality across the city. The measures are not focussed on specific locations but in combination contribute to improvements in air quality across the city. Updates on progress made with these measures during 2019 and proposed actions for 2020 are contained within the 2020 Air Quality Annual Progress Report, with Appendix 2 of this report containing a summary of each. Funding to help progress a number of measures during 2020/21 has been obtained through the Scottish Government Air Quality Action Plan grant scheme with a total of £266,000 being awarded to Dundee City Council for this year.

5.0 LOW EMISSION ZONE DEVELOPMENT UPDATE

5.1 Reference is made to Article II of the Community Safety and Public Protection Committee of 13 November 2017, which approved joint working between Neighbourhood Services and City Development to work with the Scottish Government and its partner organisations to facilitate the introduction of a low emission zone (LEZ) in Dundee. In 2017 the Scottish Government included Dundee in its commitment to the introduction of LEZ's in the 4 cities by 2020.

5.2 On 6 May 2020 the Scottish Government announced a pause on the LEZ development due to the ongoing Covid-19 pandemic. On 26 August 2020, a new indicative time frame for the introduction of the LEZs of February 2022 to May 2022 was announced by the Scottish

Government. The indicative timeframe has considered the earliest period in which LEZs could be realistically introduced using the powers of the Transport (Scotland) Act 2019. The period between February and May 2022 accounts for potential impacts on the Parliamentary timetable (and associated Council Committee timetabling) arising from the Covid-19 outbreak. Development of the specific LEZ regulations and guidance will confirm the steps to be taken to introduce LEZs (such as examination processes which could have an impact on the final timeframes for introduction). It is currently anticipated that they will be available in early to mid-2021. The February 2022 to May 2022 timeframe for the introduction of LEZs was included as a commitment in the Scottish Government's 2020-2021 Programme for Government.

5.3 To assist local authorities with the introduction of LEZs in their cities, Scottish Ministers through Transport Scotland, have made further grant funding available for the 2020/21 financial year. Dundee City Council were awarded £120,000 for the purpose of:

- Project management and consultancy support to progress towards completion of the National Low Emission Framework process to identify final LEZ option including the commencement of integrated impact assessment and strategic environmental assessment work.

- Undertaking further traffic modelling of any amendments to low emission zone design options needed to take in to account any impacts identified during the subsequent air quality modelling of these scenarios.

It is anticipated that additional funding will become available for schemes to support the introduction of LEZs in Scotland during 2021/22 and years following this.

5.4 Traffic modelling of the possible LEZ options scenarios, each with a Lochee Road variant, has been undertaken by SYSTRA using the Paramics traffic model with work progressing on the completion of this stage. The next step of applying the outputs from the traffic model in to the SEPA air quality city model is, however, on hold due to the identified impact of Covid-19 on road traffic composition and flows. It needs to be recognised that traffic on the roads of Dundee and the rest of Scotland post Covid-19 may significantly differ from the scenario that the traffic modelling is based upon, therefore reducing confidence in this modelling work. As such, Transport Scotland, with support from local authorities, have agreed to develop a set of high-level scenarios for road traffic post Covid-19, which will be applied to traffic modelling for LEZ scenario traffic modelling. This work is required in order to allow the local authorities to proceed with greater confidence in the traffic modelling used to support the development of their LEZ's.

5.5 Investigations into potential interventions to reduce both emissions and traffic congestion on the Lochee Road corridor will continue to be explored by the Head of Sustainable Transportation and Roads during the LEZ development process. These investigations will take a route corridor approach and take cognisance of potential traffic displacement onto other, less appropriate roads in residential areas. The route corridor review will also require to consider future bus priority, active travel and traffic congestion. Any interventions are likely to be challenging, as there is very limited road space and would require significant capital resources to deliver air quality, journey time and active travel improvements.

5.6 The Scottish Government recently made £9.75M available in 2020/21 to bus and coach operators in Scotland via the Bus Emissions Abatement Retrofit (BEAR) programme (Phase 3). This funding will enable accredited retrofit technology measures to be fitted to certain vehicles, resulting in many of the most polluting buses and coaches operating on being brought up to the latest EUOVI standard. Local bus operators, Stagecoach East of Scotland, Xplore Dundee, and Moffatt & Williamson have been successful in their bids with the operators being granted funding to retrofit 63, 21 and 3 buses / coaches respectively. This will bring about benefits to local air quality by removing many of the more polluting buses and coaches from Dundee's streets, and Dundee City Council will discuss travel corridors in Dundee where air quality improvements are sought. Previous phases of the BEAR scheme in 2017/18 and 2018/19 resulted 17 of the more polluting buses to be retrofitted, with many older buses operating on routes running through air quality hotspots such as Lochee Road being brought up to modern emission standards.

6.0 AIR QUALITY LEVELS DURING LOCKDOWN PERIOD 23 MARCH – 31 AUGUST 2020

6.1 The lockdown measures that were put in place to control the spread of the Covid-19 pandemic in late March 2020 resulted in a dramatic drop in road traffic within Scotland's cities, including Dundee. It is well established that road traffic is the main source of oxides of nitrogen (NOx) within cities and therefore measured NO_2 concentrations decreased significantly during the lockdown.

6.2 While the analysis of the direct impact of the Covid-19 lockdown on NO_2 concentrations can be completed with some confidence, the analysis of PM is much more difficult. This is due to reasons such as the secondary nature of particle formation through chemical reactions of other pollutants; and its transboundary nature, where PM forms and travels over long distances. As a result, both the weather and sources from out with the United Kingdom can have a much greater impact on local concentrations than local sources of PM, and as such the direct impact of the Covid-19 lockdown on PM cannot be determined with confidence.

6.3 The Scottish Government's 'Air Quality in Scotland' website (www.scottishairquality.scot) contains a detailed time variation analysis of the impact of COVID-19 lockdown restrictions between 23 March and 25 May 2020 on NO_2, PM_{10} and $PM_{2.5}$ concentrations at selected monitoring sites in Scotland, including the Lochee Road continuous monitoring site. This analysis looks at the average level for the 2020 period and compares this to the average level for this period for each of the previous 5 years. In respect to NO_2, the analysis indicates reductions ranging between 53 to 60%. In respect to both PM_{10} and $PM_{2.5}$, the level of reduction is ranges between 17 to 50%.

6.4 A simple comparison of average daily mean NO_2 levels for each month of the lockdown period commencing 23 March 2020 to 31 August 2020 against the same periods in 2019 is contained within Appendix 3. It is important to note that this analysis does not consider the influence of weather on ambient pollutant concentrations and also that the 2020 data was provisional data at the time of carrying out this analysis and will be subject to further quality control.

7.0 POLICY IMPLICATIONS

7.1 This report has been subject to an assessment of any impacts on Equality and Diversity, Fairness and Poverty, Environment and Corporate Risk. A copy of the Impact Assessment is available on the Council's website at www.dundeecity.gov.uk/iia/reports .

8.0 CONSULTATIONS

8.1 The Council Management Team were consulted in the preparation of this report and agree with its content.

9.0 BACKGROUND PAPERS

9.1 None

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4 September 2020

APPENDICES

Appendix 1 - 2019 ratified monitoring data results for each of the pollutants monitored at the continuous monitoring locations in Dundee against the Air Quality Objectives for Scotland.

Appendix 2 – Content from the 2020 Air Quality Annual Progress Report on progress made during 2019 on measures contained within the Air Quality Action Plan and actions to be progressed during 2020.

Appendix 3 - Comparison of 2020 and 2019 daily mean NO_2 levels for continuous monitoring locations in Dundee for each month of the lockdown period commencing 23 March to 31 August.

Appendix 1: 2019 ratified monitoring data results for each of the pollutants monitored at the continuous monitoring locations in Dundee against the Air Quality Objectives for Scotland

Continuous Monitor location	Site type*	NO_2 annual mean (ug/m^3)	NO_2 hourly mean (# times hourly limit exceeded)	PM_{10} annual mean (ug/m^3)	PM_{10} daily mean (# times that daily average exceeded)	$PM_{2.5}$ annual mean (ug/m^3)
Albert St	K	-	-	15.1	7	-
Broughty Ferry Rd**	UI	22.9	0	13.6 / 11.3 / 11.2	1 / 0 / 1	-
Lochee Rd	R	43.0	2	11.8	1	6.4
Logie St	K	-	-	15.4	3	-
Mains Loan	UB	11.0	0	9.2	1	5.5
Meadowside	R	33.9	0	14.1	3	6.6
Myrekirk Tce	R	-	-	12.3	1	-
Seagate	R	44.5	0	13.7	1	6.9
Stannergate	R	-	-	13.3	1	-
Whitehall St	R	33.4	0	11.9	1	6.3

Air Quality Objectives (Scotland): NO_2 annual mean – $40ug/m^3$, NO_2 hourly – $200ug/m^3$ not to be exceeded more than 18 times per year, PM_{10} annual mean – $18ug/m^3$, PM_{10} daily mean – $50ug/m^3$ not to be exceeded more than 7 times per year, $PM_{2.5}$ annual mean – $10ug/m^3$

* Site type: K = kerbside, R = roadside, UI = urban industrial, UB = urban background

** The Broughty Ferry Road site includes 3 analysers that monitor PM_{10}

NOTE: full information on monitoring results in respect to type of analyser, % data capture, annualised results, and 99.8th percentiles is provided in Appendix 1 (Tables A.3, A.4, A.5, A.6 and A.7) of the 2020 Air Quality Annual Progress Report for Dundee City Council.

Appendix 2: Content from the 2020 Air Quality Annual Progress Report on progress made during 2019 on measures contained within the Air Quality Action Plan and actions to be progressed during 2020.

Dundee City Council has taken forward a number of measures during the current reporting year of 2019 in pursuit of improving local air quality. A summary of all measures completed, in progress or planned are set out below with full details available in Chapter 2 and Table 2.4 within the 2020 Air Quality Annual Progress Report.

Key measures undertaken in 2019 included:

- Dundee City Council again supported and participated in 'Clean Air Day' on June 20, with a small event held on the Nethergate to help promote travel alternatives that are beneficial to air quality and health. In the lead up to Clean Air Day, local school children helped promote awareness of the day by painting messages on bus shelters in the city centre. A number of schools also participated in an air quality banner competition that was run by the Scottish Environmental Protection Agency.

- Dundee City Council continued to help promote public transport as an attractive and affordable alternative to private car use. In 2019 Dundee City Council teamed up with local bus operators again to offer a 20p fare promotion (Holiday Hop) to children travelling with adults during the Easter, summer, and October school holiday periods. When compared to baseline data from 2016, the promotion contributed to 74% (Easter 2019) / 94% (Summer 2019) / 86% (October 2019) increases in bus patronage over these periods.

- In 2019 there was a 19.7% increase in the number of members to the Dundee ECO Stars larger commercial vehicles scheme, with 188 members (7188 vehicles) now signed up.

- The ECO Stars scheme for taxis/private hire vehicles maintained its membership at 17 (517 vehicles) by the 31st December 2019.

- The Drive Dundee Electric campaign continued its successful engagement with current and potential electric vehicle (EV) owners (both in public and business). This included the filming of episodes of the YouTube show 'Fully Charged' in Dundee, with local taxi drivers, businesses, council spokespersons, and local EV users being interviewed. Various charging hubs throughout the city were visited, while Drive Dundee Electric had a stall at the event and used the opportunity to promote EV charging facilities.

- Dundee continues to lead the way in electric vehicle (EV) uptake with the installation of 20 publicly available charging points and 7 Dundee City Council privately owned points during 2019, including the first of three multi-storey charging hubs opening in October 2019 at Greenmarket. The hub consists of 10 new chargers, controller-receiver technology which allows dynamic load managements all of which are located under solar canopies.

- By the end of 2019 DCC had 116 electric vehicles in its fleet. During the year DCC became the first UK local authority to have over 100 EVs in their fleet.

- There are 97 pure electric taxis in Dundee. This equates to 18% of the taxi trade which is a 5% increase from 2018.

- A Schools Active Travel team was established at Ancrum Centre in April 2019 and began working with Dundee schools. DCC is now the best local authority in Scotland in terms of the percentage of primary schools offering Bikeability.

- The 2016 Dundee Cycling Strategy was refreshed in 2019 and sets out how Dundee City Council will deliver its duties, powers and policies to enable and encourage more people to cycle more often.

- Cycling Projects Officer providing support on multiple behaviour changes and active travel infrastructure projects. In 2019 the Cycling Scotland Annual Report showed an increased number of people commuting by bike (up to 8.5%) in Dundee.

- A DCC staff travel survey was carried out in October 2019 to help progress with the development of a Staff Travel Plan which is proposed to be launched in 2020.

- A citywide Climate Action Plan in support of the transition to a net-zero and climate resilient future was developed through the Dundee Partnership. In line with Scottish Government and Council objectives for CAFS, tackling air quality and decarbonising transport are key objectives of this plan. This Plan was launched in December 2019.

- The 2019 Local Development Plan was adopted in February 2019. The 'Supplementary Guidance Air Quality & Land Use Planning' document was adopted in conjunction with this.

Air Quality Action Plan measures to be progressed over the course of the next reporting year include:

- A continued expansion of the infrastructure to support uptake of ULEV as well as continued free parking for pure EV vehicles in the multi-storey carparks of the Olympia, Greenmarket, Bell Street and Gellatly Street.

- Drive Dundee Electric will continue to help raise awareness and encourage uptake of low emission vehicles at various events throughout the year.

- 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.

- Continued support for Active Travel related projects including the delivery of the School Active Travel Delivery programme, the embedding of the SUSTRANS Cycling Strategy Officer within City Development and the new team taking on the running of the Active Travel Hub at the Waterfront.

- Additional support for the E-bike public bike hire scheme that is expected to launch in late 2020 (delayed from 2019) at locations in parts of the city with higher levels of pollution and health inequality.

- Continued active participation with the Cleaner Air for Scotland (CAFS) Governance Group and the review of the 2015 CAFS Strategy being undertaken during 2020.

- The completion and launch of the new Staff Travel Plan during 2020.

Appendix 3: Comparison of 2020 and 2019 average daily mean NO_2 levels for each month of the lockdown period commencing 23 March to 31 August.

Measurement Period		Mains Loan (background)			Broughty Ferry Road			Seagate			Lochee Road			Whitehall Street			Meadowside		
Mar-20	**23/03 - 31/03**	6.4	ugm-3	R	21.6	ugm-3	R	21.8	ugm-3	R	20.9	ugm-3	R	21.1	ugm-3	R	20.5	ugm-3	R
Mar-19	**23/03 - 31/03**	7.5	ugm-3	R	18.8	ugm-3	R	39.6	ugm-3	R	42.0	ugm-3	R	26.7	ugm-3	R	31.1	ugm-3	R
% change in daily NO2 average		-14.4			**15.0**			-45.1			-50.1			-21.0			-34.2		
Apr-20	**01/04 - 30/04**	5.6	ugm-3	P	19.9	ugm-3	P	18.4	ugm-3	P	16.5	ugm-3	P	12.4	ugm-3	P	13.0	ugm-3	P
Apr-19	**01/04 - 30/04**	11.7	ugm-3	R	27.6	ugm-3	R	53.3	ugm-3	R	32.8	ugm-3	R	42.0	ugm-3	R	31.9	ugm-3	R
% change in daily NO2 average		-52.3			-27.9			-65.4			-49.7			-70.5			-59.2		
May-20	**01/05 - 31/05**	4.0	ugm-3	P	16.5	ugm-3	P	11.8	ugm-3	P	13.7	ugm-3	P	12.6	ugm-3	P	11.9	ugm-3	P
May-19	**01/05 - 31/05**	7.6	ugm-3	R	21.5	ugm-3	R	44.6	ugm-3	R	33.5	ugm-3	R	33.8	ugm-3	R	28.6	ugm-3	R
% change in daily NO2 average		-47.1			-23.6			-73.5			-59.0			-62.8			-58.5		
Jun-20	**01/06 - 30/06**	5.1	ugm-3	P	16.8	ugm-3	P	13.6	ugm-3	P	14.3	ugm-3	P	10.1	ugm-3	P	7.4	ugm-3	P
Jun-19	**01/06 - 30/06**	6.9	ugm-3	R	17.6	ugm-3	R	37.7	ugm-3	R	30.5	ugm-3	R	28.9	ugm-3	R	24.2	ugm-3	R
% change in daily NO2 average		-25.8			-4.3			-64.0			-53.2			-65.2			-69.3		
Jul-20	**01/07 - 31/07**	5.1	ugm-3	P	11.2	ugm-3	P	21.8	ugm-3	P	21.4	ugm-3	P	16.9	ugm-3	P	NO DATA	ugm-3	P
Jul-19	**01/07 - 31/07**	6.4	ugm-3	R	15.0	ugm-3	R	34.5	ugm-3	R	29.6	ugm-3	R	22.0	ugm-3	R	26.0	ugm-3	R
% change in daily NO2 average		-19.1			-25.7			-36.8			-27.6			-23.2			N/A		
Aug-20	**01/08 - 31/08**	6.2	ugm-3	P	9.9	ugm-3	P	24.0	ugm-3	P	23.4	ugm-3	P	22.8	ugm-3	P	NO DATA	ugm-3	P
Aug-19	**01/08 - 31/08**	7.1	ugm-3	R	18.5	ugm-3	R	35.9	ugm-3	R	32.2	ugm-3	R	26.3	ugm-3	R	27.3	ugm-3	R
% change in daily NO2 average		-12.6			-46.6			-33.2			-27.4			-13.1			N/A		

P = Provisional data **R = Ratified data** Data in the table was sourced on 04/09/2020 from the Scottish Air Quality Database available through the Air Quality in Scotland website www.scottishairquality.scot
Important note: much of the 2020 data was provisional data at the time of carrying out this analysis and will be subject to further quality control