

GM Air Quality Administration Committee

Date: 20 December 2023

Subject: GM Clean Air Plan – December 2023 Update

Report of: Cllr Eamonn O'Brien – GM Clean Air Lead

Purpose of Report

This report provides an update on the Case for a new Greater Manchester Clean Air Plan and confirms that an appraisal of GM's proposed investment-led plan has been undertaken against a benchmark charging Clean Air Zone (CAZ) in the centre of Manchester and Salford.

Recommendations:

The Air Quality Administration Committee is requested to:

1. Note the latest position with the government's National Bus Retrofit.
2. Note modelling results now evidence that GM's proposed investment-led plan (the Investment-led Plan) can achieve compliance with legal limits of NO₂ concentrations in 2025 and that compliance is not achieved in either 2025 or 2026 under a benchmark charging CAZ C in the centre of Manchester and Salford.
3. Note whilst it is for the government to determine what measures GM is to implement, the appraisal shows that only the Investment-led Plan complies with the requirement placed on the 10 GM Authorities to deliver compliance in the shortest possible time and by 2026 at the latest.
4. Note bus measures represent the most important mechanism for reducing exceedances under the Investment-led Plan and are grounded in the ability of GM to control the emissions standards of vehicles operating on key routes having introduced a bus franchising scheme.
5. Note the Investment-led Plan seeks to use £51.2 million of funds already awarded to purchase 64 Zero Emission Buses (ZEBs) and to fund the costs for the

electrification required on Piccadilly Approach, and at Bolton, Queens Road and Middleton depots.

6. Note taxi measures represent an important mechanism for reducing exceedances under the Investment-led Plan and GM wants to offer £30.5 million of already awarded funding to support upgrades to help the GM licensed hackney carriage and private hire trade upgrade to cleaner vehicles (the Clean Taxi Fund).
7. Note that an emissions standard, requiring licensed hackney carriages (hackneys) and private hire vehicles (PHVs) to be a minimum of Euro 6 (diesel) or Euro 4 (petrol) by 31st December 2025, needs to have been adopted by all GM Authorities to secure compliance with legal limits in 2025.
8. Recommend that each GM Authority puts appropriate arrangements in place to facilitate a transitional start date for the implementation of emission standards by the 1st January 2025 with the end transition date being the 31st December 2025.
9. Note that the Investment-led Plan proposes taxi funding being issued directly to applicants, subject to meeting the relevant criteria and production of relevant evidence.
10. Note the Investment-led Plan seeks to use £5 million of funds already awarded to deliver targeted local measures to reduce NO₂ exceedance concentrations at Regent Road (Salford), Quay Street and Great Bridgewater Street (Manchester) sites.
11. Note that funding awarded by government to help van, minibus, coach, HGV owners upgrade and mitigate against the economic impact of a GM-wide Category C charging Clean Air Zone that has not been committed would be redistributed under GM's Investment-led Plan.
12. Agree that the funding for HGVs should be closed to new applicants and applicants that have an existing funding award should be given to 1st January 2025 to spend the committed funding.
13. Note that from an equality impacts perspective, the Investment-led Plan would deliver an air quality improvement that benefits individuals with protected characteristics. An air quality improvement is likely to be faster for the Investment-led Plan than a benchmark CAZ due to the former achieving compliance earlier.
14. Request that the government gives urgent consideration to agreement to the removal of the 1309 signs installed for a GM-wide category C charging Clean Air

Zone across GM and its boundary Authorities, as the appraisal shows that only the Investment-led Plan meets the legal requirement to deliver compliance in the shortest possible time and by 2026 at the latest and therefore the signs are no longer required.

15. Note the Investment-led Plan would require an additional £22.9m of funding versus £56m for a benchmark CAZ when considering whole life costs.
16. Agree a delegation is made to the Chief Executive, GMCA and TfGM, in consultation with the GM Clean Air Lead to approve the final submission of material to the Government's Joint Air Quality Unit and deal with any supplementary requests from the Joint Air Quality Unit in support of the appraisal.

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Equalities Impact, Carbon and Sustainability Assessment:

The GM CAP is a place-based solution to tackle roadside NO₂ which will have a positive impact on carbon.

Risk Management

Initial risk register set out in Clean Air Plan OBC (March 2019).

Legal Considerations

On 8th February 2022 *The Environment Act 1995 (Greater Manchester) Air Quality Direction 2022*¹ (the Direction) was issued. The Direction requires that the GM local authorities:

- review the measures specified in the existing Plan; and
- determine whether to propose any changes to the detailed design of those measures, or any additional measures.

The GM authorities must ensure that the Plan with any proposed changes will secure that:

- compliance with the legal limit value for NO₂ is achieved in the shortest possible time and by no later than 2026; and
- exposure to levels above the legal limit for NO₂ is reduced as quickly as possible.

This Direction revoked the direction dated March 2020 which required the ten Greater Manchester Local Authorities to implement a Category C Clean Air Zone to achieve compliance with the legal limit value for NO₂ in the shortest possible time and by 2024 at the latest.

Financial Consequences – Revenue

Initial Financial Case set out in Clean Air Plan OBC (March 2019), with all development and delivery costs to be covered by central government.

Financial Consequences – Capital

Initial Financial Case set out in Clean Air Plan OBC (March 2019), with all development and delivery costs to be covered by central government.

Number of attachments to the report: Three

¹ [The Environment Act 1995 \(Greater Manchester\) Air Quality Direction 2022 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1064242/the-environment-act-1995-greater-manchester-air-quality-direction-2022.pdf)

Comments/recommendations from Overview & Scrutiny Committee

Not applicable.

Background Papers

- 13 July 2023, Report to AQAC: GM Clean Air Plan – July 2023 Update
- 27 February 2023, Report to AQAC: GM Clean Air Plan – February 2023 Update
- 26 October 2022, Report to AQAC: GM Clean Air Plan – Expenditure Update
- 26 October 2022, Report to AQAC: GM Clean Air Plan – October 2022 Update
- 17 August 2022, Report to AQAC: GM Clean Air Plan – August 2022 Update
- 1 July 2022, Report to AQAC: GM Clean Air Plan – July 22 Update
- 23 March 2022, Report to AQAC: GM Clean Air Plan – March 22 Update
- 28 February 2022, Report to AQAC: GM Clean Air Plan – February 22 Update
- 2 February 2022, report to CACC: GM Clean Air Plan – update to the temporary exemption qualification date for GM-licensed hackney carriages and private hire vehicles
- 20 January 2022, report to AQAC: GM Clean Air Plan – A628/A57, Tameside – Trunk Road Charging Scheme update
- 20 January 2022, report to AQAC: GM Clean Air Plan – Financial Support Scheme Jan 22 Update
- 20 January 2022, report to AQAC: GM Clean Air Plan – Clean Air Zone Discount & Exemptions Applications
- 18 November 2021, report to AQAC: GM Clean Air Plan – GM Clean Air Funds assessment mechanism
- 18 November 2021, report to CACC: GM Clean Air Plan – GM Clean Air Plan Policy updates
- 13 October 2021, report to AQAC: GM Clean Air Plan – Operational Agreement for the Central Clean Air Service
- 13 October 2021, report to CACC: GM Clean Air Plan – Showmen’s Vehicle Exemption
- 13 October 2021, report to CACC: GM Clean Air Plan – Clean Air Zone daily charge refund policy
- 13 October 2021, report to CACC: GM Clean Air Plan – A628/A57, Tameside – Trunk Road Charging Scheme
- 21 September, report to AQAC: GM Clean Air Plan – Clean Air Zone: Camera and Sign Installation
- 21 September, report to AQAC: GM Clean Air Plan – Bus Replacement Funds
- 25 June 2021, report to GMCA: GM Clean Air Final Plan
- 31 January 2021, report to GMCA: GM Clean Air Plan: Consultation
- 31 July 2020, report to GMCA: Clean Air Plan Update
- 29 May 2020, report to GMCA: Clean Air Plan Update
- 31 January 2020, report to GMCA: Clean Air Plan Update

- 26 July 2019, report to GMCA: Clean Air Plan Update
- 1 March 2019, report to GMCA: Greater Manchester's Clean Air Plan – Tackling Nitrogen Dioxide Exceedances at the Roadside - Outline Business Case
- 11 January 2019, report to GMCA/AGMA: Clean Air Update
- 14 December 2018, report to GMCA: Clean Air Update
- 30 November 2018, report to GMCA: Clean Air Plan Update
- 15 November 2018, report to HPEOS Committee: Clean Air Update
- 26 October 2018, report to GMCA: GM Clean Air Plan Update on Local Air Quality Monitoring
- 16 August 2018, report to HPEOS Committee: GM Clean Air Plan Update
- UK plan for tackling roadside nitrogen dioxide concentrations, Defra and DfT, July 2017.

Tracking/ Process

Does this report relate to a major strategic decision, as set out in the GMCA Constitution

No

Exemption from call in

Are there any aspects in this report which means it should be considered exempt from call in by the relevant Scrutiny Committee on the grounds of urgency? No

GM Transport Committee – Not applicable

Overview and Scrutiny Committee – Not applicable

GM Clean Air Scrutiny Committee – To be considered at meeting on 18 December 2023, verbal update to be given.

1 Background

- 1.1 The government has instructed many local authorities across the UK to take quick action to reduce harmful Nitrogen Dioxide (NO₂) levels following the Secretary of State (SoS) issuing a direction under the Environment Act 1995. In Greater Manchester, the 10 local authorities, the Greater Manchester Combined Authority (GMCA) and Transport for Greater Manchester (TfGM) are working together to develop a Clean Air Plan to tackle NO₂ exceedances at the roadside, herein known as Greater Manchester Clean Air Plan (GM CAP).
- 1.2 The development of the GM CAP is funded by government and is overseen by Joint Air Quality Unit (JAQU), the joint Department for Environment, Food & Rural Affairs (DEFRA) and Department for Transport (DfT) unit established to deliver national plans to improve air quality and meet legal limits. The costs related to the business case, implementation and operation of the GM CAP are either directly funded or underwritten by government acting through JAQU and any net deficit over the life of the GM CAP will be covered by the New Burdens Doctrine, subject to a reasonableness test².
- 1.3 The primary objective of the GM CAP is to meet the long-term annual mean legal limit of 40 µg/m³ for NO₂ in the shortest possible time, and by 2026 at the latest, in accordance with the Direction.
- 1.4 Throughout the development of the GM CAP the ten GM local authorities have made clear the expectation that the UK government would support the plans through:
- Clear arrangements and funding to develop workable, local vehicle scrappage / upgrade measures;
 - Short term effective interventions in vehicle and technology manufacturing and distribution, led by national government;
 - Replacement of non-compliant buses; and
 - A clear instruction to Highways England³ to implement measures which deliver compliance with legal limits for NO₂ on the strategic road network, for which they are responsible, in the shortest possible time⁴.

² The new burdens doctrine is part of a suite of measures to ensure Council Tax payers do not face excessive increases. [New burdens doctrine: guidance for government departments - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/guidance/new-burdens-doctrine-guidance-for-government-departments)

³ On 19 August 2021 it was announced that Highways England changed its name to 'National Highways' reflecting the new focus the company has on delivering the government's £27bn strategic roads investment programme, while also continuing to set highways standards for the whole UK.

⁴ GM Authorities are directed to take action on the local road network. Those roads managed by National Highways, such as motorways and trunk roads are excluded from the Clean Air Plan.

- 1.5 The GMCA Clean Air Update report of 29 May 2020 detailed that in March 2020 the government provided initial funding of £41m for clean vehicle funds to award grants or loans to eligible businesses: £15.4m for bus retrofit, £10.7m for Private Hire Vehicles, £8m for HGVs, £4.6m for coaches and £2.1m for minibuses. These figures include Joint Air Quality Unit (JAQU) estimated delivery costs at 5%.
- 1.6 The GMCA – Clean Air Final Plan report on 25 June 2021⁵ detailed that GM had been awarded £14.11m for hackney carriages and £73.5m for light goods vehicles (LGVs). The hackney carriage award comprises £10.61m to support grants and loans to upgrade vehicles. These figures include JAQU estimated delivery costs at 5%.
- 1.7 The GMCA – Clean Air Final Plan report endorsed the GM Final Clean Air Plan and policy following a review of all of the information gathered through the GM CAP consultation and wider data, evidence and modelling work. This included the GM Clean Air Plan Policy, that outlined the boundary, discounts, exemptions, daily charges of the formerly proposed Clean Air Zone (CAZ) as well as the financial support packages offered towards upgrading to a compliant vehicle, including the eligibility criteria to be applied. The aim of the funding was to support an upgrade to a compliant vehicle and to mitigate the negative socio-economic effects of the previously proposed GM CAZ.
- 1.8 The GMCA – Clean Air Final Plan report set out that the Air Quality Administration Committee had the authority to establish and distribute the funds set out in the agreed GM Clean Air Plan policy.
- 1.9 On 21 September 2021 the Air Quality Administration Committee approved the establishment and distribution of the agreed bus replacement funds.
- 1.10 On 13 October 2021 the Air Quality Administration Committee agreed the distribution of Clean Air funds set out in the agreed GM Clean Air Plan policy as follows:
 - From 30 November 2021 applications for funding would open for HGVs.
 - From the end of January 2022 applications for funding would open for private hire vehicles, hackney carriages, coaches, minibuses and light goods vehicles.
- 1.11 On 18 November 2021 the Air Quality Administration Committee agreed the assessment mechanism to allow for Clean Air Funds to be adapted, if necessary (including a process for considering whether additional funding is required), if the impacts of the Clean Air Zone prove to be more severe than forecast once opened.

⁵ Also considered by the GM authorities through their own constitutional decision-making arrangements.

- 1.12 On 20 January 2022 the Air Quality Administration Committee considered the findings of an initial review of conditions within the supply chain of light goods vehicles which was impacting the availability of compliant vehicles. The Committee agreed that a request should be made to the Secretary of State (SoS) for Environment, Food and Rural Affairs to agree to pause the opening of the next phase of Clean Air Funds to enable an urgent and fundamental joint policy review with government to identify how a revised policy can be agreed to deal with the supply issues and local businesses' ability to comply with the GM CAP. From January 2022 applications from LGV, hackney, PHV and minibus owners who were detrimentally impacted by the decision to defer the wider opening of the financial support scheme were considered.
- 1.13 On 28 February 2022 the Air Quality Administration Committee noted the submission of a report "*Issues Leading to Delayed Compliance Based on the Approved GM CAP Assumptions*", attached as Appendix 3. The report concluded that on balance, the latest emerging evidence suggests that with the previously-approved (in Summer 2021) plan in place, it was no longer more likely than not that compliance would be achieved in 2024. The government subsequently issued the Direction which stated that proposals to revise the GM CAP were required to be submitted to the SoS by 1st of July, requiring the revised plan to achieve compliance with the legal limit value for NO₂ in the shortest possible time and by no later than 2026. The committee also noted the interim arrangements for delivery arrangements for the Clean Air Zone in the meantime, including signage, funding and discount/exemption applications.
- 1.14 On 23 March 2022 the Air Quality Administration Committee noted the scope of the review of the Clean Air Plan and the participatory policy development approach, as well as delivery arrangements, including signage and funding.
- 1.15 On 1 July 2022 the Air Quality Administration Committee noted the 'Case for a new Greater Manchester Clean Air Plan' document and associated appendices would be submitted to the Secretary of State on the 1 July as a draft document subject to any comments of Greater Manchester local authorities.
- 1.16 On 17 August 2022 the Air Quality Administration Committee agreed to submit the 'Case for a new Greater Manchester Clean Air Plan' to the Secretary of State in final form and approved the Case for a New Plan - Air Quality Modelling Report for submission to the government's Joint Air Quality Unit.
- 1.17 On 26 October 2022 the Air Quality Administration Committee noted the non-compliant vehicles that have been upgraded through Clean Air Funds; the targeted engagement being undertaken with key stakeholders to inform the policy development process; that Greater Manchester Police have advised that the disclosure requests from the Clean Air Zone Automatic Number Plate Recognition (ANPR) cameras have been very useful in detecting crime; and the update on the funding received from government, the expenditure made and the funding requirements that had emerged as the new GM CAP was being developed.

- 1.18 On 27 February 2023, the Air Quality Administration Committee agreed to submit the report 'Greater Manchester's approach to address persistent exceedances of nitrogen dioxide identified on the A58 Bolton Road, Bury' to the Secretary of State; noted the parameters of a benchmark Regional Centre CAZ scenario, the Clean Air funding distribution to end January 2023 by Local Authority, the headlines from targeted engagement and research that was undertaken as part of the Participatory Policy Development activity and the update to deliver EV charge points funded by the GM CAP.
- 1.19 On 13 July 2023, the Air Quality Administration Committee noted the developments in relation to the government's National Bus Retrofit Programme and that government had commenced a six-month focused research programme to quickly investigate the causes of poor bus retrofit performance and scope how performance can be improved. The committee agreed to write to the Secretary of State setting out the Authorities' desire to align the reporting of GM's programme of work with the government's given their interdependency to deal with this unprecedented issue and the implications for the GM CAP. They also heard that GM CAP monitoring data indicates that air pollution has increased compared with 2021 but is below levels recorded pre-pandemic in 2019. Analysis of the factors influencing pollution emissions and air quality indicate that the concentrations have been affected by performance of the bus Retrofit Programme.

2 Overview

- 2.1 GM set out its intention to pursue an investment-led plan through the submission of the 'Case for a New GM Clean Air Plan'⁶ in July 2022. The report set out a number of reasons why a GM-wide Class C charging CAZ, as approved in Summer 2021 (the Previous GM CAP), could lead to hardship in GM and, unlike the charging scheme, an investment-led plan would attend to the cost-of-living crisis and actively consider the impacts of Covid-19 and wider global economic instability on supply chains. Additionally, the investment-led approach takes account of the significant benefits that the delivery of electric buses can have along key routes with persistent exceedances.
- 2.2 The core objectives of the new GM CAP are:
- To reduce NO₂ concentrations to below the legal limits in the shortest possible time and by 2026 at the latest;
 - To achieve compliance in a way that is fair to businesses and residents, and does not damage business or cause financial hardship to people in GM; and

- To ensure the reduction of harmful emissions is at the centre of GM's wider objective for delivering the Bee Network's⁷ core objectives.
- 2.3 The 'Case for a new GM Clean Air Plan' therefore proposed using the Clean Air funding that the government has awarded to Greater Manchester to deliver an investment-led approach to invest in vehicle upgrades, rather than imposing daily charges and in particular through the delivery of Zero Emission Buses (ZEBs) in the Bee Network (a London-style integrated transport network). The new plan would ensure that the reduction of harmful emissions is at the centre of GM's wider objectives.

3 Latest Position

- 3.1 In April 2023, government advised TfGM that it was to pause any new spending on bus retrofit as it had evidence that retrofitted buses have poor and highly variable performance in real-world conditions.
- 3.2 This followed a JAQU-funded study to quantify NO_x and NO₂ emissions from buses under real-world driving conditions in three cities across the UK, including Manchester which indicated that retrofitted buses were not reducing emissions as expected. Furthermore, emissions of primary-NO₂ (as opposed to NO_x) were highly variable, potentially worsening roadside NO₂ concentrations despite an overall reduction in NO_x emissions.
- 3.3 In the light of the government's new evidence, JAQU issued revised general guidance to authorities producing Clean Air Plans nationwide. In summary, this required that air quality modelling should no longer assume any air quality benefits from a retrofitted bus.
- 3.4 Government advised that it anticipated a six-month focused research programme to quickly investigate the causes of poor bus retrofit performance and how it could be improved would be reported in Autumn 2023. To date the outputs of this study have not been made available to GM.
- 3.5 In the absence of the government's bus retrofit study, GM has incorporated the revised guidance from JAQU, requiring that air quality modelling should no longer assume any air quality benefits from a retrofitted bus, into the modelling which underpins the development of its Clean Air Plan and appraised the Investment-led Plan against a Regional Centre Charging Class C CAZ, herein known as the 'benchmark CAZ'. The Appraisal Report is attached at Appendix One.

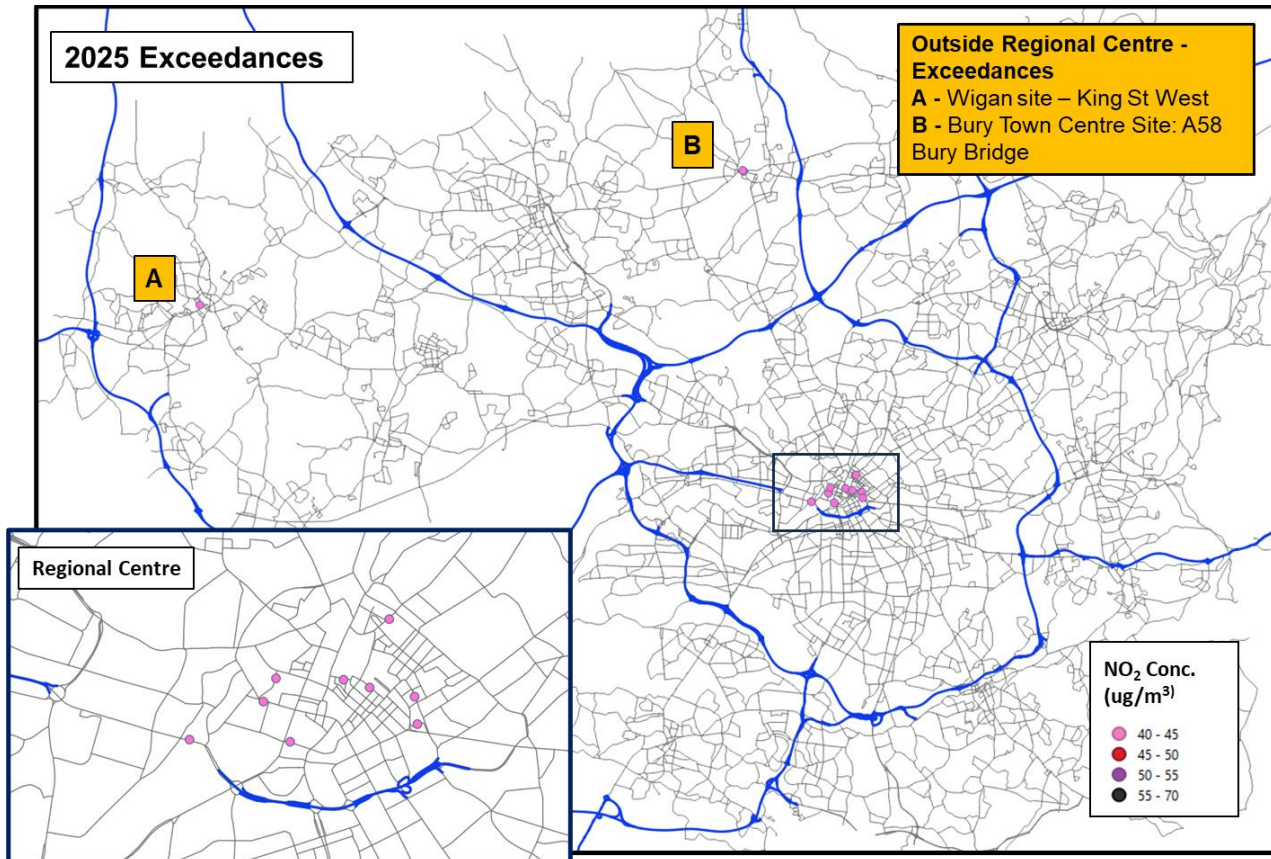
⁷ The Bee Network is a vision for GM to deliver an integrated London-style transport system. The transport system will see buses, trams, rail as well as cycling and walking being joined together to revolutionise travel across the city-region.

- 3.6 The modelling results evidence that GM's proposed Investment-led Plan achieves compliance with legal limits in 2025 and compliance is not achieved in either 2025 or 2026 under the benchmark CAZ.
- 3.7 This report sets out the revised Do Minimum air quality position and summarises the appraisal of the Investment-led Plan and the benchmark CAZ in their ability to deliver compliance with the legal limit value in the shortest possible time.

4 The Do Minimum Position

- 4.1 The GM CAP is underpinned by an evidence base derived from data collection, research, analysis and modelling. Throughout the technical development process from 2017 to date, GM has used best practice methodology and assumptions and worked closely with Government, including, for example, by delivering updates to incorporate the impacts of Covid-19 to the GM CAP in accordance with national guidance.
- 4.2 The GM modelling approach has been developed and agreed with JAQU. The purpose of the modelling process is to quantify the impact of traffic by vehicle type on emissions and consequently on concentrations of NO₂ at the roadside in GM.
- 4.3 The Do Minimum air quality assessment determines the revised air quality position forecast in 2025 and 2026 following changes to the Do Minimum in line with relevant guidance and assumptions agreed with Government.
- 4.4 The Do Minimum modelling baseline has been updated since the Summer 2022 position as part of the Case for a New GM CAP and subsequently as part of the work to underpin the 'Approach to address persistent exceedances identified on the A58 Bolton Road, Bury' report, submitted in March 2023. The following changes have been made to the Do Minimum modelling since January 2023 – detail of these changes are set out in Appendix One:
- Changes to fleet electrification;
 - Changes to bus retrofit assumptions and programme;
 - Changes to ZEBRA scheme (Stockport);
 - Changes to bus service patterns;
 - Updates to CCTS schemes; and
 - Updates to value of time and distance parameters.
- 4.5 Twelve NO₂ exceedance sites are modelled to remain without action in the updated Do Minimum in 2025. The spatial concentration of exceedances are clustered in the regional centre with 9 out of the 12 located in the regional centre. There are 3 outlier exceedance sites, 2 exceedance points located at the A58 Bolton Road, Bury and one exceedance point located at King Street West in Wigan. The scale of exceedance at each of these locations fall within the 40-45 ug/m³ bracket.

4.6 The figure below shows the spatial distribution of the 12 NO₂ exceedance sites modelled to remain without action in the updated Do Minimum in 2025.



4.7 The revised Do Minimum baseline position shows that the 12 exceedance sites predicted in 2025 without action reduces to 5 in 2026. The spatial distribution of these exceedance sites is consistent with earlier iterations of the modelling with a high concentration of sites within the Regional Centre which have been brought into non-compliance due to the application of the JAQU guidance on bus retrofits to reflect no air quality benefit from a retrofitted bus.

5 The Investment-led Plan

5.1 The Investment-led Plan targets action at the 12 exceedance sites predicted in 2025.

5.2 In the light of the government's new evidence on bus retrofit and having incorporated the revised guidance from JAQU into GM's modelling, it has been determined that targeted investment in zero-emission buses and taxis would provide the most effective means to achieve compliance under an investment-led scenario. This will be supplemented by local highway-based measures at known persistent exceedance locations at Regent Road and around Quay Street.

- 5.3 **Bus investment** represents the most important mechanism for reducing exceedances under the Investment-led Plan and is grounded in the ability of TfGM to operate a bus franchising scheme. TfGM is responsible for operating bus franchising on behalf of the GMCA and has the authority to manage franchise agreements in respect of local services, including the specification of fleet requirements and deployment.
- 5.4 The delivery of bus franchising is underway with the first phase (Tranche one) live as of September 2023. The implementation of bus funding across the region is being delivered in three tranches:
- Tranche one (24th September 2023) – covering Bolton, Wigan and parts of Salford and Bury.
 - Tranche two (24th March 2024) – covering Oldham, Rochdale and parts of Bury, Salford and north Manchester.
 - Tranche three (5th January 2025) – covering Stockport, Tameside, Trafford and the remaining parts of Manchester and Salford.
- 5.5 Based on the level of exceedance at each GM site in 2025 and the frequency of bus service that pass the exceedance sites, the proportion of Original Equipment Manufacturer (OEM) Euro VIs and ZEBs required to achieve compliance has been identified. Deployment of sufficient existing OEM Euro VI and ZEBs at the 12 exceedance locations predicted in 2025 would result in 3 remaining exceedance sites in 2025: A57 Regent Road (Salford), A34 Quay Street and Great Bridgewater Street (Manchester).
- 5.6 Based on the peak vehicle requirement to operate services past exceedance sites, 64 buses would have to be upgraded to ZEBs to achieve compliance at King Street and A58 Bolton Street. This excludes the ZEBs which have been committed as part of the bus franchising scheme. Whilst this vehicle requirement also includes 6 ZEBs operating past the Regent Road exceedance site, compliance cannot be achieved there without supporting measures.
- 5.7 From a deliverability perspective, the ability to operate an additional 64 ZEBs is dependent on there being adequate supporting electric vehicle charging infrastructure at depots to operate these services. GM has undertaken analysis to determine this requirement which is summarised below.
- 5.8 To meet the ZEB service requirements at exceedance sites, depot upgrades are required to support the higher provision of electric vehicles across 4 sites. They are: Bolton, Queens Road, Middleton and Manchester Piccadilly. The scale of upgrade varies by depot based on the current provision of electric charging infrastructure to support the existing franchised operation.

5.9 In summary, the Investment-led Plan involves bus investment of £51.2 million, comprising:

- £39.7 million to purchase 64 ZEBs; and
- £11.5 million for the electrification required on Piccadilly Approach, and at Bolton, Queens Road and Middleton depots.

5.10 **Taxi measures** represent an important mechanism for reducing exceedances under the Investment-led Plan and are grounded in the ability of the GM authorities to reduce emissions through licensing conditions.

5.11 The appraisal of the Investment-led Plan has been developed on the basis that an emissions standard, requiring licensed hackneys and PHVs to be a minimum of Euro 6 (diesel) or Euro 4 (petrol) by 31st December 2025, will have been adopted by all GM Authorities. A transitional start date for the implementation of emission standards by the 1st January 2025 is assumed and, recognising that taxi licensing renewals occur annually across the calendar year, it is assumed that the end transition date for the implementation of emission standards across the 10 local authorities will be the 31st December 2025.

5.12 By 2026, it is therefore assumed that 100% of the GM taxi fleet⁸ will be compliant with the emission standards. It is intended that the Clean Taxi Fund will support this by opening before 2025 enabling earlier upgrades, and helping to mitigate against the risk of taxis re-licensing with another authority that does not have the same emission standard.

5.13 A Clean Taxi Fund (CTF) of £30.5m is proposed to offer funding to support upgrades of taxis to cleaner vehicles through two routes. These are:

- Core Taxi Fund of £22.5m – based on the 2021 GM CAP Policy, the funding is eligible to non-compliant, GM-licensed hackneys and PHVs. The financial support has been uplifted with inflation, with an associated air quality benefit derived from minimum emission standards across the 10 GM Authorities.
- Electric Hackney Upgrade Fund of £7.9m – based on the Bradford scheme⁹ and feedback received during GM's Participatory Policy Development¹⁰, the funding is available to compliant Internal Combustion Engine (ICE) hackneys and seeks to support upgrades to the cleanest vehicle type whilst taking into account feedback

⁸ There are currently approximately 13,750 GM Licensed taxis (hackneys/PHVs) based in GM. For non-compliant Hackneys, 96% are Wheelchair Accessible Vehicles (WAV) compared to 6% WAVs for PHVs; and in addition to the GM licensed fleet, there are approximately 41% out-of-area PHVs licensed to an authority outside of GM, though with a resident address in GM. The majority are licensed to Wolverhampton.

⁹ Bradford Council, who operate a Category C charging Clean Air Zone, have launched an additional fund to support Bradford-licensed Hackneys to upgrade to fully electric. The fund is open to owners of Bradford which are already classed as compliant with minimum emissions standards.

¹⁰ [Participatory Policy Development - Summary of Stakeholder Engagement Report](#) Page 14, point 8

from the Participatory Policy Development approach (PPD), conducted between August and November 2022¹¹.

- 5.14 The taxi measures set out above are required to achieve compliance at the A57 Regent Road, because the bus and traffic management measures are not sufficient. Taxi upgrades also provide additional resilience to the GM CAP at the last points of modelled exceedance, on roads where poor air quality could occur and future additional refinements to buses services and fleet are not an option in the performance management phase. The opening of the taxi funds in 2024 would also enable early upgrade of taxi fleet, reducing exposure as quickly as possible.
- 5.15 The proposed funding levels for hackneys and PHVs are outlined in the following table. The funding offers are split into funding for upgrade to wheelchair accessible vehicles and funding for upgrade to non-wheelchair accessible vehicles.
- 5.16 The Investment-led Plan proposes taxi funding being issued directly to applicants, subject to meeting the relevant criteria and production of relevant evidence. This reflects feedback received during the PPD process that there were a limited number of dealerships to upgrade with and that funding should be paid directly to the applicant. Previously, financial support was issued directly to suppliers of vehicle upgrade options, meaning all vehicle upgrades had to go via an approved dealership. The proposed approach offers greater flexibility to the taxi trade in terms of upgrade options and requires less resource to operate the CTF.
- 5.17 Funding amounts take into account inflationary increases in the economy since the finalisation of the previous CAP policy in 2021 to the anticipated opening of the Investment-led Plan funds in 2024. The inflationary uplift has been calculated based on its cumulative total of inflation based on Q4 values from the Bank of England's Monetary Policy Committee Report, published in November 2023¹². The uplift provides an equitable increase for both hackneys and PHV owners and operators and responds to the increases in the cost of new and second hand vehicles since the development of the Previous GM CAP.

¹¹ GM leaders committed to a participatory approach to the development of the new Plan to ensure that GM's proposals are well-grounded in evidence in terms of the circumstances of affected groups and possible impacts of the Plan on them, and therefore the deliverability and effectiveness of that Plan – outputs reported to AQAC February 2023.

¹² <https://www.bankofengland.co.uk/monetary-policy-report/2023/november-2023?ref=pmp-magazine.com>

Vehicle type (upgrade to)		Offer available (per vehicle)	Change from previous policy funding amount (2021)
Purpose-built Wheelchair Accessible Vehicle	Zero Emission Capable (ZEC)	Up to £12,560 towards the running costs of the replacement vehicle (or vehicle finance).	↑ Increase of £2,560
	Second-hand ZEC	Up to £12,560 towards the cost of the replacement vehicle.	↑ Increase of £2,560
	Compliant Vehicle (Euro 4 petrol or Euro 6 diesel or better)	Up to £6,280 towards the cost of the replacement vehicle.	↑ Increase of £1,280
	Compliant Vehicle (Retrofit)	No retrofit option to be offered given Government's evidence on efficacy of retrofit technology.	✗ Removed
Non-Wheelchair Accessible Vehicle	ZEC	Up to £7,530 towards the running costs of the replacement vehicle (or vehicle finance).	↑ Increase of £1,530
	Second-hand ZEC	Up to £7,530 towards the cost of the replacement vehicle (vehicle finance).	↑ Increase of £1,530
	Compliant Vehicle 6+ seater (Euro 4 petrol or Euro 6 diesel or better)	Up to £6,280 towards the cost of the replacement vehicle (grant or vehicle finance).	↑ Increase of £1,280
	Compliant Vehicle (Euro 4 petrol or Euro 6 diesel or better)	Up to £3,770 towards the cost of the replacement vehicle (grant or vehicle finance).	↑ Increase of £770
	Compliant Vehicle (Retrofit)	No retrofit option to be offered given Government's evidence on efficacy of retrofit technology.	✗ Removed

5.18 **Targeted Local Traffic Management Measures** – a series of targeted local traffic management measures are proposed to reduce NO₂ exceedance concentrations at Regent Road (Salford) and Quay Street (Manchester) sites. These locations were identified during GM's prior work to develop the investment-led measures, based on the modelling undertaken, which forecast that there would be two remaining exceedance sites at Regent Road and Quay Street.

- 5.19 Whilst the modelling baseline has been updated, including the application of the JAQU standard guidance to assume no air quality benefit from a retrofitted bus, the local measures at Regent Road and Quay Street were modelled to be effective and necessary for reducing NO₂ concentrations at these locations and therefore considered appropriate to include as part of the Investment-led Plan.
- 5.20 The package of targeted local measures can be summarised into a series of three schemes:
- 5.21 Signal optimisation at A57 Regent Road and adjacent parallel routes
- Signal timing adjustment to A57 Regent Road green times applied at the junctions of A57 Regent Road / Oldfield Road and M602 J3 West arm approach to the junction. Supplementary adjustments are to be applied to parallel routes, namely: Oldfield Road / Middlewood Street, Ordsall Lane / Middlewood Street / Hampson Street and Hampson Street / Trinity Way. These adjustments will improve the flow of traffic to reduce the level of congestion and therefore improve emissions.
- 5.22 Speed restrictions on A57 Regent Road
- Implementation of a speed reduction from 40mph to 30mph on A57 Regent Road between Oldfield Road and M602. By implementing these speed reductions, traffic flow will become steadier as a result of reducing unnecessary accelerations and decelerations, leading to a reduction of emissions.
- 5.23 Measures to reduce through traffic in the wider A34 Quay Street area
- Implementing measures to reduce through traffic on Gartside Street, Lower Byrom Street, Great John Street and Atherton Street will reduce through and turning traffic on Quay Street. The measures may differ by location, but are likely to include signing, surface treatments and urban realm improvements. The aim of this measure is to perceive these roads as low speed and low capacity and therefore avoid them unless necessary.
- 5.24 The modelled air quality impact of the package of measures including bus, taxi and targeted local traffic management measures outlined above shows that the Investment-led Plan achieves compliance at these locations and therefore reduces the number of exceedances from 12 in 2025 to 0.

6 Benchmark CAZ

- 6.1 The government has asked GM to: *“Provide modelling results for a benchmark CAZ to address the persistent exceedances identified in central Manchester and Salford, in order for these to be compared against your proposals and set out how the measures you have proposed will be modelled and evidenced overall”*.
- 6.2 Government have asked for this as they want to understand how Greater Manchester’s case for an investment-led, non-charging Clean Air Plan, performs (in

terms of delivering compliance) against the ‘benchmark’ of a charging Clean Air Zone.

6.3 The parameters of the benchmark CAZ have been developed in conjunction with JAQU and modelled as:

Spatial coverage of a benchmark CAZ (boundary over which charges apply)	Area within the Inner Relief Route - the Inner Relief Route (IRR) forms a natural boundary to the central area, and aligns with the City Centre Transport Strategy. Modelling a benchmark CAZ within the IRR would minimise wider traffic reassignment impacts by non-compliant vehicles, and would primarily model those journeys with an origin or destination within the Regional Centre
Type of benchmark CAZ i.e. which vehicle types may be subject to charging	Category C – Bus/Coach/Taxi/PHV/HGV/Minibus/Van
Level of charge to be applied by vehicle type	Charges as set out within the original plan
First year from which a benchmark CAZ would be modelled for operation and whether that is consistent across all vehicle types	2025 / 2026
Level and nature of any funding support for users / vehicles	Grant values as set out within the original plan inflated by 25.6% (as set out in 5.17)
Exemptions from charges	Exemptions as set out within the original plan

6.4 In terms of air quality impact, the modelled results shown that the anticipated number of exceedance sites above the legal limit values in 2025 are modelled to reduce from 12 to 8 sites under a benchmark CAZ.

6.5 The number of exceedance sites above the legal limit values in 2026 are modelled to reduce further to 2 sites meaning compliance with the Direction is not achieved in the assessment years under the benchmark CAZ.

7 Cost

7.1 The funding awarded by the government to help owners upgrade non-compliant vehicles to date, as well as the overall funding position for the Clean Air Plan is set out below.

Upgrade of non-compliant vehicles

- 7.2 Clean Air Funding was awarded by the Government to help owners upgrade non-compliant vehicles (Buses, Coaches, HGVs, LGVs and Taxis) and mitigate against the negative socio-economic impact of a GM Wide Category C charging Clean Air Zone.
- 7.3 The GM Clean Air Plan Policy, agreed in Summer 2021, set the funding amounts per vehicles and eligibility criteria. Funds opened in:
- May 2020 for bus retrofit applications (as a continuation of the government's Clean Bus Technology Fund)
 - September 2021 for bus replacement applications
 - November 2021 for HGV upgrade applications
- 7.4 As set out in the table below, the value of funding committed to end November 2023 is £19.04 million. GM's Investment-led Plan focuses on investment in buses, taxis and local traffic management measures to deliver compliance with legal limits and therefore non-committed funds would be redistributed under an investment-led scenario.
- 7.5 It is recommended that the funding for HGVs is closed to new applicants and that those who have existing funding award are given to 1st January 2025 to spend the committed monies.
- 7.6 On this basis, to the end November 2023 this would mean retaining £20.2 million for taxis (PHV and hackney), with £83.83 million to reallocate as shown in the table below:

Purpose	Value of Grant (net of Admin costs) £m	Value Committed¹³ £m	Vehicles Upgraded	Recommendation
Heavy Goods Vehicles	7.60	2.52	205	close to new
Private Hire Vehicles	10.23	0.02	6	retain allocation
Coaches	4.45	0.00	0	reallocate funding
Minibus	2.00	0.01	1	reallocate funding
Light Goods Vehicles	70.00	0.07	14	reallocate funding
Hackney	10.10	0.12	20	retain allocation
Bus Retrofit	15.44	15.12	956	reallocate funding
Bus Replacement	3.25	1.18	69	reallocate funding
Total	123.07	19.04	1,271	

¹³ Value Committed is the value of the total number of applicants who have applied and have been awarded a grant. At the end of November 2023, 162 Applicants have been awarded funding but are yet to upgrade.

Overall funding position

- 7.7 The costs related to the business case, implementation and operation of the GM CAP are either directly funded or underwritten by the government acting through JAQU and any net deficit over the life of the GM CAP will be covered by the New Burdens Doctrine, subject to a reasonableness test¹⁴.
- 7.8 GM has been awarded a total of £196.2 million (excluding electric vehicle charging infrastructure) in respect of the GM CAP. The government grants have been awarded to fund the following areas:

Grant	£m
Clean Air Plan Development Phase	31.7
Clean Air Zone Implementation	26.0
Clean Air Zone Operation	7.6
Vehicle Funds (including Bus)	122.3
Vehicle Funds Administration	6.1
Vehicle Funds Operation	2.5
Total	196.2

- 7.9 Expenditure to November 2023 and forecast to March 2024 (including committed grant awards) against the £196.2 million grants awarded by Government is summarised in the table below:

Area of Expenditure	Spend to date £m
Development Phase	32.7
Clean Air Zone (implement and operate)	32.7
Financial Support Scheme (Vehicle Grants, Implementation and Operation)	26.2
Forecast for Dec 23-Mar 24	3.1
Grand Total	94.7
Grant Remaining	101.5

- 7.10 GM proposes that the grant value remaining should be repurposed to contribute to the future funding required for the Investment-led Plan.
- 7.11 The GM Authorities have calculated the whole life costs for the Investment-led Plan and the benchmark CAZ. The figures have been developed using high level assumptions and based on previous costs.

¹⁴ The new burdens doctrine is part of a suite of measures to ensure Council Tax payers do not face excessive increases. [New burdens doctrine: guidance for government departments - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/guidance/new-burdens-doctrine)

7.12 A high level of contingency has been applied and no commercial discussions have been held with suppliers. As set out in the following table, when considering whole life costs, the Investment-led Plan would require an additional £22.9m of funding verses £56m for a benchmark CAZ.

	a benchmark CAZ	Investment Led-Plan
Early Termination of CAZ Services	N/A	(£2.1m)
Vehicle Upgrade Funding and Administration	(£107.2m)	(£86.7m)
Development and Implementation	(£13.1m)	(£11.5m)
Net Surplus / (Deficit) from Operation and Decommissioning	(£37.2m)	(£24.1m)
Whole Life Total Cost	(£157.5m)	(£124.4m)
Available Funding	£101.5m	
Additional Funding Required from Government	£56m	£22.9m

8 Equalities Impacts

- 8.1 Greater Manchester has undertaken a high-level assessment which compares the equality impacts of the Investment-led Plan and the benchmark CAZ. The purpose of this equality assessment is to support the submission of evidence for the new GM CAP and enable Government to make a decision on which scheme GM is to implement, based on the most robust evidence.
- 8.2 To inform the future development of policy and measures within the GM CAP, a full Equality Impact Assessment will be carried out on the proposed final plan, once GM has received full, formal feedback from Government.
- 8.3 The assessment considers differential or disproportionate impact on individuals with the nine protected characteristics identified by the Equality Act 2010, as well as further characteristics determined by a GM EqIA: low income households, carers, veterans, homeless.
- 8.4 The assessment draws on findings of previous iterations of EqIA and uses data, insight & findings from GM CAP consultation & engagement activity.
- 8.5 From an equality perspective, the Investment-led Plan would deliver an air quality improvement that benefits individuals with protected characteristics. An air quality improvement is likely to be faster for the Investment-led Plan than the benchmark CAZ due to the former being implemented and achieving compliance earlier.
- 8.6 Under the Investment-led Plan, the adverse financial impact on protected characteristic groups is to a lesser extent than the benchmark CAZ. The Investment-led Plan reduces the risk to health, jobs, livelihoods and businesses.

9 The Investment-led Plan vs the benchmark CAZ Appraisal

- 9.1 The appraisal approach considers the Investment-led Plan benchmarked against the benchmark CAZ (a Regional Centre Charging Class C CAZ) using government's Critical Success Factors (CSFs).
- 9.2 The primary objective of the GM CAP is to achieve compliance in the shortest possible time. This is considered to be the Determining Success Factor by which the programme is appraised.
- 9.3 The Primary Critical Success Factors were set by JAQU:
- **Reduction in NO₂ emissions:** the likelihood that the measure/option will contribute significantly to a reduction in NO₂ concentrations, enough to achieve compliance with the Legal Limit Values in the shortest possible time.
 - **Feasibility:** the likelihood of the measure being implemented in the shortest possible time to deliver the desired NO₂ reduction and achieve compliance.
- 9.4 The Secondary CSFs were developed in discussion with JAQU:
- **Strategic fit with local strategies and plans:** ensuring the alignment of the option with longer term economic, social and environmental goals and that the risk of unintended consequences is minimised.
 - **Value for money:** an indication of the costs and benefits of each option.
 - **Distributional impact:** in order to understand the potential impacts, both positive and negative on different groups within society, with a particular focus on the most vulnerable. It is of vital importance that the plan does not result in significant economic or social impacts for the region or those living, working or doing business within it.
 - **Deliverability** - A series of measures assessing the deliverability of the options, in terms of:
 - Affordability of the cost of implementation,
 - Supply-side capacity and capability
 - Achievability of delivering the option
- 9.5 The CSFs used to assess the two approaches are consistent with those used during the Outline Business Case.
- 9.6 The CSF appraisal has been conducted based on scoring of the Investment-led Plan and the benchmark CAZ against the scale criteria as set out by JAQU Option Appraisal Guidance.
- 9.7 The appraisal demonstrates that the Investment-led Plan is considered to perform better against the CSFs than the benchmark CAZ. Fundamentally, the Investment-led Plan meets the requirements of the Determining CSF: compliance in the shortest possible time, by delivering compliance in 2025. By contrast, modelled compliance is not achieved in either 2025 or 2026 under the benchmark CAZ which thus fails against the Determining CSF.

- 9.8 The Investment-led Plan performs better than the benchmark CAZ against the Primary CSFs in that it delivers greater reductions in NO₂ exceedances in each year, and does so earlier than the benchmark CAZ. However, both the Investment-led Plan and the benchmark CAZ are considered to be feasible on the basis that GM has the relevant legal powers and a clear governance route to implement either option (drawing on prior knowledge, in respect of the CAZ and the vehicle funds, assembled from the development activity undertaken on the Previous GM CAP).
- 9.9 The Investment-led Plan also performs better than the benchmark CAZ against the Secondary CSFs. It is a better strategic fit in terms of air quality and climate change (delivering greater air quality benefits), transport (providing additional ZEBs that will continue to give benefits after compliance is achieved), growth and economy (by not imposing charges on users it removes the risk of restricting growth or damaging businesses). It is better value for money than the benchmark CAZ, delivering better air quality benefits at a lower cost, and its distributional health benefits, affordability for users and quality of life impacts are preferable to the benchmark CAZ. Finally, the Investment-led Plan is considered more affordable and more deliverable than the benchmark CAZ.
- 9.10 It is for the government to determine which measures GM is to implement, however, the appraisal against the CSF framework, based on modelled outputs, has shown that only the Investment-led Plan complies with the legal requirement placed on the 10 GM Authorities by the Direction, to deliver compliance in the shortest possible time and by 2026 at the latest.

10 Next Steps

- 10.1 The next steps on the GM CAP are dependent on feedback from the government.
- 10.2 The nature and timescales of any further consultation on the GM CAP proposals will be confirmed once GM has received such feedback. The findings of any consultation will be considered in finalising the GM CAP.
- 10.3 The government revoked the direction to implement a GM-wide category C charging Clean Air Zone in February 2022. At this time the signage installation on the local road network was paused and stickers to cover the opening date were placed on the 1309 signs across GM and its boundary Authorities. The GM Authorities request that the government give urgent consideration to agree the removal of the signs given the appraisal shows that only the Investment-led Plan complies with the requirements of the Direction to deliver compliance in the shortest possible time and by 2026 at the latest.

11 Recommendations

- 11.1 The recommendations are set out at the front of the report.

12Appendix One – Appraisal Report

12.1 Attached as a supplementary paper.

13Appendix Two – Appraisal Report – Appendix 1

13.1 Attached as a supplementary paper.

14Appendix Three – Appraisal Report – Appendix 2

14.1 Attached as a supplementary paper.