

**AIR QUALITY FEASIBILITY STUDY OUTLINE BUSINESS CASE-
WELSH GOVERNMENT DIRECTION**

**STRATEGIC PLANNING & TRANSPORT (COUNCILLOR CARO
WILD)**

AGENDA ITEM: 14

Reason for this Report

1. This report outlines the results of the next phase of the Clean Air Feasibility Study, which is the Outline Business Case setting out a preferred option to demonstrate the steps the Council will undertake to ensure compliance with the legal direction.

Background

2. In response to a legal direction Cardiff Council received from Welsh Government- Environment Act 1995 (feasibility study for Nitrogen Dioxide Compliance) Air Quality Direction 2018¹- the Council must:
 - Submit “initial scoping proposals”- by March 2018- to set out how Cardiff Council would undertake a feasibility study.
 - Submit an “initial plan”, by September 2018, to set out the case for change and develop options for measures that the local authority will implement to deliver compliance with Clean Air targets in the shortest possible time.
 - Submit the “final plan”, no later than the 30th June 2019, to set out in detail the preferred option for delivering compliance in the shortest possible time, including a full business case

The Council has been following a legal process to comply with the direction. As part of this process the Council submitted its “initial scoping proposals” in March 2018 and its Initial Plan, to Welsh Government in September 2018, as approved by Cabinet 15th November 2018 which presented the results of the initial baseline assessment of the Clean Air Feasibility Study.

Whilst the Direction itself does not specifically require the Council to submit an Outline Business Case (OBC) the development of a Full Business Case (FBC) cannot be achieved without first assessing the OBC.

¹ Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction
2018 14th Feb 2018

The OBC sets out a preferred option for the Council to implement to achieve compliance in the shortest possible time and this preferred option needs to be approved by Cabinet in order for the Council to progress to the FBC.

3. The European Union Ambient Air Quality Directive (2008/50/EC)² sets legally binding limits for concentrations of certain air pollutants in outdoor air, termed 'limit values' for the protection of human health. The Directive requires that Member States report annually on air quality within zones designated under the Directive and, where the concentration of pollutants in air exceeds limit values, to develop air quality plans that set out measures in order to attain the limit values. The only limit values that the UK currently fails to meet are those set in respect of nitrogen dioxide (NO₂).
4. In regards to the European Union Ambient Air Quality Directive (Directive 2008/50/EC) levels of nitrogen dioxide (NO₂) and Particulate Matter smaller than 10µm (PM10) must not exceed 40µg/m³ as an annual average (i.e. measured over a calendar year).
5. Annex III of the European Directive details specific criteria for the locality of where such limit values apply. Limit Value applies at locations which are accessible, including footpaths but exclude areas within 25m from major road junctions.
6. In order to comply with the AAQD the UK government published its action Plan in December 2015. This Plan was successfully challenged in High Court by Client Earth in 2016³ for not meeting the requirements of the Directive, and specifically Article 23 of the Directive. This case is widely referred to ClientEarth 2.
7. As a result of the High Court Ruling the UK Government had to redraft and publish a new UK Action Plan for tackling NO₂ concentrations. This was published in July 2017⁴ and identified Cardiff as an area with persistent non-compliance beyond 2022. However this plan was further challenged by Client Earth, and as a result in January 2018 Welsh Government agreed to a legally-binding 'consent order' with Client Earth. This resulted in a Legal direction being served on Cardiff Council under Part IV of the Environment Act 1995, Section 85(7).

Key Issues : - Results of the Initial Plan September 2018

8. The results of the local modelling differed to that undertaken by Defra using the Pollution Climate Mapping model. DEFRA's modelling identified two road links under baseline conditions which were projected to show non-compliance beyond 2021 as detailed in Figure 1. The roads that were modelled as exceeding the NO₂ annual limit value for by 2021 using the DEFRA Model were, the A48 and the A4232.

² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02008L0050-20150918&from=EN>

³ **ClientEarth (No. 2)** <https://www.judiciary.gov.uk/wp-content/uploads/2016/11/clientearth-v-ssenviron-food-rural-affairs-judgment-021116.pdf>

⁴ Defra UK Action Plan for Tackling Roadside NO₂ Concentrations – July 2017

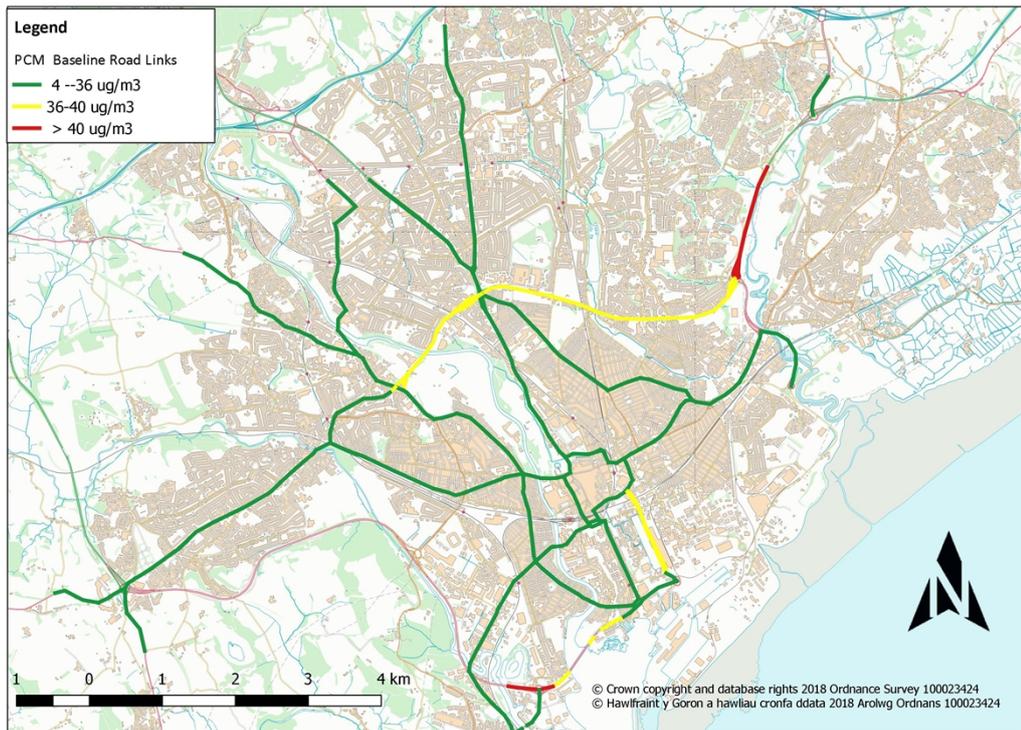
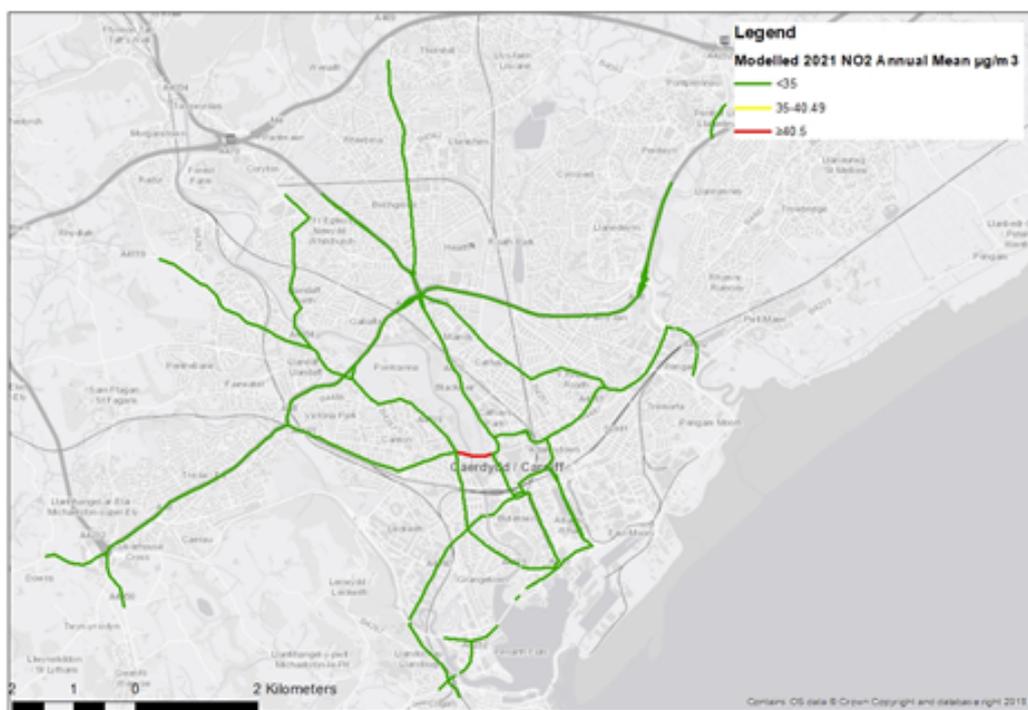


Figure 1 - Defra PCM Modelling NO2 Forecast Results 2021

9. The localised modelling as reported in the Initial Plan identified only one road link under baseline conditions projected to show non-compliance beyond 2021, this being the A4161 Castle Street as detailed in Figure 2.

Figure 2 - Local Modelling Results NO2 Forecast Results 2021



10. In assessing the model data the main reason for this exceedance relates to very high traffic flows, some 32,000 vehicles a day and accompanying slow speeds of around 11mph on this specific road link. The main reasons for the differences between the local model results and the PCM results is primarily down to the fact that the local model has a far greater level of detail which is based on local data, and not national assumptions, and thus can be seen to be a better representation of local circumstances. The key aspects of the local model that influence the results are as follows:
- Traffic flows are based on a local traffic model;
 - Traffic speeds are based on a local model and local traffic master;
 - Local fleet data from the ANPR, not just national averages; and
 - Local topology is accounted for in terms of gradient, canyons,
11. Within the Initial Plan Report a long list of measures developed from the Draft Clean Air Strategy and Action Plan (CASAP) were qualitatively assessed against a primary objective of achieving compliance with set air quality objectives in the shortest possible time. The measures were considered against secondary objectives and were subjected to further qualitative assessments against the WelTAG Well-being Aspects. As a result of this analysis the following shortlist of measures was assessed and is summarised in Table 1.

Table 1 - Initial Shortlist of Measures

Measure Description
CASAP 1
Implement further speed restrictions and enhance already established 20mph Zones.
Development of Cycling Superhighways infrastructure and Expansion of Next bike Scheme
Implement Zero Emission Buses on Cardiff Network
Revision to Taxi Licensing Policy to include emissions standards
CASAP 2
Bus Network Programme- Strategic Bus Network to improve bus networks and efficiency of the services via increased and improved bus lanes
Accelerate Park and Ride (P & R) programme in NW & NE of Cardiff. NW; Implement new Park and Ride facilities at Junction 33 (750 Spaces) and Llantrisant Road (250 Spaces). NE; expansion of P & R on the A48.
City Centre West and Central Interchange and Eastside City Centre Schemes
Improve and promote the uptake of low emission vehicles by enhancing Cardiff's EV infrastructure
Review and implement car parking and car permit charges.

12. It must be noted that the above shortlist of measures were initially identified as measures that would likely have the greatest impact on the road links identified by the PCM modelling as being non-compliant, namely the A48 and A4232 near Cardiff Bay.
13. Prior to commencing the assessment of the above measures, further additional measures were also identified owing to the results of the local modelling. These additional measures have been assessed to include a wider Bus Retrofitting Programme, further network improvements on the A470 and a bus based P&R at Nantgarw. These additional measures

were assessed as a CASAP 3 package combined with CASAP 1 and 2 to provide an overall package of measures.

14. In addition to assessing the package of measures, as required by the Government Guidance⁵ the Council has assessed the effectiveness of a charging Clean Air Zone (CAZ) in terms of whether compliance could be achieved quicker than the proposed measures.
15. **Government Guidance⁶ is clear that a charging CAZ should only be considered as a preferred option/ implemented if non-charging alternatives have been found to be insufficient to bring about compliance with air quality limits in the shortest possible time.**
16. As a result the OBC has assessed two CAZ options for benchmarking purposes. Both options focussed on a small city centre zone, as detailed on page 36 of the OBC report. In summary the two CAZ options were assessed as follows:
 - **CAZ 1 – Private cars** which did not meet Euro 4 (petrol) or Euro 6(diesel) emission standards would be charged a £10 daily fee for entering the CAZ. No other vehicles were included in the CAZ.
 - **CAZ 2 – Commercial vehicles** – HGVs, LGVs, did not meet Euro 4 (petrol) or Euro 6 (diesel) emission standards, would be charged daily rates for entering the CAZ. For HGVs the daily charge was set at £50 and for LGVs £10.

Results of the Shortlist of Measures and CAZs on Achieving Compliance

14. Using independent analysis from external consultants with recognised expertise and a proven track record of supporting other UK Core Cities-localised air quality modelling and transport modelling was undertaken to establish the impact of the CASAP measures and CAZ as to whether compliance could be achieved by 2021. As detailed in the Initial Plan baseline assessment shows that by 2021 only Castle Street would breach the EU limit value for NO₂ with concentrations of 41.1 µg/m³ being predicted.
15. The full details of how each of the measures have been assessed in terms of the transportation and air quality modelling are detailed with the in the OBC, but are summarised as follows in Table 2.

⁵ JAQU Options Appraisal Guidance

⁶ JAQU Guidance – Evidence Based Approach to Setting Clean Air Zone Charges

Table 2 - Summary of Modelling Assumptions of Measures

Measure Description	Modelling Methodology Employed
Active travel packages, covering two areas close to the city centre	For each of the locations a 3.5%-point reduction in the car driver mode share was assumed for trips entirely within the given area, and the car vehicle demand matrices adjusted accordingly
Cycling programme to end of 2020, covering a corridor north from the city centre	
New 50mph speed limit on A4232 (Culverhouse Cross to Butetown Tunnels)	The representation of the affected section of the A4232 was changed from a national speed limit link type to a 50mph speed limit link type
Westgate Street mid-point closure to general traffic	The central section of Westgate Street was closed to all cars and goods vehicles to prevent through-movements whilst maintaining local access
East side scheme, reducing through traffic movements on Station Terrace	Links were opened/closed as appropriate and junctions edited to reflect the proposed scheme.
A48 St Mellons bus-based park and ride	For trips in nearby corridors with a trip end in the city centre, a proportion to be intercepted at the new P&R site was assumed, based upon evidence from existing sites. One of the trip ends for these trips was then reassigned from the city centre to the location of the P&R site.
J33 park and ride	As above, except that the number of trips to be intercepted was calculated using an assumed occupation level (broadly equivalent to current occupation of the East P&R site).
Parking charges and controls, affecting vehicles with non-compliant engines.	UK government Joint Air Quality Unit (JAQU) guidance on option appraisal was used to provide estimates of the effect on trip making of implementing charging zones for non-compliant vehicles. A proportion of vehicles affected by increased parking charges was calculated using parking "event" data provided by Cardiff Council. Non-compliant vehicle trips were then moved to the compliant matrix, removed from the matrices altogether, or left unaltered accordingly.
Smart expressway & traffic management measures on the A470 South (Upper Boat to Coryton) and Traffic management and control measures at Coryton Interchange	Narrow lanes to give extra lane, reallocation of southbound lane to 2 lanes off to Coryton, 1 lane ahead into Cardiff (and this could include better provision for bus going A470 into Cardiff); also looking at speed limit reduction and VMS gantry signage to improve traffic management and air quality.

16. In addition to the modelling assumptions detailed above in Table 2, additional modelling assumptions have been applied to the measures that can only be modelled in terms of improvements to NOx emissions in the air quality model and these are detailed in Table 3.

Table 3 - Emission Based Measures

Measure	Description
ULEB application for 36 electric buses	The 36 buses were allocated to routes 27, 49/50, 44/45, with the related bus AADT removed as these are now zero emission. The remaining bus fleet is then adjusted to reflect the removal of 36 older Euro3 vehicles.
Taxi licensing requiring a 10 year age limit and all new renewal or grants 2019 to be minimum Euro 6	Taxi fleet adjusted to remove all vehicles over 10 years old and replace these by new Euro 6 vehicles
Retro-fit programme to convert remaining buses to Euro 6	Retro-fit programme to convert remaining buses to Euro 6, similar to Clean Bus Technology Fund (CBTF)

17. The package of measures have been assessed accumulatively in terms of combining the measures identified in CASAP 1 with CASAP 2 and finally all measures have been assessed together as a final package, CASAP 3. The results of the measures in terms of delivering compliance on Castle Street are summarised as follows:

• **CASAP 1 by 2021**

- Implementation of 36 Electric Buses;
- Impact of revised Taxi Licensing Policy ;
- Active travel package;
- Cycling programme to end of 2020; and
- 50mph on A4232

NO₂ concentrations on Castle Street have been modelled to reduce from **41.1 µg/m³ to 37 µg/m³** by the implementation of the above measures.

• **CASAP 2 – all of CASAP 1 +**

- City Centre West and East Schemes;
- A48 P&R;
- J33 P&R; and
- Revised Parking Charges at Council Car Parking Spaces.

NO₂ concentrations on Castle Street have been modelled to reduce from **41.1 µg/m³ to 36 µg/m³** by the implementation of the above measures.

• **CASAP 3 – all of CASAP 1 +2**

- Retrofit Programme for Buses;
- A470 additional southbound traffic lane; and
- Nantgarw P&R.

NO₂ concentrations on Castle Street have been modelled to reduce from **41.1 µg/m³ to 35 µg/m³** by the implementation of the above measures

18. In addition to achieving compliance on Castle Street, the impact of the package of measures has also been modelled at local air quality monitoring locations, include those locations within existing Air Quality

Management Areas (AQMAs). The results of the modelling indicate that all monitoring locations are expected to have concentrations below the 40 $\mu\text{g}/\text{m}^3$ which further demonstrates that the package of measures will improve local air quality including within existing AQMAs.

19. It should be noted that the CASAP results do not include the impact of the City Centre North (Castle Street) proposals, as the detailed modelling work commenced prior to understanding the outline design of this scheme, and thus the impact of this scheme has not currently been assessed in the current package of measures.
20. The ruling of the Client Earth 2³ set out three tests that Clean Air Plans (the Feasibility Study) must meet in order that they are seen to comply with Article 23 of the EU Directive. The third test states that the plans must demonstrate that compliance with the limit values is not just possible, **but likely**.
21. As summarised above through the implementation of the full CASAP 3 measures the level of compliance that is modelled to be obtained on Castle Street, is the greatest with NO₂ concentrations reduced from 41.1 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$. Owing to the level of uncertainty in the air quality modelling achieving a level of **35 $\mu\text{g}/\text{m}^3$** or better is an important target for the Council to obtain. Probability analysis undertaken by our consultants, indicates that modelled levels of 35 $\mu\text{g}/\text{m}^3$ or less gives a greater than **80%** probability that compliance with the limit value will **actually be achieved**, when the measures are implemented.
22. As a comparison the results of the modelling undertaken on the CAZ scenarios are summarised as follows:
 - **CAZ 1 – Private cars** - achieves compliance on Castle Street – 32.5 $\mu\text{g}/\text{m}^3$.
 - **CAZ 2 – Commercial vehicles** – achieves compliance on Castle Street NO₂ – 35.3 $\mu\text{g}/\text{m}^3$
23. The results for CAZ 1 and 2 show that NO₂ concentrations are estimated to be lower than the baseline 2021 scenario at most links, but with CAZ 1 showing **increases** on 6 links and Caz 2 showing **increases** on 4 links. The largest decrease observed in both CAZ 1 and 2 is on Castle Street, as might be expected for a measure that is specifically targeting the city centre.
24. However, compared to CASAP 3, **most links show higher NO₂ concentrations in the CAZ 1 and 2 scenarios**. But this is to be expected, as the CAZ scenarios do not include any of the CASAP measures and targets a smaller geographical area.
25. As previously stated Government guidance is quite clear that a charging CAZ should only be considered as a preferred option if other non-charging measures are not sufficient to bring about compliance in the

shortest possible time. Given that the modelling undertaken has demonstrated that a package of measures achieves compliance in the same period as charging CAZ, then ultimately the Council can justify implementing a package of measures as a preferred option rather than a CAZ. Further as detailed above in paragraph 23 the implementation of the non-charging measures provides wider air quality improvements across Cardiff as a whole, including within the existing AQMAs.

26. Additional qualitative assessment undertaken by the project team and our consultants on the initial shortlist measures, has concluded that a number of the measures should be removed from the assessment as they are not considered feasible, in terms of them being fully implemented by the end of 2020 and also that the measures only have a minimal direct impact on NO₂ concentrations on Castle Street. The following measures have therefore been removed from further assessment in the OBC:

- 50mph on A4232 (CASAP1)
- A48 Park & Ride (CASAP 2)
- J33 Park & Ride (CASAP 2)
- A470 additional southbound traffic lane (CASAP 3)
- Nantgawr Park & Ride (CASAP 3)
- Review of Car Parking Charges

27. In order to develop a final revised package of measures to be assessed in the Full Business Case for the Final Plan, further assessment in terms of air quality and transportation modelling will be undertaken and the impact of the final package of measures will undergo detailed economic assessment as part of the Full Business Case requirements.

28. The Full Business Case will also assess any appropriate mitigation measures that the Council may be required to implement in order to reduce the impact of any traffic displacement effects that the measures may have on surrounding communities. Further the assessments will assess further mitigation that may be required to ensure that the measures, particularly the City Centre Schemes, do not cause significant displacement of poor air quality as a result of their implementation.

Wider Measures – Clean Air Strategy

29. As the Initial Plan and OBC for the feasibility study have been developed from the long list of measures set out in a draft Clean Air Strategy and Action Plan, it is felt that it is important to include a finalised Clean Air Strategy with the OBC to further support the longer term ambition of the Council to reduce NO₂ levels as low as reasonable practicable.

30. The strategy coincides with Cardiff's Capital Ambition report and will help implement and deliver the Capital Ambition with an overarching aim to improve air quality to protect and improve public health in Cardiff. The Clean Air Strategy will appoint strategic measures that will look to

generate a positive impact to citywide air quality levels, in particular traffic derived NO₂ levels.

31. As such Appendix C of the OBC included in Appendix 1 of this report, details the Council's wider Clean Air Strategy. This document sets out additional longer term strategic measures that, whilst not necessarily delivering compliance with the limit value in the shortest possible time, are further measures that implemented through an Action Plan will contribute to wider air quality improvements, specifically in the AQMAs. The key theme of the measures is to increase the uptake of sustainable and active travel modes by influencing behavioural change in Cardiff. Some of the measures detailed in the Clean Air Strategy include:

- **Implementation and Enforcement of Non Idling Zones;**
- **Installation of Living Walls and other Green Infrastructure;**
- **EV Infrastructure and Council Fleet Measures;**
- **Car Clubs with Low Emission/ Zero Emission Vehicles;**
- **Air Quality Planning Guidance; and**
- **Schools Active Travel Programmes**

Engagement Exercise

32. As detailed within Section 6.6 of the OBC, a detailed engagement/communication strategy has been developed in order to inform the key stakeholders, businesses, and the wider community on how the OBC has developed a preferred option. The communications strategy sets out the following objectives;

- To advise the public and stakeholders on the process that has to be followed to develop the OBC to meet the requirements of the Welsh Government;
- To provide information on the measures that are being proposed in the OBC, what these measures are and how these measures will be benchmarked against a variety of possible Clean Air Zones in terms of the timescales for achieving compliance; and
- To give the public and stakeholders the opportunity to ask any questions through the engagement process and receive responses from the project team.

33. The proposed strategy is a high level communication exercise, which is ultimately a pre-engagement exercise in relation to the Council's clean air feasibility study. **Further detailed statutory consultation will be undertaken, specifically on the City Centre Schemes separately as their design and implementation are approved and taken forward as separate detailed schemes.**

34. It is proposed to run the engagement exercise, from the Wednesday April 3rd 2019 and will end six weeks later on Wednesday May 15th 2019. This will enable the Council to consider feedback that will be received during the engagement exercise as the FBC is developed and finalised.

35. This timeframe is seen as the maximum that can be allowed for, owing to the short timescales for the Council to complete the FBC in order to comply with the required legal deadline of 30th June 2019, set out in the Direction. Similar engagement timescales have been followed by other LAs, who have also been progressing Clean Air Feasibility Studies under Legal Direction.

Refined Package of Measures to be Assessed in Full Business Case

36. The OBC has proposed a refined package of measures as the Councils preferred option which includes the following measures:
- **Electric Buses** – 36 Electric Buses to be implemented on a number of routes within the City Centre;
 - **Bus Retro Fitting Programme** –Target up to 94 buses that currently do not meet latest Euro 6 emission standard;
 - **Taxi Licensing Policy and Mitigation Scheme;**
 - **City Centre Loop Schemes, inclusive of Castle Street ;** and
 - **Active Travel Measures**

Funding for Measures

37. Within the letter from Hannah Blythyn, Minister for the Environment that accompanied the formal direction it was confirmed that finance would be made available for the production of the feasibility study and for the implementation of the chosen scheme. The Welsh Government has also stated in its Final Supplemental NO₂ Plan⁷ that it has allocated over £20 million for an Air Quality Fund through to 2021 to help accelerate compliance with NO₂ limits and improve air quality in Wales. The Welsh Government has also stated that this fund will primarily be used to provide on going support, guidance and finance to enable Cardiff Council (and Caerphilly County Borough Council) to take action to achieve compliance in the shortest possible time. It further states that the fund will be used to 'deliver the options which will achieve compliance with limit values in the shortest possible time.'
38. With regards to the revised shortlisted measures detailed in paragraph 33 above the required funding to implement these measures is detailed as follows:

Electric Buses

39. Cardiff Council and Cardiff Bus, bid jointly to the Department of Transport (DfT) Ultra Low Emission Bus (ULEB) Grant fund for funding of up to **£5.7M** for 36 electric buses and associated charging infrastructure. The Grant Funding contributes 75% of the cost difference between the purchase of conventional diesel buses and their electric equivalent and 75% of the capital for the required infrastructure.

⁷ [Welsh Government supplemental plan to the UK plan for tackling roadside nitrogen dioxide concentrations 2017](#)

40. The full of the implementation of this measure will be developed further and detailed as such in the Full Business Case.

Bus Retro-Fitting Programme

41. In 2017, Cardiff Council and Cardiff Bus submitted a joint bid to the DfT's Clean Bus Technology Fund (CBTF) for the retrofitting of some 94 buses that do not meet the latest Euro 6 diesel emission standards. This programme would look to fit approved technology to older buses, rather than having to fully replace them with Euro 6 or E-Buses. In terms of costs the initial funding bid calculated a cost of **£1.36M** (ex VaT) to complete the retro fit on all 96 buses.
42. This scheme will be open to all bus operators who may wish to apply to the scheme for funding to support the retrofitting of suitable buses using approved technology.

Taxi Licensing Policy and Mitigation Measures

43. On the 5th March the Public Protection Committee approved for Shared Regulatory Services to consult on the proposals to amend the Council's taxi licensing policy which would see the introduction of new emissions and age requirements for the granting of new licenses and/ or change of vehicle applications on new existing licenses. The proposals would require that any vehicle included on the application for a new grant is a minimum Euro 6 emission standard (petrol and diesel) as part of the license application. The same emission standard would also apply for any change of vehicle on an existing license.
44. Following the detailed consultation on this proposal the Public Protection Committee will then be asked to approve the revisions of the Council's licensing policy, with an implementation date to be agreed. Whilst there is no direct cost to the Council for implementing the revised license conditions, the economic assessment will include for the provision of mitigating measures for the taxi trade. A number of Councils in the UK have already introduced similar vehicle emission standards on taxis, but in doing so they have worked to assist the taxi trade by offering incentive schemes. One such scheme is that offered by Southampton City Council.
45. Southampton provide a grant to taxi drivers to assist them in upgrading their vehicles. For Fully EVs Southampton provide a **£3k** and for plug in hybrids, **£2.5k** is offered.
46. If Cardiff Council was to provide a similar grant scheme, through the Air Quality Fund, based on the number of private hire vehicles and hackney carriages that do not meet the latest Euro 6 emission standards (~1800 vehicles) further funding of between £5.5M (Fully EV) and £3.6M (Plugin hybrids) would be required to support a grant scheme. The provision of such scheme will therefore be included as part of the Council's OBC and the full details of such a scheme developed for the FBC.

City Centre 'Loop' Schemes

47. In identifying the required funding for City Centre Transport improvement Schemes, only those schemes that are likely to be implemented up to the end of 2021, have been included for consideration. Currently it is forecasted that these schemes could cost in the region of **£18.9M**, subject to appropriate detailed designs.

The breakdown of these costs is presented in Table 4, and gives the project total costs excluding any existing match funding bids.

Table 4 - Funding for City Centre Schemes

Name of Scheme	Required Funding to Complete Schemes up to end of 2021
City Centre West (Westgate St/ Wood St & Ctrl Sq	£7.6M
City Centre North (Castle St) and Blvd de Nantes	£7.1M
Eastside Phs 1 –	£4.2M
	Total £18.9M

48. Further detailed local modelling of the above schemes is ongoing in terms of both transportation and air quality impacts. The results of this additional modelling/ assessment will be used to further enhance the Full Business Case for these schemes measures.

Active Travel Measures

49. The total projected costs to complete a wider 20mph area/Active Travel role out (2 additional areas of Grangetown and SE Cardiff (Splott/Adamsdown)), and completion of the CS1 to University Hospital Wales (UHW) is forecasted at £7.3M. **To date £3M** has been bid for from the Active Travel Fund for CS1, with a remaining funding deficit to complete CS1 of £2.8M and £1.4M for the Active Travel/ 20 mph areas required.
50. **Excluding existing funding bids** the estimated OBC costs to implement the package of measures as a preferred option is summarised below in Table 5.

Table 5 - Final Preferred Package of Measures Funding Costs

Measure	Est. Funding Requirements £M
Measure	
Electric Buses	£1.8M
Bus Retrofit	£1.4M
Taxi Mitigation Schemes	£5.5*
City Centre Schemes	£18.9M
Active Travel and CS1 Completion	£4.2
	Total:£31.8M

51. In addition to the above funding mechanisms, the Council will continue to work collaboratively with Welsh Government officials to identify all available and an appropriate funding mechanisms including the Air Quality Fund, Local Transport Fund and Active Travel Fund in order to maximise

the financial contribution from Welsh Government towards the implementation of the measures to be included in the Final Business Case.

Next Steps

52. The revised package of measures will be further assessed both in terms of transport and air quality modelling, as a final package of measures to enable the Council to develop the Full Business Case. This will include the full detailed socio-economic distribution of the measures and a distributional analysis to understand the extent to which these measures may impact on the residents of Cardiff and those that travel in to the city. For the final business assessment these additional considerations will be assessed in more detail in terms of a health impact assessment and a distributional impact assessment.
53. The results of this assessment will then demonstrate the level of compliance that will be achieved by implementing the preferred option on Castle Street, and elsewhere across the City including within the existing AQMAs. This report will be reviewed and assessed by the Welsh Government's Expert Review Panel, prior to final approval of the preferred option being provided from Welsh Government.

Reason for Recommendations

54. To enable Cardiff Council to identify a preferred option in order to meet the requirements of the Welsh Government Legal Direction, in achieving compliance with NO₂ legal limits in the shortest possible time.

Financial Implications

55. As set out in the body of the report funding has been made available by the Welsh Government to the Council in order to carry out the feasibility study. In addition the Welsh Government has created an Air Quality Fund with earmarked funding of £20m to deliver measures required to ensure compliance with air quality standards. Table 5 indicates that the cost of the Preferred Package is in excess of this sum. The Council will continue to work collaboratively with Welsh Government officers to maximise the financial contribution from the Welsh Government towards the implementation of any measures.
56. On that basis the current assumption is that the implementation costs of any measures required to ensure compliance will be directly funded by the Welsh Government with no direct financial implications for the Council as a consequence. The development of the Full Business Case will require more detailed costings of the proposed measures including the identification of any recurring operational or lifecycle costs.

Legal Implications

57. 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 under that Act. The

Council therefore has a statutory duty to comply with the Direction, which could be enforced through a Court order in the event of default.

59. Any specific proposals which are developed will require appropriate consultation. The consultation which is proposed is set out in paragraphs 33 – 36 of this Report. The Council will be obliged to consider feedback from the consultation.
60. The Council has to satisfy its public sector duties under the Equality Act 2010. Pursuant to these legal duties the Council must in making decisions have due regard to the need to (1) eliminate unlawful discrimination (2) advance equality of opportunity and (3) foster good relations on the basis of protected characteristics

Protected characteristics are:

- Age
- Gender reassignment
- Sex
- Race – including ethnic or national origin, colour or nationality
- Disability
- Pregnancy and maternity
- Marriage and civil partnership
- Sexual orientation
- Religion or belief – including lack of belief

61. It is important that the Council should undertake an Equality Impact Assessment or Assessments in order to ensure that the Council has properly understood and assessed the potential impacts of the proposals in terms of equality, so that it can ensure that it is making proportionate and rational decisions having due regard to its public sector equality duty.
62. The Well-Being of Future Generations (Wales) Act 2015 places a ‘well-being duty’ on public bodies aimed at achieving seven national well-being goals for Wales - a Wales that is prosperous, resilient, healthier, more equal, has cohesive communities, a vibrant culture and thriving Welsh language, and is globally responsible.
63. In discharging its duties under the 2015 Act, the Council has set and published well being objectives designed to maximise its contribution to achieving the national well being goals. The well being objectives are set out in Cardiff’s Corporate Plan 2018-21: <http://cmsprd.cardiff.gov.uk/ENG/Your-Council/Strategies-plans-and-policies/Corporate-Plan/Documents/Corporate%20Plan%202018-21.pdf>

When exercising its functions, the Council is required to take all reasonable steps to meet its well being objectives. This means that the decision makers should consider how the proposed decision will contribute towards meeting the well being objectives and must be satisfied that all reasonable steps have been taken to meet those objectives.

64. The well being duty also requires the Council to act in accordance with a ‘sustainable development principle’. This principle requires the Council to act in a way which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. Put simply, this means that Council decision makers must take account of the impact of their decisions on people living their lives in Wales in the future. In doing so, the Council must:
- Look to the long term
 - Focus on prevention by understanding the root causes of problems
 - Deliver an integrated approach to achieving the seven national well-being goals
 - Work in collaboration with others to find shared sustainable solutions
 - Involve people from all sections of the community in the decisions which affect them
65. The decision maker must be satisfied that the proposed decision accords with the principles above; and due regard must be given to the Statutory Guidance issued by the Welsh Ministers, which is accessible using the link below: <http://gov.wales/topics/people-and-communities/people/future-generations-act/statutory-guidance/?lang=en>

RECOMMENDATIONS

Cabinet is recommended to:

1. Approve the Clean Air Feasibility Study Outline Business Case Report produced by the Council which recommends that the Council’s preferred option to achieve compliance in the shortest possible time, **is a package of measures, rather than a Charging Clean Air Zone.**
2. Approve the engagement exercise to inform key stakeholders, businesses and the wider public on the Council’s preferred option being a package of measures which will be developed into a Full Business Case.
3. Note the package of measures will be further assessed and developed into a Full Business which will be brought to Cabinet for approval prior to submitting to Welsh Government no later than the **30th June 2019**, to comply with the requirements of a Final Plan as per the legal direction¹.

SENIOR RESPONSIBLE OFFICER	ANDREW GREGORY
	Director of Planning, Transport & Environment
	15 March 2019

The following appendix is attached

Appendix 1 - Cardiff Council Clean Air Feasibility Study – Outline Business Case March 2019