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SUPPLEMENTARY PAPERS

Committee	ENVIRONMENTAL SCRUTINY COMMITTEE
Date and Time of Meeting	TUESDAY, 27 MARCH 2018, 5.00 PM
Venue	COMMITTEE ROOM 4 - COUNTY HALL
Membership	Councillor Patel (Chair) Councillors Philippa Hill-John, Owen Jones, Lancaster, Lay, Mackie, Owen, Wong and Wood

The following papers were marked 'to follow' on the agenda circulated previously

3. **Pre Decision Scrutiny: Air Quality Cardiff** (*Pages 3 - 84*)

Davina Fiore

Director Governance & Legal Services

Date: Wednesday, 21 March 2018

Contact: Graham Porter, 029 2087 3401, g.porter@cardiff.gov.uk

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**CYNGOR CAERDYDD
CARDIFF COUNCIL**

ENVIRONMENTAL SCRUTINY COMMITTEE

27 MARCH 2018

PRE DECISION SCRUTINY: AIR QUALITY CARDIFF

Reason for the Report

1. A report titled 'Air Quality Cardiff' is due to be received by Cabinet at its meeting on the 28 March 2018. The reasons for taking the report to Cabinet are described as:
 - To note that the Council has received a legal direction from Welsh Government titled Environment Act 1995 (feasibility study for Nitrogen Dioxide Compliance) Air Quality Direction 2018.
 - To enable Cabinet to approve the undertaking of a feasibility study as required by the legal direction from Welsh Government.
 - To approve the procurement of a specialist consultant to undertake the feasibility study to identify options for improving air quality and delivering compliance with the legal limits for nitrogen dioxide in Cardiff.

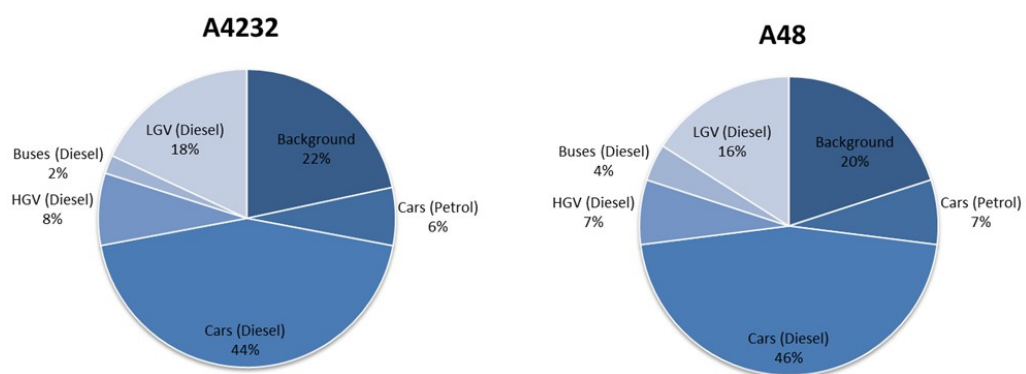
2. A copy of the Cabinet report titled 'Air Quality – Welsh Government Direction' is attached to this report as **Appendix 1**. The document describes the proposals and addresses them in the following sections:
 - Background;
 - Air Quality in Cardiff;
 - Legal Direction from UK Government to English Cities;
 - Legal Direction from Welsh Government;
 - Improvement Measures;
 - Clean Air Zones;

- Transport & Clean Air Green Paper.
3. Members are advised to read **Appendix 1** of the report and consider each of the areas bullet pointed against paragraph 2 (above).
 4. A summary of the key points from **Appendix 1** has been provided for Members below:
 - Poor air quality is now considered the largest environmental risk to public health in the UK. There is clear scientific evidence that shows that air pollution exposure reduces life expectancy by increasing mortality and morbidity risk from heart disease, and strokes, respiratory diseases, lung cancer and other conditions.
 - In the UK, in the context of air quality management, the main air pollutants that are the primary public health concern are particulate matter and Nitrogen Dioxide (NO₂). In the UK, it has been estimated that an equivalent of 23,500 deaths can be attributed to long-term exposure to NO₂ each year.
 - The principle source of these pollutants is from road transport emissions, particularly from diesel cars. In 2012, the International Agency for Research on Cancer listed diesel exhaust pollution as a Class 1 carcinogen and extended this to all ambient air pollution in 2013.
 - Poor air quality does not only cause ill health, it also has a wider societal cost. Accounting for health service costs and reduced productivity through lost workdays in the UK this is significant, standing at around £20bn every year.
 - Recent work by Public Health Wales estimates that the equivalent of over 220 deaths each year among people aged 30 and over in the Cardiff and Vale area can be attributed to NO₂, with many more citizens suffering ill health as a consequence of poor air quality.
 - Modelling undertaken by Defra suggests that the city is non-compliant on two major routes (two sections of the A48 and a section of A4232.). The modelling

undertaken by Defra indicates that non-compliance will continue beyond 2023, if no additional improvement measures are implemented.

- **Figure 1** represents the percentage of Nitrogen Oxides (NOx) source apportionment for NOx pollution on the A48 and A4232 as modelled by the Department for Environment, Food and Rural Affairs. It is clear from this figure that diesel cars account for the greatest source of pollution on this major road link in Cardiff.

Figure 1 - NOx Emission Source % Apportionment, JAQU



- There are four locations in which Air Quality Management Areas (AQMA's) have been declared (Stephenson Court on Newport Rd, City Centre - Westgate St, Llandaff and Ely Bridge).
- The UK and devolved Governments have a legal obligation to achieve nitrogen dioxide (NO₂) annual average limit value (40ug/m³) as set out in the EU Ambient Air Quality Directive (2008/50/EC) 'in the shortest possible time'. The UK is currently in breach of air quality limits so it must plan and take action to become compliant as quickly as possible.
- The two most recent attempts to produce statutory national plans to achieve compliance with air quality legislation have been successfully challenged and labelled insufficient in UK courts, most notably in the UK High Court of Justice in February of this year (see **Appendix 2**).
- In July 2017 legal directions with the exact same requirements as received by Cardiff from the Welsh Government, were placed on a number of English cities,

including Bristol, Greater Manchester and Sheffield. More specifically, three cities have been instructed to introduce a Clean Air Zone (CAZ): Birmingham, Leeds and Nottingham. Others have been required to develop effective local action plans by March 2018.

- Air quality is a devolved matter in the UK, meaning that the Devolved Administrations are responsible for developing domestic policies and legislation to improve air quality and reduce risks to human health. The Air Quality Standards Regulations 2010 transpose the Ambient Air Quality Directive requirements (2008/50/EC) into devolved legislation. These limits are identical across the UK and achievement is a mandatory requirement for Member States.
- Welsh Government have exercised the powers conferred by section 85(5) of the Environment Act 1995 and issued the direction titled Environment Act 1995 (feasibility study for Nitrogen Dioxide Compliance) Air Quality Direction 2018 (for details see **Appendix 3**). The direction came into force, as signed by the Minister, on 15th February 2018, and was delivered to Cardiff Council on the 9th March 2018.
- As a result of the direction Cardiff Council must complete the following activities by the dates specified:
 - i. **As soon as possible and by 31st March 2018 at the latest the initial scoping proposals:** Setting out the proposed approach to the feasibility study and including scope of work, governance, resourcing, procurement approach, indicative costs and timings.
 - ii. **As soon as possible and by 30th September 2018 at the latest the Initial Plan:** Setting out the case for change and identifying, exploring, analysing and developing options for measures that the local authority will implement to deliver compliance in the shortest possible time, with indicative costs for those options.
 - iii. **As soon as possible and by 30th June 2019 at the latest the Final Plan:** Identifying in detail the preferred option for delivering compliance in the

shortest possible time, and including a full business case setting out value for money considerations and implementation arrangements and timings.

- Cardiff Council is now legally required to undertake a full and comprehensive feasibility study, within the specified timescales, to identify the preferred option that will deliver compliance with legal limits of nitrogen dioxide in the shortest time possible. The feasibility study will rely heavily on detailed modelling to project transport trends, associated emissions and subsequent concentrations of nitrogen dioxide. Consultancy support will need to be sought to deliver a Modelling Needs Assessment, subsequent transport modelling and develop a Business Case for the preferred scheme.
- The Minister's letter that accompanied the formal direction (see **Appendix 4**) confirmed that finance would be made available for the production of the feasibility study and for the implementation of the chosen scheme.
- Clean Air Zones - In terms of demonstrating compliance in the shortest possible time, it is expected that the introduction of a Clean Air Zone must be extensively analysed as an option and benchmarked against alternative emission reduction measures.
- The Cabinet report defines a Clean Air Zone as 'an area where targeted action is taken to improve air quality and resources are prioritised and coordinated in order to shape the urban environment in a way that delivers improved health benefits and supports economic growth'.
- In Clean Air Zones access may be restricted, or charges may be imposed, for vehicles that do not meet certain emission standards. Likewise, there are often exemptions for newer vehicles that meet higher emission standards, emergency services vehicles, electric vehicles, scooters and mopeds.
- Welsh Government has not yet produced a framework for a Clean Air Zone that sets out the classes of vehicles potentially subject to these measures. While it is envisaged that the Welsh Clean Air Zone framework will have similar categories as set out in the DEFRA Framework (details of which can be found in **Appendix**

5), officers from Cardiff Council will work alongside the Welsh Government to ensure that any measures are appropriate to local circumstances, and can meet the twin outcomes of improving health benefits and supporting economic growth in Wales.

- ‘The latest modelling undertaken by Defra identified areas across the UK that may need to implement a Clean Air Zone to achieve compliance in the shortest time. One area identified in Wales, for which, based on current projections, a zonal approach would accelerate compliance, is in Cardiff. The results of the modelling indicates that Cardiff may benefit from the introduction of a Clean Air Zone, in order to achieve compliance with the national annual mean NO₂ objective in the shortest time possible. Defra’s report stipulates that should a CAZ be introduced in Cardiff by 2021 or earlier if possible this would ensure NO₂ compliance by 2022 or sooner.’
- A fundamental point is that the Council needs to ensure that any proposals are proportionate to the scale of the problem and tailored to local circumstances, whilst ensuring compliance in the shortest time possible.
- Specialist Consultants with a proven track record will be procured to undertake the detailed analysis and modelling to satisfy the requirement of the Direction within the specified timescales.
- On 21 March 2018 the Council published a Green Paper on Transport and Clean Air (attached as **Appendix 6**). The Green Paper sets out a series of options for consultation for tackling congestion and improving air quality in Cardiff. The consultation will be open until 1 July 2018, and the findings will be used alongside the feasibility study on air quality and outcomes from the recent consultation on the Council’s Economic Green Paper to inform the development of a White Paper on Transport and Clean Air that will be published in the autumn of 2018. It is anticipated that the Green Paper proposals will be the subject of a debate at Full Council in June 2018.

Way Forward

5. The Cabinet Members for Clean Streets, Recycling & Environment; Social Care, Health & Well-being and Strategic Planning have been invited to provide and officers from the City Operations Directorate have been invited to provide a briefing on the item and answer any questions that Members may have.

Legal Implications

6. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf of the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers on behalf of the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

Financial Implications

7. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

RECOMMENDATION

The Committee is recommended to:

- i. Note the contents of the report and pass on to the Cabinet any comments, observations or recommendations that they might have.

DAVINA FIORE

Director of Governance & Legal Services

23 MARCH 2018

CABINET MEETING: 28 MARCH 2018

AIR QUALITY - WELSH GOVERNMENT DIRECTION**LEADER (COUNCILLOR HUW THOMAS)**

REPORT OF THE CHIEF EXECUTIVE**Reason for this Report**

To note that the Council has received a legal direction from Welsh Government titled Environment Act 1995 (feasibility study for Nitrogen Dioxide Compliance) Air Quality Direction 2018.

To enable Cabinet to approve the undertaking of a feasibility study as required by the legal direction from Welsh Government and;

To approve the procurement of a specialist consultant to undertake the feasibility study to identify options for improving air quality and delivering compliance with the legal limits for nitrogen dioxide in Cardiff.

Background

1. Poor air quality is now considered the largest environmental risk to public health in the UK.¹ There is clear scientific evidence that shows that air pollution exposure reduces life expectancy by increasing mortality and morbidity risk from heart disease, and strokes, respiratory diseases, lung cancer and other conditions.
2. In the UK, in the context of air quality management, the main air pollutants that are the primary public health concern are particulate matter and Nitrogen Dioxide (NO₂). In the UK, it has been estimated that an equivalent of 23,500 deaths can be attributed to long-term exposure to NO₂ each year.²
3. The principle source of these pollutants is from road transport emissions, particularly from diesel cars. In 2012, the International Agency for Research on Cancer listed diesel exhaust pollution as a

¹ 'Estimating local mortality burdens associated with particulate air pollution', Public Health England, (2014)

² 'Improving air quality in the UK: tackling nitrogen dioxide in our towns and cities: UK overview document' Defra (2015)

Class 1 carcinogen³ and extended this to all ambient air pollution in 2013.⁴

4. Public Health Wales has stated that poor air quality is the second greatest public health concern after smoking and is the most significant environmental determinant of health. In Wales, based on data for the period 2011-2012, it has been estimated that an equivalent of 1,100 avoidable deaths can be linked to NO₂ exposure each year.
5. Poor air quality does not only cause ill health, it also has a wider societal cost. Accounting for health service costs and reduced productivity through lost workdays in the UK this is significant, standing at around £20bn every year.⁵
6. Some people are more at risk than others. Air pollution can disproportionately affect vulnerable population groups (e.g. children, older people, people with underlying chronic disease), as well as those exposed to higher levels because of living or commuting in urban or deprived locations.⁶

Air Quality in Cardiff

7. Recent work by Public Health Wales estimates that the equivalent of over 220 deaths each year among people aged 30 and over in the Cardiff and Vale area can be attributed to NO₂, with many more citizens suffering ill health as a consequence of poor air quality.⁷
8. With regards the nature and scale of the problem in Cardiff, at this stage modelling undertaken by Defra suggests that the city is non-compliant on two major routes (two sections of the A48 and a section of A4232.). The modelling undertaken by Defra indicates that non-compliance will continue beyond 2023, if no additional improvement measures are implemented. Figure 1 represents the percentage of Nitrogen Oxides (NO_x)⁸ source apportionment for NO_x pollution on the A48 and A4232 as modelled by the Department for Environment, Food and Rural Affairs.⁹ It is clear from this figure that diesel cars account for the greatest source of pollution on this major road link in Cardiff.

³ International Agency for Research on Cancer, (June 2012)

⁴ International Agency for Research on Cancer, (October 2013)

⁵ 'Every breath we take: the lifelong impact of air pollution', Royal College of Physicians and Royal College of Paediatrics and Child Health (2016).

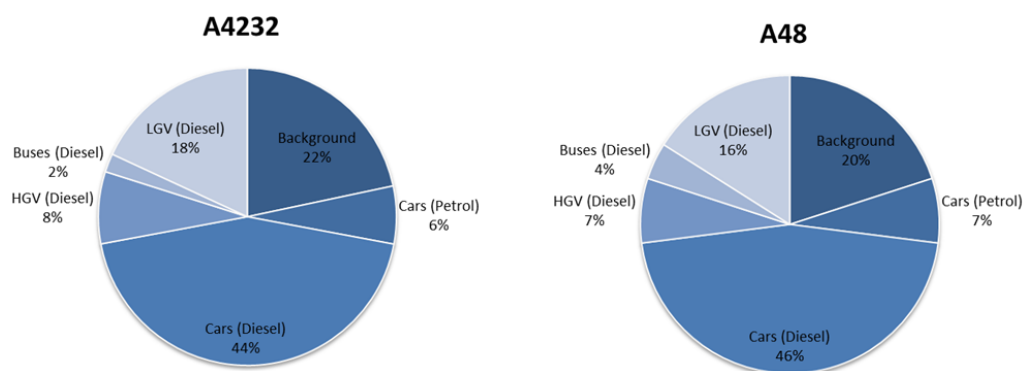
⁶ National Institute for Health and Care Excellence 2017; WHO Regional Office for Europe 2016

⁷ Estimating local mortality burdens associated with particulate air pollution, Public Health Wales (2014).

⁸ Nitrogen oxides are a group of gases that are composed of nitrogen and oxygen. Two of the most common nitrogen oxides are nitric oxide and nitrogen dioxide.

⁹ Defra/Department for Transport's Joint Air Quality Unit

Figure 1 - NOx Emission Source % Apportionment, JAQU



9. Furthermore, there are four locations in which Air Quality Management Areas (AQMA's) have been declared (Stephenson Court on Newport Rd, City Centre - Westgate St, Llandaff and Ely Bridge). Table 1 below summarises the average concentrations at residential facades within the 4 AQMAs since 2012. Datasets of the annual average NO₂ levels recorded at relevant public exposure locations within the AQMAs have shown signs of improvement. However, the levels are consistently elevated and are seen to be either exceeding or encroaching on the annual average NO₂ objective.

Table 1. Annual Average NO₂ Concentration (µg/m³) Air Quality Standard =40 µg/m³

AQMA	Annual Average NO ₂ Concentration (µg/m ³) Air Quality Standard =40 µg/m ³					
	2012	2013	2014	2015	2016	2017*
City Centre	41.5	42.1	42.1	38.2	38.7	39.6**
Stephenson Court	47.9	43.9	41.2	39.5	39.6	36.7
Ely Bridge	42.6	44.9	42.3	39.5	41.3	38
Llandaff	43.0	39.1	37.2	32.3	35.0	32.5

*data not fully ratified and figures may be amended in Annual Progress Report, due to be published before 30th Sept 2018

**2017 result includes all City Centre AQMA monitoring data. .

10. Although the 2017 data indicates that compliance is met in the four AQMAs, the Welsh Government has stated that *'air just barely compliant with the objectives is not 'clean' and still carries long-term health risks and while compliance with the national air quality objectives is essential, it is desirable to keep levels of pollution as low as reasonable practicable.'*¹⁰

Legal Direction from UK Government to English Cities

11. The UK and devolved Governments have a legal obligation to achieve nitrogen dioxide (NO₂) annual average limit value (40µg/m³) as set out

¹⁰ [Welsh Government Local air quality management in Wales Policy guidance June 2017](#)

in the EU Ambient Air Quality Directive (2008/50/EC) in the shortest possible time.

12. The UK is currently in breach of air quality limits so it must plan and take action to become compliant as quickly as possible. The European Union has already started infringement proceedings and should the UK not respond to its air quality problem effectively then the UK could face fines from the European Union.
13. The two most recent attempts to produce statutory national plans to achieve compliance with air quality legislation have been successfully challenged and labelled insufficient in UK courts, most notably in the UK High Court of Justice in February of this year (See Appendix 1). The respective rulings on these challenges have shown that UK Government has consistently failed to adequately assess the air quality challenge and produce the necessary plans to ensure that the UK will achieve compliance.
14. This has led to a range of further requirements for improvement being placed on a range of UK cities. In July 2017 legal directions with the exact same requirements as received by Cardiff from the Welsh Government (see below), but with different target dates, have been placed on a number of English cities, including Bristol, Greater Manchester and Sheffield. More specifically, three cities have been instructed to introduce a Clean Air Zone (CAZ): Birmingham, Leeds and Nottingham. Others have been required to develop effective local action plans by March 2018.
15. This followed the proposals in DEFRA's UK Air Quality Plan, published in December 2015, which identified five cities which will be required to implement a CAZ with penalty charges for the most polluting HGV's, buses and taxis by 2020. UK Government have allocated funding to support those local authorities mandated to introduce a CAZ.

Legal Direction from Welsh Government

16. Air quality is a devolved matter in the UK, meaning that the Devolved Administrations are responsible for developing domestic policies and legislation to improve air quality and reduce risks to human health. The Air Quality Standards Regulations 2010 transpose the Ambient Air Quality Directive requirements (2008/50/EC) into devolved legislation. These limits are identical across the UK and achievement is a mandatory requirement for Member States.
17. Welsh Government have exercised the powers conferred by section 85(5) of the Environment Act 1995 and issued the direction titled **Environment Act 1995 (feasibility study for Nitrogen Dioxide Compliance) Air Quality Direction 2018**. (Appendix 2)

18. The direction came into force, as signed by the Minister, on 15th February 2018, and was delivered to Cardiff Council on 09th March 2018. The direction has a schedule of specified activities, and states:

'Under the Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2018, the Welsh Ministers make this direction having determined that it is necessary in order to meet obligations placed upon the United Kingdom under the EU Ambient Air Quality Directive.

Cardiff Council will undertake, as part of the UK plan for tackling roadside nitrogen dioxide concentrations 2017, a feasibility study in accordance with the HM Treasury's Green Book approach, to identify the option which will deliver compliance with legal limits for nitrogen dioxide in the area for which the authority is responsible, in the shortest possible time.'

19. Cardiff Council must therefore complete the following activities by the dates specified:

- i. **As soon as possible and by 31st March 2018 at the latest the initial scoping proposals:**
 - Setting out the proposed approach to the feasibility study and including scope of work, governance, resourcing, procurement approach, indicative costs and timings.
- ii. **As soon as possible and by 30th September 2018 at the latest the Initial Plan:**
 - Setting out the case for change and identifying, exploring, analysing and developing options for measures that the local authority will implement to deliver compliance in the shortest possible time, with indicative costs for those options.
- iii. **As soon as possible and by 30th June 2019 at the latest the Final Plan:**
 - Identifying in detail the preferred option for delivering compliance in the shortest possible time, and including a full business case setting out value for money considerations and implementation arrangements and timings.

20. Cardiff Council has a statutory duty under Part IV of the Environment Act 1995 & Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 to manage local air quality. A legal duty has therefore been placed on Cardiff Council to undertake the requirements of the direction as detailed above within the specified timescales. Within Wales, the direction received also applies to Caerphilly, although they have only one problematic road.

21. Cardiff Council are now therefore legally required to undertake a full and comprehensive feasibility study, within the specified timescales, to

identify the preferred option that will deliver compliance with legal limits of nitrogen dioxide in the shortest time possible. The feasibility study will rely heavily on detailed modelling to project transport trends, associated emissions and subsequent concentrations of nitrogen dioxide. Consultancy support will need to be sought to deliver a Modelling Needs Assessment, subsequent transport modelling and develop a Business Case for the preferred scheme.

22. Within the Minister's letter that accompanied the formal direction (Appendix 3) it was confirmed that finance would be made available for the production of the feasibility study and for the implementation of the chosen scheme. Council Officers will continue to work with Welsh Government Officers to establish a mechanism for achieving the necessary funds.

Improvement Measures

23. In order to achieve improvements in air quality it is likely that a programme of measures will need to be implemented. Welsh Government must be satisfied that the measures presented will achieve compliance in the shortest possible time. Many of the likely measures will be delivered over the medium to long term. Even if significant acceleration of delivery occurs, these actions may not be sufficient to demonstrate that legal compliance will be achieved in the shortest time possible.

Clean Air Zones

24. As a requirement of the legal direction, in terms of demonstrating compliance in the shortest possible time, it is expected that the introduction of a CAZ must be extensively analysed as an option and benchmarked against alternative emission reduction measures, many of which are already in development or proposed in the Council's Transport and Clean Air Green Paper.
25. A CAZ defines an area where targeted action is taken to improve air quality and resources are prioritised and coordinated in order to shape the urban environment in a way that delivers improved health benefits and supports economic growth. In CAZs access may be restricted, or charges may be imposed, for vehicles that do not meet certain emission standards. Likewise, there are often exemptions for newer vehicles that meet higher emission standards, emergency services vehicles, electric vehicles, scooters and mopeds.
26. Welsh Government have not yet produced a framework for a CAZ that sets out the classes of vehicles potentially subject to these measures. While it is envisaged that the Welsh CAZ framework will have similar categories as set out in the DEFRA Framework (details of which can be found in Appendix 4), officers from Cardiff Council will work alongside the Welsh Government to ensure that any measures are

appropriate to local circumstances, and can meet the twin outcomes of improving health benefits and supporting economic growth in Wales.

27. The reason a CAZ must be considered as the benchmark is detailed within the UK National Plan to Tackle Roadside NO₂, which states that CAZ's will likely bring compliance in the shortest time possible in addition to local measures.

*'The latest modelling undertaken by Defra identified areas across the UK that may need to implement a Clean Air Zone to achieve compliance in the shortest time. One area identified in Wales, for which, based on current projections, a zonal approach would accelerate compliance, is in Cardiff. The results of the modelling indicates that Cardiff may benefit from the introduction of a Clean Air Zone, in order to achieve compliance with the national annual mean NO₂ objective in the shortest time possible. Defra's report stipulates that should a CAZ be introduced in Cardiff by 2021 or earlier if possible this would ensure NO₂ compliance by 2022 or sooner.'*¹¹

That the CAZ will be the benchmark against which other measures are assessed does not imply that the CAZ will become the preferred option.

28. A fundamental point is that the Council needs to ensure that any proposals are proportionate to the scale of the problem and tailored to local circumstances, whilst ensuring compliance in the shortest time possible.
29. Council Officers will continue to work collaboratively with Welsh Government officers to ensure that all legal requirements are being met, establish a framework to work within and an appropriate funding mechanism. The Council will also seek to maximise the financial contribution from Welsh Government towards the implementation of any measures, including any potential Barnett consequentials relating to air quality.
30. Specialist Consultants, with a proven track record for delivering such requirements across the UK thereby enabling the Council to draw on their experience, initiatives and best practice solutions, will be procured to undertake the detailed analysis and modelling to satisfy the requirement of the Direction within the specified timescales.

Transport and Clean Air Green Paper

31. On 21 March 2018 the Council published a Green Paper on Transport and Clean Air (Appendix 5). The Green Paper sets out a series of options for consultation for tackling congestion and improving air quality in Cardiff. The consultation will be open until 1 July 2018, and the findings will be used alongside the feasibility study on air quality and outcomes from the recent consultation on the Council's Economic

¹¹ [Defra UK plan for tackling roadside nitrogen dioxide concentrations Detailed plan July 2017](#)

Green Paper to inform the development of a White Paper on Transport and Clean Air that will be published in the autumn of 2018. It is anticipated that the Green Paper proposals will be the subject of a debate at Full Council in June 2018.

Reason for Recommendations

To enable Cardiff Council to meet the requirements of the Welsh Government Legal Direction.

Financial Implications

As set out in the body of the report funding will be made available to the Council in order to carry out the feasibility study and the implementation of the scheme. Whilst, the details surrounding the mechanism of funding the implementation of the scheme are not required at this stage it is important that the funding limits or criteria needed to access the funding for the feasibility study are understood before commencement.

Legal Implications (including Equality Impact Assessment where appropriate)

Section 85(7) of the Environment Act 1995 states that it is the duty of a local authority to comply with any direction given to it. Cardiff Council therefore has a statutory duty to comply with the direction, which could be enforced through a court order.

Any procurement must comply with the Council's Contract Standing Orders and Procurement Rules and the relevant law.

Any specific proposals which are developed following the feasibility study will require appropriate consultation, equality impact assessment and evaluation in relation to the Council's wellbeing objectives.

RECOMMENDATIONS

Cabinet is recommended to:

1. approve the undertaking of a feasibility study as required by the legal direction from Welsh Government;
2. delegate authority to the Director of Planning, Transport & Environment, in consultation with the Cabinet Members for Clean Streets, Recycling & Environment and Strategic Planning & Transport, to commence the procurement of a specialist consultant to undertake detailed modelling to support the feasibility study, including the issuing of documentation; and deal generally with all aspects of the procurement process and ancillary matters up to and including award of contract;

3. note the publication of the Transport and Clean Air Green Paper and refer it to Full Council for debate.

PAUL ORDERS

Chief Executive

22 March 2018

The following appendices are attached:

Appendix 1 High Court Judgement

Appendix 2 Welsh Government Direction

Appendix 3 Welsh Minister Letter

Appendix 4 DEFRA Framework CAZ charging categories

Appendix 5 Transport and Clean Air Green Paper

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Neutral Citation Number: [2018] EWHC 315 (Admin)

Case No: CO/4922/2017

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
ADMINISTRATIVE COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 21/02/2018

Before :

MR JUSTICE GARNHAM

Between :

**The Queen (on the application of
ClientEarth) No.3**

Claimant

- and -

**(1) Secretary of State for Environment, Food and
Rural Affairs**

Defendants

(2) Secretary of State for Transport

(3) Welsh Ministers

And

Mayor of London

**Interested
Party**

Nathalie Lieven QC & Ravi Mehta (instructed by ClientEarth) for the Claimant
Kassie Smith QC & Julianne Morrison (instructed by Government Legal Department)
for the First Defendant
Jonathan Moffett QC (instructed by Government Legal Department) for the Welsh Ministers

Hearing date: 25th January 2018

Approved Judgment

Mr Justice Garnham:

Introduction

1. On 26 July 2017 the Department for Environment, Food and Rural Affairs (“DEFRA”) published the “UK plan for tackling roadside nitrogen dioxide concentrations” and associated documents (hereafter “the 2017 Plan”). This was the third attempt by the UK Government to provide an Air Quality Plan (“AQP”) that met its obligations in law.
2. The first AQP, produced in 2011, was quashed by order of the Supreme Court in 2015. The Government was made the subject of a mandatory order requiring the Secretary of State to prepare new air quality plans in accordance with a defined timetable (see R (on the Application of ClientEarth) v The Secretary of State for the Environment, Food and Rural Affairs [2015] UKSC 28, 4 All ER 724). The second AQP, produced in purported compliance with the order of the Supreme Court, was published on 17 December 2015.
3. In a judgment dated 2 November 2016 ([2016] EWHC 2740 (Admin), (“the November 2016 judgment”), I held that the 2015 plan was also deficient. I made a direction that DEFRA must publish a new AQP, which complied with the relevant EU Directive and domestic Regulations, by 31 July 2017. It was in purported compliance with that order that DEFRA published the 2017 Plan.
4. The Claimant in these proceedings is “ClientEarth”, a registered charity, whose objects include promoting and encouraging the “*enhancement, restoration, conservation and protection of the environment, including the protection of human health, for the public benefit*”. By these proceedings, the Claimant challenges the 2017 Plan on the ground that it too failed to meet DEFRA’s legal obligation. ClientEarth was also the claimant in the two previous judicial review cases. The Defendants are the Secretaries of State for Food, Environment and Rural Affairs, and for Transport, and the Welsh Ministers. The Secretary of State for Food, Environment and Rural Affairs has taken the lead for the Defendants in this case (and I refer to him hereafter as “the Secretary of State”).
5. Proper and timely compliance with the law in this field matters. It matters, first, because the Government is as much subject of the law as any citizen or any other body in the UK. Accordingly, it is obliged to comply with the Directive and the Regulations and with the orders of the court. Second, it matters because, as is common ground between the parties to this litigation, a failure to comply with these legal requirements exposes the citizens of the UK to a real and persistent risk of significant harm. The 2017 Plan says that “*poor air quality is the largest environmental risk to public health in the UK. It is known to have more severe effects on vulnerable groups, for example the elderly, children and people already suffering from pre-existing health conditions such as respiratory and cardiovascular conditions*”. As I pointed out in the November 2016 judgment, DEFRA’s own analysis has suggested that exposure to nitrogen dioxide (NO₂) has an effect on mortality “*equivalent to 23,500 deaths*” every year.

The Legislative Scheme

6. At paragraphs 6-15 of the November 2016 judgment, I set out and explained the legislative background relevant to the arguments in that case. That background remains

relevant to this challenge but it is not necessary to repeat all that detail here. It suffices for me to note the following provisions, all of which are cited in the November 2016 judgment:

7. Article 13 of Directive 2008/50/EC (“the 2008 Directive”) imposes limit values and alert thresholds for the protection of human health. It provides:

“1. Member States shall ensure that, throughout their zones and agglomerations, levels of sulphur dioxide, PM10, lead and carbon monoxide in ambient air do not exceed the limit values laid down in Annex XI.

In respect of nitrogen dioxide and benzene the limit values, specified in Annex XI may not be exceeded from the date specified therein.”

8. Article 23 provides that:

“Where, in given zones or agglomerations, the levels of pollutants in ambient air exceeds any limit value...member states shall ensure that air quality plans are established for those zones and agglomerations in order to achieve the related limit value...specified in Annexes XI and XIV.

In the event of exceedances of those values for which the attainment deadlines have already expired the air quality plan shall set out appropriate measures, so that the exceedance period can be kept as short as possible.”

9. Annex XI to the 2008 Directive imposes a limit value for nitrogen dioxide of an average of 200ug/m³ in any given hour (which is not to be exceeded more than 18 times in a calendar year) and an average of 40ug/m³ which applies to each calendar year.
10. Annex XV sets out information to be included in the local, regional or national air quality plans for improvement in ambient air quality. Amongst the information required is detail of those measures or projects adopted with the view to reducing pollution. The Plan must list and describe all the measures set out in the project, set out a timetable for implementation, provide an estimate of the improvement of air quality planned and the expected time required to obtain that objective.
11. The 2008 Directive was brought into domestic law in the UK by means of four sets of regulations, one for each of the home nations. Regulation 26 of the English Regulations (the Air Quality Standards Regulations 2010 (2010/1001)) requires the Secretary of State, when the levels of nitrogen dioxide (amongst other pollutants) exceeds any limit value, to draw up and implement an AQP so as to achieve that limit value.
12. Regulation 26 also specifies that the AQP must “include measures intended to ensure compliance with any relevant limit value within the shortest possible time....” and “must include the information listed in Schedule 8.”

13. In addition to the provisions referred to in the November 2016 judgment, it is material to note the following five additional provisions.

14. First, paragraph 8 of Schedule 8 (which, as noted above, is referred to in Regulation 26 of the English Regulations) specifies, as part of the information which must be included in air quality plans, the following:

“Details of those measures or objectives adopted with a view to reducing pollution following 11 June 2008 - (a) listing and description of all the measures set out in the project; (b) the timetable for implementation; (c) estimate of the improvement of air quality planned and of the expected time required to attain these objectives”

15. Second, the Air Quality Standards (Wales) Regulations 2010 (2010/1433) impose, on the Welsh Ministers, duties in respect of Wales equivalent to those imposed on the Secretary of State in respect of England. In particular, regulations 13 and 20 of those Regulations provide:

“13.(1) ...the Welsh ministers must ensure levels of ...nitrogen dioxide...do not exceed the limit values set out in Schedule 1 in any zone...”

(Schedule 1 imposes the same limit values as are imposed in England.)

20. Where the level of ...nitrogen dioxide...in ambient air exceeds any of the limit values in Schedule 1 in any zone...the Welsh Ministers must draw up and implement an air quality plan to achieve the relevant limit value...in that zone.”

16. Third, Articles 6-7 of the 2008 Directive makes provision for assessment criteria and sampling points in order to ensure consistent monitoring of ambient air quality across the EU.

17. Fourth, in December 2011, the European Commission published a Commission Implementing Decision laying down rules for the 2008 Directive as regards reporting of ambient air quality. Paragraph 1 of Article 13 of that decision provides that:

“Member States shall make available the information set out in Parts...K of Annex II to this Decision on air quality plans as required by Article 23 of Directive 2008/50/EC including (a) the mandatory elements of the air quality plan as listed pursuant to Article 23 of the Directive 2008/50/EC in Section A of Annex XV to Directive 2008/50/EC...”

18. Part K requires the provision of information as to matters including:

“(14) Planned implementation: start and end date

(15) Date when the measure is planned to take full effect

- (16) Other key implementation dates*
- (17) Indicator for monitoring progress*
- (18) Reduction in annual emissions due to applied measure...*

19. Finally, s85 of the Environment Act 1995 provides, as material:

“(3) If it appears to the [the Secretary of State]

(a) that air quality standards or objectives are not being achieved, or are not likely within the relevant period to be achieved, within the area of a local authority...

the appropriate authority may give directions to the local authority requiring it to take such steps as may be specified in the directions...

(7) It is the duty of a local authority to comply with any direction given to it under or by virtue of this Part.”

20. It is against that statutory framework that the new AQP was developed.

Developing the 2017 Air Quality Plan

- 21. Shortly after the November 2016 judgment, DEFRA set about the task of preparing a new AQP.
- 22. I was provided with a detailed and helpful statement from Mr Andrew Jackson, Deputy Director of a unit established by DEFRA and the Department for Transport and known as the Joint Air Quality Unit (“JAQU”). It is apparent from the statement that very considerable time and effort was devoted to the preparation of the plan by officials and ministers.
- 23. A long list of potential policy options to tackle nitrogen dioxide emissions was identified; strategy papers analysing the problem were produced; proposals were discussed with the Greater London Authority, other local authorities and the devolved administrations. Amongst the options was a wider deployment of clean air zones (“CAZs”) than that contemplated by the 2015 plan.
- 24. In 2016 the Government had published a “Clean Air Zone Framework in England” which set out the principles for the operation of a CAZ. As was subsequently to be explained in paragraph 103 of the 2017 Plan, CAZs fall into two categories:

“a. Non-charging Clean Air Zones – These are defined geographic areas used as a focus for action to improve air quality. This action can take a range of forms including, but not limited to, those set out in Section 2 of the Framework but does not include the use of charge based access restrictions.

b. Charging Clean Air Zones – These are zones where, in addition to the above, vehicle owners are required to pay a

charge to enter, or move within, a zone if they are driving a vehicle that does not meet the particular standard for their vehicle type in that zone. Clean Air Zone proposals are not required to include a charging zone, and local authorities may consider alternatives to charging such as access restrictions for certain types of vehicles.”

25. As a result of the work described above it was determined, consistent with the analysis referred to in the November 2016 judgment, that “Charging Clean Air Zones” (or “Charging CAZs”) were the preferred option for reducing roadside NO₂ emissions.
26. By the middle of April 2017, a draft AQP was nearing completion. DEFRA sought an extension of time from the Court for the production of the draft plan because of the approach of local, and then national, elections. I granted a modest extension to cover the local election, but refused a much longer one in respect of the general election ([2017] EWHC 1618 (Admin)). The date of the publication of the final report was maintained at 31 July 2017.
27. In accordance with the amended order of the Court, a draft air quality plan and supporting technical report were published on 5 May 2017. Those documents were then put out to consultation. In June 2017 ClientEarth sought an order that the Secretary of State should produce a supplement to the draft published in May 2017. I refused that application ([2017] EWHC 1966 (Admin)).
28. The consultation process ended on 15 June by which time some 743 substantive responses had been received. The responses included a substantive one from ClientEarth and a number of pro forma responses from members of the public who were encouraged to respond by ClientEarth. A summary of the responses to the consultation was published subsequently.
29. The period between the end of the consultation period and production of the final AQP was marked by high level meetings between officials and ministers at which decisions were made as to the final shape of the report. On 26 July 2017 the Government and the devolved administrations published 3 documents. First, the “UK plan for tackling roadside nitrogen dioxide concentrations: an overview” (also known as “the Overview Document”). Second, the “UK plan for tackling roadside nitrogen dioxide concentrations: Detailed plan” (“the Detailed Plan”). Third, the technical report.
30. On 27 July 2017 the Government published a Direction to 23 local authorities under s85(5) of the Environment Act 1995. This Direction, entitled “The Environment Act 1995 (feasibility study for nitrogen dioxide compliance) air quality direction 2017”, required the 23 authorities to undertake a feasibility study to identify the option which will deliver compliance with legal limits for nitrogen dioxide in the area for which the authority is responsible, in the shortest possible time.

The 2017 Air Quality Plan

31. Identification of what are the critical elements of the new air quality plan is not contentious and I am able to summarise the position in relatively short compass.

Zones, Local Authorities and National Measures

32. Section 3 of the Detailed Plan explains that the UK is divided into 43 zones for air quality reporting. In all but two zones, the UK is achieving the statutory hourly mean limit value for NO₂. However, 37 zones exceeded the statutory annual mean limit value for NO₂ in 2015.
33. These zones are not co-terminal with local authority areas; many zones incorporate more than one local authority area. For the purposes of its operation, however, the 2017 Plan is directed to local authorities, who are to have a central role in bringing the plan into effect. Section 7.4.1 of the Detailed Plan outlines the requirement for local authority-led action plans in England. Paragraph 90 of the Detailed Plan provides that:
- “Given the local nature of the problem, local action is needed to achieve improvements in air quality. As the UK improves air quality nationally, air quality hotspots are going to become even more localised and the importance of action at a local level will increase. Local knowledge is vital to finding air quality solutions that are suited to local areas and the communities and businesses affected. A leading role for local authorities is therefore essential.”*
34. It is acknowledged that locally-led solutions will need to be implemented within a national framework designed to ensure that compliance will be achieved within the shortest possible time.
35. The 2017 Plan identifies a range of existing actions that were already being taken to tackle local NO₂ exceedances and reduce overall emissions. First, there is action taking place across the UK, including, for example, improvements to emissions testing for vehicles. Second, there is action being taken in England: for example, action by Highways England to improve air quality on the strategic road network in England, and action to update Government procurement policy to encourage the purchasing of cleaner vehicles by Government.

Non-Compliant Areas and Annex K

36. The 2017 Plan explains that on 31 July 2017 the Government published 37 individual zone plans for each non-complaint zone in the UK. I return to the contents of the local plans below.
37. The degree of non-compliance exhibited and forecast for different local areas varies widely. Annex K to the Detailed Plan sets out these different forecasts by reference to local authorities. Different approaches are adopted in the Plan depending on the degree of non-compliance forecast.
38. First, there are 23 local authorities representing areas with the greatest problem, i.e. those with exceedances projected beyond the next three to four years. Second, there are the five cities that were previously the focus of the 2015 AQP (Birmingham, Leeds, Nottingham, Derby and Southampton). Third, there are 45 local authorities which currently have air quality exceedances, but which are expected to achieve compliance with the NO₂ limit values by 2021.

39. Although different measures are planned for each of these groups, the plan explains that “*the UK government has identified Clean Air Zones that include charging as the measure it is able to model nationally which will achieve statutory NO₂ limit values in ... the shortest possible time*”. Accordingly, this measure is to be used as “*the benchmark for assessing locally-led solutions*”.
40. For the first group, those areas with exceedances projecting beyond the next three to four years, local authorities are required to develop local plans in order “*to achieve the statutory NO₂ limit values within the shortest possible time*”. Paragraph 111 of the Detailed Plan explains that if local authorities adopt a Charging CAZ, modelling suggests that they could achieve statutory NO₂ limit values in most cases by 2021. That allows for the time needed to design, commission and install CAZs and bring them into operation.
41. Given the potential impacts on individuals and businesses of CAZs and other measures, the Plan provides that if local authorities can identify measures other than Charging CAZs, which are *at least as* effective at reducing NO₂, then such measures are to be preferred. However, the local authority must demonstrate that these will deliver compliance as quickly as a Charging CAZ. The Government will only approve local authority plans if the local authority can show that its plan is likely to cause NO₂ levels in the area to reach legal compliance within the shortest time possible (and that it provides a route to compliance which reduces exposure as quickly as possible). By virtue of the July 2017 Direction, these local authorities are subject to legal duties to develop and implement such local plans.
42. The relevant 23 local areas are required to develop local plans and implement them “at pace” so that air quality limits are achieved within the shortest possible time. Specifically, they are required to set out initial plans by the end of March 2018, at the latest, and final plans by the end of December 2018 at the latest.
43. A somewhat different approach is taken to the second group, the five cities that were previously the focus of the 2015 AQP. That AQP anticipated that the five cities would be mandated to implement Charging CAZs which would achieve compliance by 2020. Consequently, paragraph 112 of the 2017 Plan makes clear that:
- “The UK government continues to expect local authorities in the five cities named above to deliver their Clean Air Zones by the end of 2019, with a view to achieving statutory NO₂ limit values within the shortest possible time, which the latest assessment indicates will be in 2020.”*
44. The 2017 Plan provides that the five cities are working to the same timetable as they were under the 2015 AQP. A more detailed breakdown of the proposed timetable was set out in the draft Technical Report published in May 2017. The Secretary of State contends that JAQU and Defra have been engaging, and continue to engage, intensively with each of the five cities and have been closely supporting them in the development of their plans for achieving compliance. JAQU has provided feedback on the Outline Business Cases submitted by the five cities to date.
45. On 19 December 2017, new Directions were issued to each of the five cities under s85(5) of the Environment Act 1995 requiring the relevant local authority to prepare,

as part of its feasibility study, a full business case for the area for which it is responsible, which was to be submitted to the Secretary of State as soon as possible, and by 15 September 2018 at the latest. JAQU has indicated to the cities that it is intended subsequently to use Ministerial Directions to direct each local authority to implement its local plan (full business case) once it has been approved by the Secretary of State.

46. The third group are the 45 local authorities which currently have air quality exceedances, but which are expected to achieve compliance with the NO₂ limit values by 2021. The 2017 Plan proceeds on the basis that these local authorities are not required to develop further local plans or undertake a feasibility study benchmarked against a Charging CAZ.
47. The situation as regards these local authority areas is not homogenous. Of these 45 local authorities, 12 are expected to achieve compliance in 2018, a further 10 are expected to achieve compliance in 2019, a further 13 are expected to achieve compliance in 2020, and the remaining 10 are expected to achieve compliance in 2021.
48. The Detailed Plan explains that the implementation of a CAZ is expected to take up to three years. Paragraph 116 provides that the government
“will only require local authorities to develop plans where evidence suggests measures could be put in place to bring forward achievement of statutory NO₂ limit values”.
49. However, the Plan says that the government is conscious that some local authorities, namely these 45, are forecast to have air quality exceedances *“which are close to, but below air quality limits in 2021”* and therefore it
“will consider further steps to ensure that air quality in these areas improves and to ensure that forecast levels remain compliant. These steps could include preferential access to funding and government support to access and build on best practice.”
50. The Technical Report also explains that:
“Those areas with the greatest problem, with exceedances projected beyond the next three to four years, will be required to develop local plans. Other areas will also be expected to take steps now to reduce emissions if there are measures they could take to bring forward the point where they meet legal limits and government will take steps to support them.”
51. The Secretary of State asserts that, depending on the extent and source of the exceedances, different local authorities are adopting different policies and measures to address air quality issues. He says that JAQU has undertaken a review of the situation in these areas which the unit proposes to share with them to help them to focus their efforts. It is said that all 45 local authorities can also access support from DEFRA as

part of the Local Air Quality Management (LAQM) framework, including a dedicated LAQM helpdesk.

Wales

52. The Welsh Ministers are responsible for those parts of the 2017 Plan which fall within their devolved competence and for which they have been designated the competent authority for the purposes of Directive 2008/50/EC. The Welsh AQP primarily consists of the Detailed Plan and the zone plans for the four Welsh air quality zones.
53. For reasons that will become apparent, I need to say no more about background to the claim against the Welsh Ministers.

The Competing Arguments

54. I had the benefit of detailed skeleton arguments from Nathalie Lieven QC and Ravi Mehta on behalf of the Claimant, and Kassie Smith QC and Julianne Morrison for the Secretary of State. I also heard careful and well-structured oral submissions from Ms Lieven and Ms Smith. I am grateful to all Counsel and to those who instruct them for the manner in which this case has been prepared and argued. I do not intend to do more here than summarise the parties' respective arguments; the skeletons provide a more detailed overview of their cases.
55. Ms Lieven advanced two principle grounds in support of her contention that the 2017 Plan is unlawful in respect of England.
56. In her skeleton argument she summarised her first argument by saying that "*a substantial number of local authority areas in England are unaccounted-for.*" She went on to develop that argument in rather less bald terms. She says that in relation to 45 local authority areas in England, the AQP "*includes no concrete, impact-assessed measures to ensure compliance in the 'shortest possible time', nor any requirement for responsible local authorities to "carry out feasibility studies or to identify such measures, despite identifying ongoing breaches of limit values"*."
57. Ms Lieven says that the adoption of a benchmark provided by Charging CAZs is misplaced in the case of these areas because it avoids the obligation to ensure compliance in the "*shortest possible time*". She says that the 45 Local Authorities will not have the same access to funding as the local authorities who are included in the Direction. She says that the Individual Zones Plans contain lists of measures designed to ensure compliance with legal limit values, but with "*largely unquantified impacts*". She says that no timeline is given for additional measures to be taken in the 45 local authority areas, no concrete measures are identified and no indication is given of the likely improvements from those steps. She says that in any event projected compliance is based on over-optimistic modelling.
58. Ms Lieven's second ground relates to provision made in the 2017 Plan for the five cities alongside London that were previously to be mandated to introduce CAZs (Birmingham, Leeds, Nottingham, Derby and Southampton). She contends that the Detailed Plan originally imposed no legal requirement for the timing or scope of their introduction of Charging CAZs. She says that "*the 2017 Directions effectively concede part of this claim*". Nonetheless she argues that these directions do not meet the

requirements of EU law for a clear and legally enforceable timetable for implementation of the necessary measures.

59. In response, Ms Smith argues that the first complaint is “*misconceived*”. The 45 local authority areas are not “*unaccounted-for*”. In each area, action is being taken to address air quality issues. The individual zone plans for the areas covered by the 45 local authorities set out the measures that have been implemented to date, or are planned and being taken in each area to reduce NO₂ levels within a reporting Zone.
60. She says that the government has identified Charging CAZs as the measure that will achieve compliance with the NO₂ limit values in the shortest possible time and the benchmark against which any local authority plans will be assessed. Given the projected timeframe for compliance in each of these areas, the introduction of CAZs would not bring forward compliance. Consequently, she argues it would be disproportionate and inappropriate for these areas to be mandated to take steps towards introducing one. In particular, she contends, the preparation of feasibility studies and necessary local consultation is not expected to identify measures that could be worked up and introduced in time to bring forward compliance.
61. This does not mean, Ms Smith contends, that no further action will be taken in these areas. In particular, in those areas which are forecast to have air quality exceedances which are close to, but below air quality limits in 2021, as well as the matters set out in the individual zone plans, the Government “*will consider further steps to ensure that air quality in these areas improves and to ensure that forecast levels remain compliant. These steps could include preferential access to funding and government support to access and build on best practice.*” She says that JAQU is already engaging with relevant authorities in order to identify what further steps can be taken to support them.
62. Ms Smith says that the national monitoring and modelling used for the purposes of the 2017 Plan has been undertaken in accordance with the criteria set out in and the requirements of the Air Quality Directive.
63. According to Ms Smith, ClientEarth’s second complaint is also misconceived. The Joint Air Quality Unit, she says, is working intensively with the five cities to ensure that they deliver their CAZs to the timetable anticipated by the 2017 Plan (i.e. CAZs to be in place by the end of 2019, achieving compliance in 2020). She argues that ClientEarth is wrong to contend that the Plan can only be effective if the Secretary of State imposes mandatory timetabling requirements, addressing all stages of the process, on the five cities from the outset.
64. In any event, she says, that is not required by the Air Quality Directive. Moreover, she says, the 2017 Plan always envisaged mandating authorities to act to implement their measures in accordance with the timetable outlined in the 2015 AQP. Legally binding Ministerial Directions have now been issued to the five cities to submit their full business cases to the Secretary of State by 15 September 2018, and Directions will subsequently be issued requiring each of the five cities to implement its local plan, as set out in its full business case, once it has been approved by the Secretary of State.
65. Ms Smith disputes ClientEarth’s contention that the decision to issue the December Directions concedes part of its claim. Instead, the issuing of the 2017 Directions demonstrates that the Secretary of State is continuing to work to ensure that the five

cities achieve compliance as soon as possible. She says that the change in the means of applying obligations (a move from a Statutory Instrument to legally binding Directions) does not assist the Claimant's case. The use of Directions is predicated on the need for a tailored, timely and focused approach.

Discussion

66. Central to the argument as it was developed at the hearing was Table 1 of Annex K to the Detailed Plan, which provides a summary of proposed remedial measures. That table identifies local authorities in England "*with roads with concentrations of NO₂ forecast above legal limits and assuming no additional measures*". It is possible to identify from that table three categories of local authority.
67. The first consists of the Greater London Authority (the plans in respect of which are not challenged in this case) and the five cities of Birmingham, Derby, Leeds, Nottingham and Southampton (excluding a single stretch of road in the New Forest). The 2015 Plan assumed a Clean Air Zone was required in each of these areas. The second consists of 23 local authorities (including New Forest District Council but excluding Halton Borough Council where the opening of the Mersey Gateway Bridge was thought likely to solve the problem), which are to be "*required to produce local action plans by March 2018*". The third is the 45 local authorities which are "*not required to conduct a feasibility study*". Ms Lieven's first ground focuses on the third category and her second on the first category.

The 45

68. It is perfectly plain that the 45 local authorities are not "*unaccounted for*" as Ms Lieven's skeleton asserted. On the contrary, they are expressly identified in Table 1 and discussed in paragraph 116 of the Detailed Plan which I have set out above.
69. It is equally apparent, however, that the fact that these 45 local authority areas are expected to achieve compliance with the statutory NO₂ limit values by 2021 has led the Government to impose on them less onerous obligations than is the case for the 28, namely the five cities and the 23 other authorities (plus London) in respect of which compliance will not be achieved until after 2021. It is also plain that the reason for this distinction is the Government's assessment that these 45 will become compliant, without further measures being taken, within the period of three years which it would take to design, install and bring into operation a Charging CAZ.
70. Whilst no concession is made, no real point is taken on the assertion that it would take three years to introduce a Charging CAZ, nor on the assertion that Charging CAZs are the most effective means of addressing NO₂ exceedances. Nor can it be said that there is any error of approach in the government adopting Charging CAZs as the yardstick against which any alternative scheme is to be tested. In consequence, there is no challenge in this regard to the proposals in the 2017 plan in respect of the 23 authorities or to the plan to introduce CAZs in the five cities.
71. But where, in my judgment, the Government's plan is flawed, and seriously flawed, is in its application of the 3 year benchmark to the 45 local authority areas where compliance is anticipated within 3 years in any event. Plainly, it would be pointless to

require these local authorities to embark on the expensive and time consuming enterprise of establishing a CAZ in an area where compliance will be achieved within the same period without a CAZ. But the Government cannot sensibly, or lawfully, substitute the application of its benchmark, however rational in respect of areas where a CAZ is the most efficacious solution, for the requirements of the Directive and the Regulations in areas where it is not.

72. The obligation imposed by Article 23 of the 2008 Directive is specific to each and every zone or agglomeration. The obligation to devise air quality plans applies “*where, in given zones or agglomerations, the levels of pollutants in ambient air exceed any limit value*” (emphasis added). When the obligation arises the Article requires Member States to ensure that AQPs are established “*for those zones*”.
73. As I explained in the November 2016 judgment, the proper construction of Article 23 imposes a three-fold obligation on the Secretary of State; he must aim to achieve compliance by the soonest date possible; he must choose a route to that objective which reduces exposure as quickly as possible; and that he must take steps which mean meeting the value limits is not just possible, but likely. It follows that the Secretary of State must ensure that there is in place a plan for each zone which meets the three-fold obligation.
74. Because the obligation is zone-specific, the fact that each of the 45 local authority areas will achieve compliance in any event by 2021 is of no immediate significance. The Secretary of State must ensure that, in each of the 45 areas, steps are taken to achieve compliance as soon as possible, by the quickest route possible and by a means that makes that outcome likely. The CAZ benchmark cannot be treated as a means of watering down those obligations.
75. Nor is it an answer to this point to say, as Ms Smith does, that the current plan, with its careful application of the CAZ benchmark, is a “proportionate” response by the government to the issue raised by NO₂ emissions. Implicit in that submission is a suggestion that cost may play a part in determining the national AQP; that when viewed as a whole, the 2017 Plan is reasonable because it demands expenditure and action where there are exceedances that will persist, but demands less when the effluxion of time will bring zones into compliance without such costs. I reject that argument.
76. For the reasons I explained at paragraph 50 of the November 2016 judgment, the obligations imposed by the 2008 Directive are not qualified by reference to their cost:
- “I reject any suggestion that the state can have any regard to cost in fixing the target date for compliance or in determining the route by which the compliance can be achieved where one route produces results quicker than another. In those respects the determining consideration has to be the efficacy of the measure in question and not their cost. That, it seems to me, flows inevitably from the requirements in the Article to keep the exceedance period as short as possible.”*
77. In consequence, the expression “proportionate” has a very particular meaning in the present context. I stand by the definition of that word offered in the November 2016 judgment: “the measures a Member State may adopt should indeed be “proportionate”,

but they must be proportionate in the sense of being no more than is required to meet the target". I note that DEFRA chose not to appeal the 2016 decision. Because the target in view is compliance with the 2008 Directive in all zones, the expense of doing so promptly in any one zone is of no relevance to the need for, or the content of, a plan in that zone. Cost might be taken into account if there were two equally effective means of achieving the objective in view in one particular zone or one local authority area within that zone, but it is illegitimate to decline properly to design or fund the necessary measures in that zone because the benefit to be gained is modest or of limited duration compared with other zones. All that matters is whether such a plan will hasten the achievement of compliance.

78. Furthermore, there is, in respect of the 45 local authorities, no mechanism for enforcing the local plan. On 15 November 2017, the DEFRA Parliamentary Under Secretary of State, Dr Thérèse Coffey, wrote to 33 of the 45 local authorities (those who are not expected to achieve compliance in 2018) encouraging them to bid for the annual air quality grant; stressing the importance of taking action to achieve compliance in the shortest time possible; offering training and materials; and requesting further information on the steps they are taking to achieve compliance. On 19 January 2018, a week before the hearing, a similar letter was sent to the 33. In effect, these local authorities are being urged and encouraged to come up with proposals to improve air quality over the next three years but are not being required to do so.
79. In my judgment, that sort of exhortation is not sufficient. The obligation placed on Member States by Article 23 is to *ensure* that air quality plans are established; the competent authority in the UK for the purposes of the 2008 Directive is the Secretary of State (see Regulation 3 of the English Regulations); and polite letters from the Government urging additional steps by individual local authorities are not enough. Whilst I see no obligation on the Secretary of State to impose legal directions on local authorities covering every stage in the process of achieving compliance, in my view the failure to make mandatory any step in the case of the 45 means that the Government cannot show either that it is taking steps to "*ensure*" compliance or, as a result, that compliance is "*likely*".
80. It follows that the 2017 Plan, in its application to the 45 local authority areas, does not contain measures sufficient to ensure substantive compliance with the 2008 Directive and the English Regulations.
81. Furthermore, each plan must comply with the requirements of the 2008 Directive and the Regulations as to its form. As noted above, Annex XV of the Directive sets out information to be included in local (and other) AQPs. That includes information which identifies the measures being adopted, which sets out a timetable for implementation and provides an estimate of the improvement of air quality planned and the expected time required to attain that objective. Schedule 8 of the English Regulations mirrors those requirements and requires the plans to include details of the measures or objectives adopted, with a description of all the measures set out in the project; the timetables for implementation; an estimate of the improvement of air quality planned and the expected time required to attain those objectives.
82. The local plans produced as part of the 2017 Plan do not meet those requirements. Little time was devoted to the text of the local plans at the hearing but it is apparent that each local plan follows a similar template. After an introduction and general

information about the zone (or agglomeration), there is a description of the “overall picture for the 2013 reference year”, a section identifying measures that address the exceedances of the NO₂ limit value in the zone and then an analysis of “baseline model projections”.

83. In section 4 of each template words to the following effect appear:

“Relevant Local Authority measures within this exceedance situation are listed in Table C.1 (see Annex C). Table C.1 lists measures which a local authority has carried out or is in the process of carrying out, plus additional measures which the local authority is committed to carrying out or is investigating with the expectation of carrying out in the future.”

84. A list of measures which have been carried out, are underway, are promised or are being investigated, does not constitute compliance with Annex XV or Schedule 8; it does not amount to a plan describing the measures set out in a project; with timetables for implementation; estimates of the improvement of air quality that will follow and an indication of the expected time required to attain the objectives.

85. Ms Lieven suggests that “feasibility studies” ought to have been required for the 45; Ms Smith counters that these were needed for CAZ but not otherwise. The 2008 Directive and the English Regulations do not specify the development of “feasibility studies”, but they do, in my judgment, require the Secretary of State, if he is not to carry out the task himself, to devise some mechanism by which the 45 local authorities can be required to develop plans to address NO₂ exceedances in their areas in a manner that is consistent with the three-fold obligation. “Feasibility studies” is as good a name as any for the first stage of that process.

86. It follows that, as regards those 45 local authority areas, the 2017 Plan does not include the information required by Annex XV of the Directive and Schedule 8 of the English Regulations.

87. As noted above, the circumstances of the 45 local authorities are not homogenous. In particular, 12 are expected to achieve compliance this year. I will hear submissions on relief when this judgment is handed down, but it does not seem to me sensible to require (and I did not understand Ms Lieven to demand) any form of feasibility study in respect of the 12 authorities anticipated to achieve compliance this year. Feasibility studies for measures less complicated than CAZs will undoubtedly take significantly less time than the year or so I understand is required for CAZs. But they will take some time. And thereafter, there will need to be a process by which the outcome of the study is approved and the necessary work commissioned. In those circumstances, it seems to me that the prospect of making any difference to the outcome in these 12 areas is so remote as to make the exercise pointless.

88. For those reasons, and to that extent, this element of the challenge must succeed. Ms Lieven advanced further argument to the same end which it is not strictly necessary for me to address, but in deference to the quality of the argument deployed on this issue, particularly in writing, I set out my conclusions, albeit briefly.

Modelling and Monitoring

89. First, it is said that the 2017 Plan does not sufficiently take into account the results of Local Authority modelling and monitoring in the 45 local authority areas, relying instead on DEFRA's national model. Second, it is argued, the modelling used in the 2017 Plan does not take account of the risk of displacement, i.e. the risk that air quality could be made worse in these 45 local authorities as a result of the displacement of older, more polluting vehicles from the areas that do introduce Charging CAZs. Third, it is argued that the 2017 Plan places reliance on various national measures that it announces, which it appears to assume will have a positive effect on air quality in these Local Authorities, but which have not been modelled. It is said that in consequence the projected compliance of these 45 local authority areas rests on unspecified, un-timetabled measures which have not been modelled. Ms Lieven relies on the witness statements of Dr Claire Holman in support of these arguments.
90. In my judgment none of those points adds anything of substance to the argument.
91. As to the first, I accept the evidence that national monitoring and modelling used for the purposes of the 2017 Plan has been undertaken in accordance with the criteria set out in the Air Quality Directive. I fail to see how that can be criticised on the basis of different results obtained by others that may or may not have been conducted in accordance with the Directive. Further, as Ms Smith contends, "*the fact that local modelling may produce different results from those produced by national modelling does not mean that the latter is wrong or "overoptimistic"*".
92. As to the second, the evidence demonstrates that the possible effect of displacement was expressly drawn to the attention of local authorities who are to conduct feasibility studies. Both Mr Jackson and Mr Roald Dickens, a senior adviser in DEFRA's Environmental Quality Directorate, make that point. It is right to say that the same point was not made about the 45 local authorities. But that, undoubtedly, is a consequence of the fact that the 45 have not been required to implement feasibility studies to address NO₂ exceedances in their areas in the manner I have now ruled is necessary. I have no doubt that now studies are to be required in the 33 areas, the same point will be made to their local authorities.
93. As to the third, it is plain that the modelling in the 2017 Plan does *not* rely upon the benefits expected to flow from the non-modelled measures. That means that there are in place additional measures which might reduce exceedances but which are not factored into the calculations. To that extent at least DEFRA's modelling is conservative.
94. I would add that, in my judgment, modelling future compliance with NO₂ limit values is pre-eminently a matter of technical judgement upon which expert opinion is likely to be decisive. DEFRA established an independent panel of experts to provide guidance on this issue. As Ms Smith submits, any challenge to such modelling must show clear legal error or irrationality. I see no such legal error or irrationality here.

The 5 Cities

95. The criticism of the plans for the five cities in the Claimant's Grounds was the lack of any *obligation* on the cities to comply with the Plan.

96. It was noted that the 2015 AQP had proposed that Charging CAZs would be introduced in Birmingham, Leeds, Nottingham, Derby and Southampton in order to address serious exceedances there; and that the 2017 Plan noted the expectation that they would deliver compliance by 2020. But, it was asserted, no legal requirement to enforce such a timeline was imposed by the 2017 Plan. It was pointed out that the individual AQPs for each of these five cities simply records an *expected* timeline or an intention for CAZs to be introduced by particular dates, but no obligation to do so.
97. In my judgment, for the reasons set out above in relation to the 45 local authorities, there was some merit in that argument. However, on 19 December 2017, in exercise of the power conferred by s85(5) of the Environment Act 1995 the Secretary of State issued Ministerial Directions to the five cities, (the “Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2017”). As submitted by Ms Smith, these impose requirements on the five to submit full business cases to the Secretary of State by 15 September 2018. In my judgment, those Ministerial Directions meet the primary point advanced by Ms Lieven. The critical first step of detailed business cases is now a legal obligation.
98. Ms Lieven complains that there is still no legally mandated timetable for implementation after the business cases are produced. Ms Smith responds that there is no legal obligation to mandate a timetable. She says the timetable is set out in the Plan, and the Ministerial Directions are the first step in ensuring that timetable will be complied with. Further Directions will follow once the business cases have been reviewed.
99. In my view, Ms Smith’s analysis on this issue is to be preferred. The Directive and the Regulations require that there must be a timetable, but not that the timetable is itself mandated in law. The Plan as regards the five cities is clear. Paragraph 111 provides:
- “The UK government continues to expect local authorities in the five cities named above to deliver their Clean Air Zones by the end of 2019, with a view to achieving statutory NO₂ limit values within the shortest possible time, which the latest assessment indicates will be in 2020.”*
100. The obligation on the Secretary of State is to ensure that that plan is followed so as to meet the obligations on him imposed by the 2008 Directive and the English Regulations. The issuing of the Ministerial Directions in December 2017 demonstrates how the Secretary of State intends to ensure the Plan will be adopted. Ms Smith made clear that further targeted and tailored Ministerial Directions will be issued in order to require implementation of those measures.
101. In my judgment, the Secretary of State’s approach to this issue is a sensible, rational and lawful one. Furthermore, in my view, the clear indication from the Secretary of State as to the next step of the process, is sufficient; were the Secretary of State to fail to act as he has indicated, it is unlikely that this Court would hesitate in requiring him to do so.

Wales

102. Mr Moffett QC told me that, from the outset of these proceedings, the Welsh Ministers have accepted that the Welsh AQP does not satisfy the requirements of either the Directive or the Welsh Regulations and were prepared to give an undertaking that they will correct the position.
103. Accordingly, the only discrete issue that arises in the context of the claim against the Welsh Ministers is that of what remedy, if any, the Court should grant. As to that, it was agreed between Ms Lieven and Mr Moffett that they would seek to agree an appropriate order having seen this judgment in draft. That seemed to me a sensible way to proceed and I will hear submissions from them on relief when this judgment is handed down.

Conclusions

104. For the reasons set out above I conclude that the 2017 Air Quality Plan is unlawful in that:
- i) in its application to the 45 local authority areas, it does not contain measures sufficient to ensure substantive compliance with the 2008 Directive and the English Regulations (see paragraph 80);
 - ii) the 2017 Plan does not include the information required by Annex XV to the Directive and Schedule 8 to the English Regulations, in respect of those same local authority areas (paragraph 86); and
 - iii) it contains no compliant AQP for Wales (paragraphs 103).
105. I will hear counsel further on the precise details of the relief that is appropriate. But I indicate now that I would be minded:
- i) to make a declaration that the 2017 Plan is unlawful in those respects;
 - ii) to grant a mandatory order requiring the urgent production of a Supplement to the 2017 Plan containing measures sufficient to rectify the deficiencies identified above; and
 - iii) to direct that the 2017 Plan remains in force whilst the Supplement is produced in order to avoid any delay in its implementation.
106. As indicated above, I will also hear submissions as to the position of the Welsh Ministers.
107. I have given permission to the Defendants to enlarge the group of persons who, upon appropriate undertakings to the Court, may have sight of the embargoed judgment; if a similar application is made by the Claimants I will give it consideration.
108. I end this judgment where I began, by considering the history and significance of this litigation. It is now eight years since compliance with the 2008 Directive should have been achieved. This is the third, unsuccessful, attempt the Government has made at devising an AQP which complies with the Directive and the domestic Regulations. Each successful challenge has been mounted by a small charity, for which the costs of

such litigation constitute a significant challenge. In the meanwhile, UK citizens have been exposed to significant health risks.

109. It seems to me that the time has come for the Court to consider exercising a more flexible supervisory jurisdiction in this case than is commonplace. Such an application was made to me when the November 2016 judgment was handed down. I refused it on that occasion, opting for a more conventional form of order. Given present circumstances, however, I would invite submissions from all parties, both in writing and orally, as to whether it would be appropriate for the Court to grant a continuing liberty to apply, so that the Claimant can bring the matter back before the court, in the present proceedings, if there is evidence that either Defendant is falling short in its compliance with the terms of the order of the Court.

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EXPLANATORY NOTE

(This note is not part of the direction)

This direction directs Cardiff Council and Caerphilly County Borough Council to carry out the specified activities listed in the Schedule by the specified deadlines, in relation to their duties in respect of Air Quality under Part 4 of the Environment Act 1995 and as part of the UK plan for tackling roadside nitrogen dioxide concentrations 2017. Under section 85(7) of that Act it is the duty of each local authority to comply with a direction given to it. A copy of this direction is available from the Welsh Government, Cathays Park, Cardiff, CF10 3NQ.

ENVIRONMENT ACT 1995

Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2018

The Welsh Ministers, in exercise of the power conferred by section 85(5) of the Environment Act 1995(1), give the following direction.

In accordance with section 85(6) a copy of this direction will be published in the London Gazette.

The Welsh Ministers make this direction having determined that it is necessary in order to meet obligations placed upon the United Kingdom under the EU Ambient Air Quality Directive(2).

Title, commencement and application

1.—(1) The title of this direction is the Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2018.

(2) This direction comes into force on 15 February 2018.

(3) This direction applies to Cardiff Council and Caerphilly County Borough Council.

Interpretation

2. In this direction—

“specified authorities” means Cardiff Council and Caerphilly County Borough Council;

“specified activities” means the activities described in the Schedule.

Requirement to take certain steps

3. Each of the specified authorities must complete the specified activities by the dates specified in the Schedule.

Hannah Blythyn



Minister for Environment, under authority of the Cabinet Secretary for Energy, Planning and Rural Affairs, one of the Welsh Ministers.

Date 15/02/18

(1) 1995 c. 25. The functions of the Secretary of State under section 85(5) were transferred to the National Assembly for Wales in relation to Wales by article 2 of, and Schedule 1, to the National Assembly for Wales (Transfer of Functions) Order 1999 (S.I. 1999/672). By virtue of section 162 of, and paragraph 30 of Schedule 11 to, the Government of Wales Act 2006 (c. 32), the functions conferred on the Assembly are now exercisable by the Welsh Ministers.

(2) 2008/50/EC OJ No. L 152. 11.06.08. p.1.

SCHEDULE

Articles 2 and 3

Specified Activities

<i>Activity</i>	<i>Description of activity</i>	<i>Deadlines</i>
<p>Undertake, as part of the UK plan for tackling roadside nitrogen dioxide concentrations 2017, a feasibility study in accordance with the HM Treasury’s Green Book approach, to identify the option which will deliver compliance with legal limits for nitrogen dioxide in the area for which the authority is responsible, in the shortest possible time.</p>	<p>Initial scoping proposals: Setting out the proposed approach to the feasibility study and including scope of work, governance, resourcing, procurement approach, indicative costs and timings.</p>	<p>As soon as possible and by 31 March 2018 at the latest.</p>
<p>As above.</p>	<p>Initial Plan: Setting out the case for change and identifying, exploring, analysing and developing options for measures which the local authority will implement to deliver compliance in the shortest possible time, with indicative costs for those options.</p>	<p>As soon as possible and by 30 September 2018 at the latest.</p>
<p>As above.</p>	<p>Final Plan: Identifying in detail the preferred option for delivering compliance in the shortest possible time, and including a full business case setting out value for money considerations and implementation arrangements and timings.</p>	<p>As soon as possible and by 30 June 2019 at the latest.</p>

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Hannah Blythyn AC/AM
Gweinidog yr Amgylchedd
Minister for Environment



Llywodraeth Cymru
Welsh Government

Ein cyf/Our: MA-L-HB-0090-18

Paul Orders
Chief Executive
Cardiff Council
County Hall
Atlantic Wharf
Cardiff
CF10 4UW

paul.orders@cardiff.gov.uk

9 March 2018

Dear Paul,

National Air Quality Plan for Nitrogen Dioxide

I am writing to you following the publication of the 'UK plan for tackling roadside nitrogen dioxide concentrations 2017' (AQP). The plan sets out how the Welsh Government will ensure compliance with air quality limits for nitrogen dioxide in the soonest time possible. A key part of achieving this plan is a requirement on some local authorities to undertake feasibility studies to explore a range of measures to improve air quality.

As you will be aware, Cardiff was named in the AQP as one of the areas where we need to accelerate compliance with air quality limits for nitrogen dioxide in the soonest time possible. I am now placing a legal duty on you through a formal direction to undertake a feasibility study in accordance with the HM Treasury's Green Book approach, to identify the option which will deliver compliance with legal limits for nitrogen dioxide in the area for which your authority is responsible, in the shortest possible time.

This letter sets out how the process will operate, and how funding will be initially allocated. It also includes a copy of the formal legal direction at **Annex A**.

The 'Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2018' requires you to submit your initial scoping proposals by 31 March 2018, the initial plan by 30 September 2018 and your final plan by the 30 June.

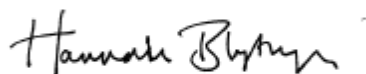
Delivery of the feasibility study will be overseen by the Air Quality Policy Team. I would like to thank you for the positive engagement which has already taken place between our officials and want this to continue.

As you know, the Welsh Government has allocated funding for feasibility studies and implementation of your scheme. I recognise these activities require time and expertise from your staff and contractors. I would like to offer funding as soon as possible to cover your immediate resourcing needs for the project. My officials will work with your team directly to discuss the amount of funding available and to establish payment mechanisms.

The Air Quality Policy Team will provide guidance and jointly develop a governance framework with you to support you in the preparation of your feasibility study.

I look forward to working with you as your study progresses.

Yours sincerely,

A handwritten signature in black ink, reading "Hannah Blythyn". The signature is written in a cursive style with a small flourish at the end.

Hannah Blythyn AC/AM
Gweinidog yr Amgylchedd
Minister for Environment

DEFRA Classification for a charging CAZ

Classes of CAZ that can be implemented, which are based on the Vehicle Type that is charged for entering the zone.

Class A CAZ – Buses, Coaches, Taxis and Private Hire Vehicles		
Vehicle Type	Euro category	Euro Standard
Bus	M3 (GVW over 5000kg and more than 8 seats in addition to the driver	Euro VI
Coach	M2 (GVW not exceeding 5000 kg, ref mas exceeding 2610kg and more than 8 seats in addition to the driver`	Euro VI
Taxi and Private Hire	Minibus M2 (GVW not exceeding 5000 kg, ref mas exceeding 2840 kg and more than 8 seats in addition to the driver) Passenger Vehicle with up to 8 seats in addition to the driver)	Euro 6 (diesel) Euro 4 (petrol)
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a CAZ		

Class B CAZ – Buses, Coaches, Taxis and Private Hire Vehicles , HGVs		
Vehicle Type	Euro category	Euro Standard
Bus	M3 (GVW over 5000kg and more than 8 seats in addition to the driver	Euro VI
Coach	M2 (GVW not exceeding 5000 kg, ref mas exceeding 2610kg and more than 8 seats in addition to the driver`	Euro VI
HGVs	N2 (GVW over 3500 kg and ref. mass over 2610 kg) N3 (GVW over 5000kg)	Euro VI
Taxi and Private Hire	Minibus M2 (GVW not exceeding 5000 kg, ref mas exceeding 2840 kg and more than 8 seats in addition to the driver) Passenger Vehicle with up to 8 seats in addition to the driver)	Euro 6 (diesel) Euro 4 (petrol)
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a CAZ		

Class C CAZ – Buses, Coaches, Taxis and Private Hire Vehicles , HGVs and LGVs		
Vehicle Type	Euro category	Euro Standard
Bus	M3 (GVW over 5000kg and more than 8 seats in addition to the driver	Euro VI
Coach	M2 (GVW not exceeding 5000 kg, ref mas exceeding 2610kg and more than 8 seats in addition to the driver`	Euro VI
HGVs	N2 (GVW over 3500 kg and ref. mass over 2610 kg) N3 (GVW over 5000kg)	Euro VI
Large Vans	N1 (GVW not exceeding 3500 kg and ref. mass over 1305 kg but not exceeding 2840 kg) N2 (GVW over 3500 kg and ref. mass not exceeding 2840 kg)	Euro 6 (diesel) Euro 4 (petrol)
Small Vans/ light commercial	N1 (GVW not exceeding 3500 kg and ref. mass not exceeding 1305 kg)	Euro 6 (diesel) Euro 4 (petrol)
Taxi and Private Hire	Minibus M2 (GVW not exceeding 5000 kg, ref mas exceeding 2840 kg and more than 8 seats in addition to the driver) Passenger Vehicle with up to 8 seats in addition to the driver)	Euro 6 (diesel) Euro 4 (petrol)
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a CAZ		

Class D CAZ – Buses, Coaches, Taxis and Private Hire Vehicles , HGVs and LGVs		
Vehicle Type	Euro category	Euro Standard
Bus	M3 (GVW over 5000kg and more than 8 seats in addition to the driver	Euro VI
Coach	M2 (GVW not exceeding 5000 kg, ref mas exceeding 2610kg and more than 8 seats in addition to the driver`	Euro VI
HGVs	N2 (GVW over 3500 kg and ref. mass over 2610 kg)	Euro VI

Appendix 5

	N3 (GVW over 5000kg)	
Large Vans	N1 (GVW not exceeding 3500 kg and ref. mass over 1305 kg but not exceeding 2840 kg) N2 (GVW over 3500 kg and ref. mass not exceeding 2840 kg)	Euro 6 (diesel) Euro 4 (petrol)
Small Vans/ light commercial	N1 (GVW not exceeding 3500 kg and ref. mass not exceeding 1305 kg)	Euro 6 (diesel) Euro 4 (petrol)
Cars, Taxis and Private Hire	Passenger Vehicle with up to 8 seats in addition to the driver	Euro 6 (diesel) Euro 4 (petrol)
Motorcycles and mopeds (optional)		Euro 3
Ultra low emission vehicles with significant zero emission range will never be charged for entering or moving through a CAZ		

The Defra framework indicates that if a local authority were to voluntarily implement a Clean Air Zone that extended to private cars (Class D), it should be done on a consistent basis in line with the framework. This means only cars which as a minimum meet Euro 6 standard (if diesel) or Euro 4 standard (if petrol) should be allowed free entry. Motorcycle and mopeds which meet Euro 3 should be allowed free entry, if the local authority decided such vehicles should be in scope. Consideration should be given to exemptions or discounts for residents.

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Changing how we move around a growing city





Forewords

We all know Cardiff's transport network needs to change. Too many of us have been stuck in traffic trying to drop off our children, or late for work because the bus didn't turn up, and whilst a growing number want to walk or cycle, the facilities to do so are often inadequate.

But it's not just about our own inconvenience and frustration. There is now a more alarming and pressing matter. Pollution levels in Cardiff are now damaging our health. Improving the air we breathe has become a matter of life or death.

It would be simple to just blame everything on car travel, and say we expect everyone to suddenly become a cyclist. But we understand that for some people car travel is simply essential and we don't want to make it more difficult for people to go about their daily lives.

Our job is to improve people's lives, giving people the opportunity to choose transport options that are healthier, that help us save money, that make it safe to enjoy cycling and walking on a daily basis, and that help us not

spend hour after hour sat in traffic on the school run or the daily commute.

We have an idea of the kind of Cardiff we want. We have bold ambitions for our city. This paper proposes ideas of changes we could make that we believe would improve our city. They are all possible. But we want to have a conversation with the people of Cardiff about the issues, and how changes could impact their lives because, ultimately, we will all need to shape our future together.

This process will help us decide together the future direction of this city, so we can create the change that improves all our lives and makes Cardiff a healthier and stronger city for current and future generations.

Councillor Caro Wild
Cabinet Member for
Transport & Strategic Planning



How we get from A to B has a huge impact on our health, the environment, and our communities. I have recently explored this more in my Annual Report, 'Moving Forwards: healthy travel for all in Cardiff and the Vale'. We are at a crucial moment - high levels of illness in our area are caused or made worse by how we travel and the air we breathe; but there are also once-in-a-generation opportunities open to us to solve this, with the development of the Metro in Cardiff and the surrounding region, and legislation requiring and enabling us to prevent future illnesses, improve the health of future generations, and improve air quality.

I really welcome the publication of this Green Paper on such an important subject, and we are working closely with Cardiff Council and other partners on these issues. We urge residents to engage in this conversation on how we can all travel in a more healthy and sustainable way. If we get this right we will be healthier and happier, and Cardiff will be one of the best places in Europe to live, work and visit.

Dr Sharon Hopkins
Director of Public Health,
Cardiff and Vale University Health Board



How this document works

The document is made up of six themes, each of which has ideas and proposals that we believe could improve transport and air quality in Cardiff. They are based on good practice examples from other progressive cities from across the world, and from ideas taken from a variety of groups and individuals across Cardiff and beyond.

page. 6

The Future of The Metro & Buses

The Metro forms the heart of a fully integrated public transport network that is modern, clean, efficient and affordable.

page. 10

Active Healthy City

Cardiff becomes one of the best places in Europe for active travel.

page. 14

Clean Air City

All parts of Cardiff will have clean air. No citizen will have to suffer ill health as a consequence of high levels of pollution.

page. 18

International Capital City of Business, Work and Culture

A vibrant 'destination capital city centre' supporting a thriving business economy, major events and a rich, diverse culture.

page. 22

The Future for Cars

More Cardiff citizens feel able to either share or not own a car. Many will choose zero carbon cars.

page. 26

Smart City

As the digital world evolves, Cardiff will use the latest technology to support an integrated transport system in which travellers are well informed and able to make smart travel choices.

How you can get involved

We want to hear your views and prompt discussions. Each idea is numbered and you can feed back on some or all of them. For each idea we want to get your general views, perhaps let us know how it would impact you personally, or those in your organisation or community. You can:



Complete our online survey at:
www.cardiff.gov.uk/askcardiff



Facebook/Twitter
[@CardiffCouncil](https://www.facebook.com/CardiffCouncil)



Respond in writing to: Cardiff Research Centre, Room 401, County Hall, Atlantic Wharf, Cardiff, CF10 4UW



Drop off your completed paper copy at any Hub or library



Take part in a consultation event organised by the council or its partners; a list of organised consultation events can be found at the web address above.



Email comments directly to us:
consultation@cardiff.gov.uk



Organise a consultation event for your group, community or workplace and gather people's views on one or more of the sections.

Why does transport matter to Cardiff?

Cardiff is growing faster than any other major city in the UK outside of London, and is projected to grow by more than every other local authority in Wales combined.

Over 300m transport trips are made on our network by residents each year, and we all know that too many of these trips are by car. Driving in Cardiff isn't much fun – drivers spend an average of four working days a year stuck in traffic during peak periods. 90,000 commuters also come in and out of Cardiff each day from outside of the city.

"The latest figures from Public Health Wales suggest that the number of deaths per year that can be attributed to poor air quality has increased to over 225 across Cardiff and the Vale of Glamorgan."

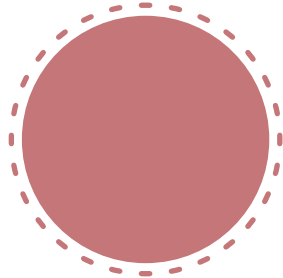
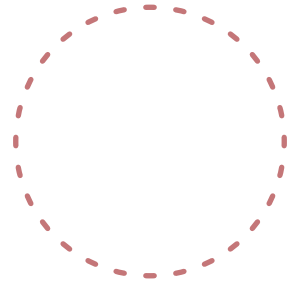
This traffic is the main contributor to air quality and congestion generally. It has an effect on everyone's quality of life, health and wellbeing in one way or another. The people who suffer most from poor air quality are the very young, the very old and those suffering ill health. We also know that poor air quality is worse in the more deprived southern areas of the City, and is caused primarily by cars from outside of these communities.

The population of Cardiff is 360,000 and is projected to grow by an additional 72,000 people over the next 20 years. This growth will bring about great cultural and economic opportunities, but it will also bring about additional pressures on the quality of our air and the potential for even more traffic.

Cardiff is at an important crossroads. If we want a fairer, cleaner, healthier and more prosperous city tomorrow we must make some brave changes today. If we don't, then inequality, air quality and congestion will get worse.

Cardiff has always risen to the challenge when it has had to change: from building docks and railways that helped transport coal from South Wales to the world, to a city that has managed to refocus its economy after de-industrialisation. Now Cardiff has to change again.

This Green Paper will set out what a fairer, cleaner, healthier, prosperous, and more convenient city could look like, and gives you a chance to help us decide how we get there.



The Future of the Metro and Buses



The Metro forms the heart of a fully integrated public transport network that is modern, clean, efficient and affordable.

What's happening?

South Wales Metro

The Welsh Government are soon to decide which operator will take forward the new South Wales Metro and wider rail network responsibilities.

Over £750m will be invested in upgrading the core valley lines, adding new modern vehicles and improving stations.

We believe the new operator will bring forward new technology and begin the implementation of a tram solution alongside heavy rail lines. We anticipate there will be additional stations added to the network in Cardiff to meet the demands of a growing city.

Cardiff Council will work with the new Transport for Wales body and the new operator to ensure that a tram system is prioritised with the ability to add and extend routes.

Buses

Bus passenger numbers in Cardiff are not increasing at the rate we would all like. There is confusion over routes, different operators with no transferable ticket, and the situation is not helped by not having a bus station.

The new Central Transport Interchange will help drive a reconfiguration of the bus network, adding more clarity to stops and routes.

Bus priority schemes have been introduced on key corridors to improve reliability and efficiency of bus journeys and greater reliability, and more priority measures are planned. We are also developing new

interchange hubs at the University Hospital Wales and Cardiff West to facilitate interchange between services and modes of travel.

We are working with the developers of the strategic site north of M4 Junction 33 to secure a new purpose-built Park and Ride facility as part of the new housing and commercial development. We are supporting Park and Ride facilities in other appropriate locations in Cardiff and neighbouring areas, offering people an attractive alternative to the car.

We are working with Network Rail and rail operators to identify opportunities to develop Active Travel routes to stations and improved on-station passenger facilities.

The big ideas: what more could be done?



1. Realign the Bus Services Network

The introduction of the Metro offers the opportunity to comprehensively review the overall bus network. We could look to realign how the network works, creating better connectivity between locations and modes of transport. For example other cities have switched to routes that run in circles around the centre with co-ordinated connections inwards like the spokes of a wheel.

The outer routes could, for the time being, run on diesel while smaller electric buses, existing trains and new trams, provide the spoke connections. New rapid bus routes could be clearly mapped out alongside the new Metro lines and other transport modes to create a transport 'masterplan' for the city.

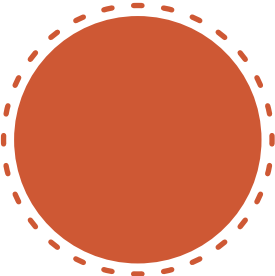
2. Integrated Ticketing

A number of cities across the world have developed integrated ticketing systems. If you have visited London in recent years, you may have encountered the Oyster Card – a plastic card like a bank card which allows you to hop on and off buses, trains and tubes as long as you have credit on the card. Transport authorities are increasingly

moving towards a payment system where ticket fares are deducted straight from your bank card by reading devices on the bus/train/ticket barrier. Proposals for the south Wales Metro include integrated ticketing but we could extend this to include Cardiff buses, and car and bike hire within the city.

3. Zero Carbon Bus Fleet

With key bus operation partners, we will investigate options for developing a bus fleet that is powered by electricity or hydrogen and so does not contribute to poor air quality. There are many cities around the world and some, like Milton Keynes, in the UK where electric and hydrogen buses are already operating. The buses currently come with a far higher price tag but we could learn from this considerable body of knowledge and make the right choices for Cardiff.



What are your views on our 3 big ideas regarding the future of the South Wales Metro and buses?

On a scale of 1 to 5, (1 being low and 5 being high) how much do you support our big ideas?

1. Realign Bus Services with new City Network and Effective Orbital Bus Hub Network

1 2 3 4 5

●—————>—————>—————●

2. Integrated Ticketing

3. Zero Carbon Bus Fleet

Do you have any other ideas, big or small regarding the future of the South Wales Metro and buses?

What more can you do?

If you have never used a bus, try it!

Could you make bus travel a routine for certain journeys?

Get in touch

cardiff.gov.uk/askcardiff
consultation@cardiff.gov.uk
[@CardiffCouncil](https://twitter.com/CardiffCouncil)

Active Healthy City



Cardiff becomes one of the best places in Europe for active travel.



What's happening?

More people are walking to work, to school, to college and to the shops.

Over a five-year period, there has been a significant increase in cycling for all journeys.

The numbers of cyclists within the city centre has risen by around 65% between 2002 and 2016.

The Nextbike cycle hire scheme will launch in May 2018 with 50 Stations and 500 bikes.

Working with communities, the council has introduced 20mph pedestrian-friendly zones around the city, with more planned.

The big ideas: what more could be done?

4. Develop Active Travel Zones in the city centre and in neighbourhoods

An active travel zone is an area designated as a place where walking, cycling and non-motorised transport take priority. The benefits of such zones are cleaner air, a healthier lifestyle, safer, quieter streets and more lively, sociable spaces. Children are more likely to play outdoors, cafes can place seating outside, and there is space for plants, trees, lawns and benches. Streets could be closed to vehicles at certain times of the day – for example, at the start and close of school or between the end of school and 5.30pm to allow children to play. Areas in the city centre could be developed as exciting new public spaces, like squares and green pockets, for all to enjoy.

Many cities around the world are creating areas where people come first. Sometimes this means excluding all types of vehicles, or it can mean combining cycle, bus and tram lanes with much wider pavements and plazas.

The benefits of doing this are many:

- cleaner air
- encouraging walking/cycling, which helps improve physical health
- more social interaction, which helps reduce loneliness
- a less stressful environment
- opportunities for retailers with greater numbers of shoppers stopping and browsing
- opportunities for open-air seating and street food stalls
- opportunities for cultural and artistic activities, and safer major event management.

We would encourage people living in active travel zones to take up active travel. For example, those who have never cycled before could use an affordable cycle hire scheme. We would provide special support to people of limited mobility, helping them use the streets without having to rely on a motor vehicle.

5. Comprehensive Cycle Superhighway & Primary Cycle Route Network

Our vision is to develop Cardiff into a cycling city where cycling is a normal, practical and safe choice for short trips for people of all ages and abilities. We are already committed to introducing fully segregated Cycle Superhighways in Cardiff. However, we need

further public support and funding to introduce a comprehensive network, including the delivery of more localised cycling infrastructure, in order to be faster and bolder in implementing our cycling strategy

6. Total City 20 mph zone

The vision of Cardiff as a 20mph city is consistent with encouraging more use of public transport, walking and cycling. Work to increase the number of 20mph zones is ongoing and we have learnt a great deal from our pilot areas. We will continue to implement 20mph zones, ensuring that all people understand the process, and taking

account of the fact that designing, consulting and procuring contractors places a significant demand on resources. However, we could speed up this process if the resources were available to make larger areas, or the whole city (excluding key arterial roads) a single 20mph zone.



Play Streets - A city where children can play freely and safely outside of their own homes

It is estimated there are now more than 80 designated 'play streets' in England and Wales. Dozens of roads are now being closed to traffic for up to three hours a week as part of a nationwide drive to bring back 'play streets'.

What are your views on our 3 big ideas for making Cardiff an active healthy city?

On a scale of 1 to 5, (1 being low and 5 being high) how much do you support our big ideas?



4. Develop Active Travel Zones in the city centre and in neighbourhoods

5. Comprehensive Cycle Superhighway & Primary Cycle Route Network

6. Total City 20 mph zone

Do you have any other ideas, big or small for helping Cardiff to become a more active healthy city?

What more can you do?

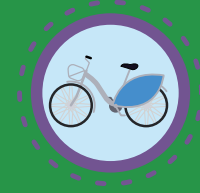
Get that old bike out of the garage and mend that puncture

If you have a child you could talk with other parents/guardians about a new 'walking bus' scheme

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Clean Air City



All parts of Cardiff will have clean air. No citizen will die or have to suffer ill health as a consequence of high levels of pollution.

What's happening?

Poor air quality, caused primarily by traffic congestion, is now recognised across the UK and the rest of the world as a public health priority. It has significant impacts on health, child development and environmental quality.

Clean air is polluted mainly by nitrogen oxides (specifically NO₂) and what is known as "particulate matter" or "particulates". In 2012, the International Agency for Research on Cancer listed diesel exhaust pollution as a Class I carcinogen (causes cancer). The levels of NO₂ found in Cardiff are the highest in Wales, and in some parts of the city exceed EU pollution limits.

The Health Crisis in Cardiff

Recent work by Public Health Wales estimates that the equivalent of over 225 deaths each year – or 5% of all deaths – can be attributed to particulate matter and nitrogen dioxide (NO₂) in the Cardiff and Vale Health Board area, with thousands more suffering from long-term illnesses.

Dirty air is now a greater public health risk than alcohol or obesity. And the people who suffer most from poor air quality are the very young, the very old and those suffering ill health. We also know that poor air quality is worse in the more deprived southern areas of the City, and is caused primarily by cars from outside of these communities. This situation is untenable and requires urgent action.

Cardiff Council has recently been legally directed by Welsh Government to undertake a feasibility study to identify the option that, in the shortest possible time, will deliver compliance with legal limits for air quality.

This study, which will report in September 2018, will consider the scale of the current air pollution challenge, all of the options and measures currently in place or planned (many of which are set out in this paper) and will recommend what will need to happen next to reduce air pollution to legal levels, in the shortest time possible.

Cardiff is not alone in having to tackle this issue. Similar feasibility studies have been recently directed by government in Bristol, Manchester & Leeds. They have all recommended that action be taken, including many of the big ideas contained within this Green Paper, like improved public transport in the city and city-region, better cycling and walking routes and having more electric vehicles. They have also recommended that that Clean Air Zones should be developed.

The big ideas: what more could be done?



7. Clean Air Zones

In cities across the world, Clean Air Zones are being put in place. The Mayors of Paris, Mexico City, Madrid and Athens have all recently committed to stop the use of all diesel-powered cars and trucks by the middle of the next decade. Copenhagen's mayor wants to begin restrictions as early as next year.

In cities like Manchester, Bristol, Leeds and Glasgow plans for Clean Air Zones (or similar) are now well advanced, and London have already introduced a Toxicity Charge (T-Charge), with plans for an Ultra Low Emission Zone where all vehicles must meet exhaust emission standards or pay a daily charge on top of the congestion charge to be in place by April 2019.

Until the feasibility work is done, we won't know if a Clean Air Zone is needed in Cardiff to reduce air pollution. But we don't want government to impose a solution on Cardiff that doesn't work for the people of Cardiff. That's why we want to start a conversation on this important issue now. This is an opportunity for us to be bold and shape a system that will help us tackle the challenge of traffic congestion in a growing city, while also protecting the health and wellbeing of current and future generations. Most importantly of all, we want any system to be fair.

What is a Clean Air Zone?

A Clean Air Zone is normally an area where targeted action is taken to improve air quality, in a way that improves health outcomes and supports economic growth. There are a number of different types of clean air zone models in operation or in development in the UK and Europe that aim to reduce congestion, lower pollution and raise funds to give people a realistic transport alternative to using their cars. In many Zones access is restricted, or charges are in place, for vehicles that don't meet certain emission standards.

What area do they typically cover?

Some Clean Air Zones cover the whole city (Stuttgart, Oxford), while others cover only the most polluted districts, typically the city centre (London, Milan, Berlin, Glasgow).

What type of vehicles are typically affected?

There are a number of different models in place across Europe and in development in the UK:

- Some clean air zones ban the most polluting vehicles from entry (Stuttgart, Berlin)
- Some target only the most polluting vehicles with a charge (London – T-charge).

- Others are adopting a phased approach, where the Zone will charge only buses, HGVs and taxis at first, with additional measures for other vehicles introduced over a period of years (Glasgow, Leeds)
- Others are in development that will ban all petrol and diesel vehicles entering the city (Oxford, from 2020).

There are often exemptions for newer vehicles which meet higher emission standards, emergency services vehicles, electric vehicles, scooters and mopeds.

If there was a charge, what would the money raised be used for?

Any funds raised from Clean Air Zones have to be ring-fenced for spending on sustainable transport improvements, like the ones contained in this Green Paper, and could be spent on things like:

1. Lowering bus fares and adding new routes, using clean new electric buses.
2. School transport, such as increased school bus services and bus passes for children.
3. Improving walking and cycling paths, so people have an alternative to paying a charge.

8. Active Travel Targets for the Public Sector and Business

Cardiff's Public Services Board, which represents the main public sector organisations responsible for Cardiff, has committed to increase active travel amongst its staff. Plans will be developed in 2018 to support staff in these organisations, and key partners, to take up healthy travel, setting clear, challenging but achievable monitored targets. Active Travel Plans will also be developed with schools to reduce the numbers of cars on the "school run."

By working with regional partners and the business community, we could help people choose more sustainable forms of travel; working in partnership to build the infrastructure that ensures people have safe and attractive alternatives to car travel. This partnership approach would show leadership across the public and business sectors to meet clean air targets and improve our city.

9. Parking Levies & Charges

In 2012, Nottingham introduced a workplace parking levy requiring workplaces to pay for each parking space provided (charging £387 for each parking space for businesses with more than 10 employees) The levy has raised between £8million and £10million a year, which has been used to improve public transport options, including a new tramline.

Cardiff currently has average parking prices compared to other cities in the UK. Cardiff could introduce a workplace levy similar to the one in Nottingham, or seek to increase its general parking charges. This would dissuade people from driving into town, while also raising funds for public transport alternatives.

What are your views on our 3 big ideas for making Cardiff an clean air city?

On a scale of 1 to 5, (1 being low and 5 being high) how much do you support our big ideas?



7. Clean Air Zones

8. Active Travel Targets for the Public Sector and Business

9. Parking Levies

Do you have any other ideas, big or small for helping Cardiff to improve the quality of its air?

What more can you do?

Consider how you could make changes to your routine to cut down on journeys and the use of a car

Discuss with your workplace or place of study about improved cycling facilities or access to membership of the new nextbike scheme

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Business, Work and Culture



A vibrant 'destination city centre' with a thriving business economy, supporting major events and a rich, diverse culture.

What's happening?

A city for business

Cardiff is one of the fastest growing and most competitive cities in the UK with a workforce of over 230,000 and 20 million annual visitors. Over the past two years, over 20,000 jobs have been added to the city's economy. Many of these are held by the 90,000 daily commuters travelling from outside the city. Businesses are increasingly seeking locations where they can access both a sizable talent pool and consumer market, and transport also has a big role in helping to shape how easy it is to get around places when you arrive.

An accessible city

The car remains the prevailing means of getting to work and back. Recent data however shows that congestion costs the average driver £1,119 a year. Conversely, active means of transport are growing in popularity. Over 45% of city workers have at some point walked to work, with a similar number cycling.

Rail continues to grow in popularity. Shopping trips by rail have increased by 50% between 2007 and 2016. Between 2014 and 2016, journeys to work by rail increased by 1.8%.

Over half of city centre shoppers over the past year used the city's bus system – more than any other form of transport identified in the 2017 transport survey. Commuting trends, however, show a downward trajectory for bus use in the city.

A destination capital city

Cardiff is the capital city of Wales. It is already a popular destination for numerous major international sporting and entertainment events. A great place for visitors who enjoy its shops, cultural events and nightlife, and as its reputation continues to grow, we want this to be for the right reasons. We want the city centre to be an attractive exciting 'destination'.

Metro Central

We are continuing to deliver an outstanding international gateway to Cardiff – the new transport Interchange. This will include Cardiff Central rail station and new links for bus, tram, and bicycle. As well as the focus for business and major events. The Central Transport Interchange will be the core of movement both for the city and region.

The big ideas: what more could be done?



10. Creating a high-quality capital city centre environment

Cardiff City Centre is one of the major assets the region and nation possesses to attract business and visitors, as well as a great place for local residents to live. Creating an international high-quality, people-focussed, active travel city centre will underpin major economic benefits and growth.

We want to use the city centre to celebrate the diverse culture and heritage of modern Cardiff and be a showcase for Wales on the international stage. In so doing, we will facilitate people to meet for leisure or business and enable traders and retailers to create innovative spaces for shopping, eating and entertainment.

11. Developing the South East Corridor

A major opportunity exists to increase accessibility for residents and businesses to the east of Cardiff, one of the city's most deprived and disconnected communities. Aligned with the new Industrial Strategy for the east the city, this would include a new park and ride rail station for St Mellons, the completion of the Eastern Bay Link road, further improvement to Queen Street Station, linked to improved cycling and walking routes.

12. Regional Park & Rides – Improved Regional Connections

Working with regional colleagues and the business community, we could accelerate plans to grow the region’s park and ride network. New park and rides would be established to provide a more efficient route into the city centre for commuters. They would be based at junctions 33, 34 and north of junction 32 of the M4, and to the east and west of the city.

New York City pedestrian lanes

New York City authority repurposed 26 acres of car lanes as pedestrian zones with some areas seeing retail activity increasing by 172%



What are your views on our 3 big ideas to help make Cardiff an international capital of business, work and culture?

On a scale of 1 to 5, (1 being low and 5 being high) how much do you support our big ideas?

	1	2	3	4	5
10. Creating a high-quality capital city centre environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Developing the South East Corridor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Regional Park & Rides – Improved Regional Connections Parking Levies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you have any other ideas, big or small to help make Cardiff an international capital of business, work and culture?

What more can you do?

If you own a business you could support your staff to make more sustainable transport choices

Try one of the city's park & ride services

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The Future of Cars



More Cardiff citizens feel able to either share or not own a car. Many will choose zero carbon cars.

What's happening?

On average, private cars are parked for 95% of the time and cost on average £4,000 a year to own. This is a grossly inefficient use of something that places huge demands on the environment, and on people's health and wealth. In many countries across the world, car ownership shows signs of decline, particularly amongst younger people. This decline in car ownership is often associated with a city lifestyle where there are attractive and efficient alternatives: London is one such example.

In Cardiff a new car club will launch in spring 2018, offering members a complete self-service, app-based system that will provide easy access to a vehicle. Developing initiatives of this kind are important as we know that fewer cars will reduce traffic congestion whilst also freeing up usable space on our streets and the substantial area we allocate for parking at work, shopping and leisure destinations.

Taxis already support this approach, and we need to ensure this essential service is prioritised and developed further in future plans.

There is a steady growth in electric vehicle ownership across the UK. The owners, local authorities, and the private sector are grappling with how to provide a variety of different electric charging options, especially for those that cannot charge their car in a driveway. More charging points are coming to Cardiff but a wider network will be needed if the growth of electric vehicles continues.

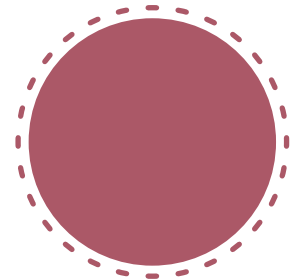
The big ideas: what more could be done?

13. Zero carbon vehicles

Japan now has more electric car charging points than petrol stations. A new electric car is currently registered in the UK every 13 minutes. Only 114 electric vehicles are currently registered in Cardiff (Nov 2017) but this will increase. Hydrogen is also emerging as an alternative fuel. While electric and hydrogen cars produce less pollution, they still contribute to congestion. Cardiff could encourage growth in electric and hydrogen vehicles as replacements for older, polluting models.

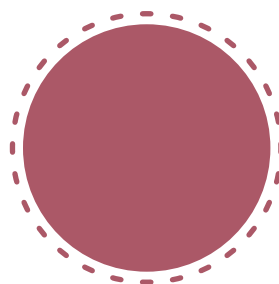
14. Comprehensive Network of Charging Points

The Council is committed to increasing the number of charging points around the city but it is unrealistic at this stage to expect every house in the city to have its own charging point. We could build on existing work with industry, retail and the community to bring forward a comprehensive network of charging points and hydrogen supply to encourage ownership of low carbon vehicles.



15. Car Clubs and Mobility as a Service

Instead of owning cars, there are indications that city dwellers around the world are choosing "mobility as a service" in which a person either joins a car club, or signs a contract with a service provider. A Cardiff Car Club is already operating but we could attract and develop a wider range of car sharing options, both market driven, including commercial car club operators and community based clubs, facilitated by communities and employers. This would give a variety of options to meet people's needs.



What are your views on our 3 big ideas regarding the future of cars?

On a scale of 1 to 5, (1 being low and 5 being high) how much do you support our big ideas?



13. Zero carbon vehicles

14. Comprehensive Network of Charging Points

15. Car Clubs and Mobility as a Service

Do you have any other ideas, big or small regarding the future of cars?

What more can you do?

Explore whether you could change to an electric car or more efficient vehicle

If your household has more than one car, discuss whether you could make do with fewer, and use taxi or new car share options

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Smart City



As the digital world evolves, Cardiff will use the latest technology to support an integrated transport system in which travellers are well informed and able to make smart travel choices.

What's happening?

Cardiff already has an extensive network of 'The Internet of Things' and Cardiff Council is using SMART technology to manage the traffic control systems, variable message signs and real-time information in bus shelters. The system provides API data for phone and internet applications. The system also includes data flow for car park management, automated bollards and air quality monitoring. Current improvements include:

- Parking sensors in 3,300 public parking spaces linked to a phone application that reduces the need for people to make unnecessary journeys on the search for parking spaces. The sensors improve the efficiency of enforcement and provide data to inform parking policies and future strategy.
- Intelligent lighting systems on strategic routes that monitor defects and better manage street lighting to control light levels, save energy and reduce costs.
- Technology to support Next Bike cycle hire, car clubs and the Cardiff Central Interchange hub.
- Upgrade of the real-time passenger information system.

The big ideas: what more could be done?



16. Maximise Digital Network/User Information

In partnership with the operator of the South Wales Metro, we will be able to use technology to support an integrated ticketing system that will enable people to pay for journeys across various modes of travel using phones, cards and on-line accounts. People will be better able to plan their

journeys using real-time information and previous journey information. This will give people more flexibility and the potential to create their own travel plans to suit their needs.

17. Fully Embed Intelligent Street Management

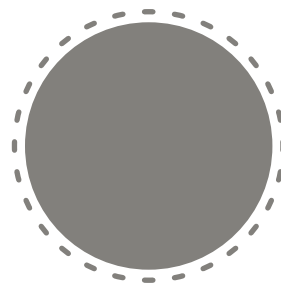
Building on the success of the parking monitors, we can ensure that streets are safer and ready to cope with the growth of electric and autonomous vehicles. We can ensure that drivers are not adding to congestion by searching for parking spaces when there are none and that drivers are not making streets dangerous through parking

violations. We will be able to help drivers of electric vehicles find available charging points and manage the charging system so that there is a fair distribution of power for all. This could partly be achieved through improving our understanding of and support for our 'Internet of Things' network.

18. Autonomous Vehicles

Experts are predicting a growth of autonomous vehicles but no one is quite sure yet how they will operate in a city like Cardiff and what impact they will have. We are working with universities, industry and the UK Government to fully understand the implications and potential of this emerging technology and to ensure that it brings

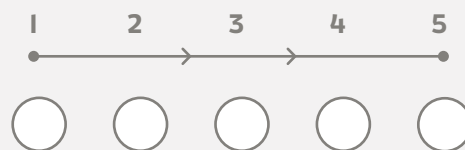
maximum benefit to the people and business of Cardiff. Cardiff could lead the way in automation and autonomous vehicle growth by, for example, providing the relevant digital connectivity in certain areas or asking partners to trial new technology on certain routes.



What are your views on our 3 big ideas to help make Cardiff a smart city?

On a scale of 1 to 5, (1 being low and 5 being high) how much do you support our big ideas?

16. Maximise Digital Network/
User Information



17. Fully Embed Intelligent Street
Management/ Street/Pavement/
Public Space Enforcement



18. Assess Autonomous Vehicles



Do you have any other ideas, big or small to help make Cardiff a smart city?

What more can you do?

Download a transport app such as Waze or Moovit

Discuss how you can use mobile video conference technology to cut down on travel to meetings

Get in touch

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What happens next?

The consultation on this Green Paper closes on the 1st July. The outcomes of the consultation will be used, alongside clearer direction from Welsh Government and any feasibility studies on air quality, outcomes from our Economy Green Paper, and discussions with the South Wales Metro operator, to inform the development of a White Paper on Transport and Clean Air, to be published in the Autumn.

Contact Us:

**Complete our
online survey at:**

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Email comments directly to us:

consultation@cardiff.gov.uk

Respond in writing to:

Cardiff Research Centre, County Hall,
Atlantic Wharf, Cardiff, CF10 4UW

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