

Greater Manchester's Clean Air Plan to tackle Nitrogen Dioxide Exceedances at the Roadside

Case for a New GM Clean Air Plan



Salford City Council



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APPROVED

1 Executive Summary

1.1 Background

- 1.1.1 The Government has instructed many local authorities across the UK to take quick action to reduce harmful roadside levels of Nitrogen Dioxide (NO₂) following the Secretary of State (SoS) for Environment, Food and Rural Affairs issuing a Direction under the Environment Act 1995 in 2017 requiring them to undertake feasibility studies to identify measures for reducing NO₂ concentrations to within legal limit values in the “shortest possible time”. 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).
- 1.1.2 In March 2019 the GM Authorities agreed the submission of the Outline Business Case (OBC) that proposed a package of measures that was considered would deliver compliance in Greater Manchester in the shortest possible time, at the lowest cost, least risk and with the least negative impacts. This involved a Charging Clean Air Zone Class C with additional measures.
- 1.1.3 In July 2019 the SoS issued a Direction under section 85 of the Environment Act 1995 requiring the 10 Greater Manchester local authorities to implement the local plan for NO₂ compliance for the areas for which they were responsible, including a Charging Clean Air Zone Class C with additional measures, but with an obligation to provide further options appraisal information to demonstrate the applicable class of Charging Clean Air Zone and other matters to provide assurance that the local plan would deliver compliance in the shortest possible time and by 2024 at the latest.
- 1.1.4 The SoS subsequently issued a Direction to the ten Greater Manchester local authorities in March 2020 that required them to take steps to implement the local plan for NO₂ compliance so that compliance with the legal limit for NO₂ is achieved in the shortest possible time, and by 2024 at the latest, and so that exposure to levels above the legal limit for NO₂ is reduced as quickly as possible.
- 1.1.5 A statutory consultation on the proposals took place in Autumn 2020.

- 1.1.6 The GMCA – Clean Air Final Plan report on 25 June 2021¹ endorsed Greater Manchester’s Final CAP and policy following a review of all of the information gathered through the GM CAP consultation and wider data, evidence and modelling work. Throughout the development of the previous Plan, JAQU reviewed and approved all technical and delivery submissions. The Plan was agreed by the ten Greater Manchester local authorities. Within this document, this is referred to as the Previous GM CAP.
- 1.1.7 On 20 January 2022 the Air Quality Administration Committee considered the findings of an initial review of conditions within the supply chain of Light Good Vehicles (LGVs) in particular which were impacting the availability of compliant vehicles. The Committee agreed that a request should be made to the SoS to pause 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.
- 1.1.8 On the 8th February 2022, a new Direction was issued by the SoS² which confirmed that the March 2020 Direction to implement a Class C charging Clean Air Zone (CAZ) had been revoked and required that a new plan be submitted to the SoS by 1st July 2022 which should:³
- review the measures specified in the local plan for NO₂ compliance and associated mitigation measures; and
 - determine whether to propose any changes to the detailed design of those measures, or any additional measures.
- 1.1.9 The Direction also states that compliance with the legal limit value for nitrogen dioxide is achieved in the shortest possible time and no later than 2026 and exposure to levels above the legal limit for nitrogen dioxide is reduced as quickly as possible.
- 1.1.10 Within this document, this new plan, and any subsequent further development of the new plan, is referred to as the New GM CAP.

1.2 Overview

- 1.2.1 Breathing in polluted air contributes to the equivalent of 1,200 premature deaths a year in Greater Manchester⁴. Both long- and short-term exposure to air pollution are known to adversely affect health. Some of the most vulnerable in society are hit hardest – children, older people and those already in poor health. Greater Manchester has a particular imperative to improve health, as the region has one of the lowest life expectancies at birth in England and significant health inequalities between areas.

¹ Also considered by the Greater Manchester authorities through their own constitutional decision-making arrangements.

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054931/Environment_Act_1995_Greater_Manchester_Air_Quality_Direction_2022.pdf

³ In addition to recommendations about interim arrangements for changes to delivery arrangements for the CAZ in the meantime, including signage, funding and discount/exemption applications.

⁴ Public Health England – Air Quality in Greater Manchester – from a Public Health Perspective (September 2018)

1.3 Why a New Greater Manchester Clean Air Plan?

- 1.3.1 it is proposed that the Previous GM CAP developed pre-pandemic and agreed in Summer 2021 (comprising a blanket measure across the city-region in the form of a Class C charging CAZ) is no longer the right solution to achieve compliance with Legal Limits for NO₂ on the local road network in Greater Manchester. The most significant reasons in summary are:
- The **cost-of-living crisis** means that businesses are less able to afford to invest in vehicle upgrades, whilst households are less able to absorb any costs that may be passed on to them.
 - This is exacerbated by **rising vehicle prices** and – for some vehicle types – lower residual values of non-compliant vehicles. There is evidence that illustrates the demand for new and compliant second-hand vehicles is exceeding supply; leading to longer wait times and rising prices.
 - A charging CAZ could therefore cause **unacceptable financial hardship** and potentially contribute to business failures.
 - In addition, **new opportunities have arisen** – via the approval of bus franchising and new funding for electric buses – that mean that Greater Manchester has the opportunity to directly tackle a major source of emissions in a different, more targeted way.
 - The exceedances become more localised from 2025 onwards, therefore **action can be targeted** at those locations suffering the worst air quality.
- 1.3.2 It is clear that the GM-wide Class C charging CAZ as approved in Summer 2021 could lead to hardship in Greater Manchester and that to develop and deliver a revised charging CAZ would take time to design, consult upon and implement.
- 1.3.3 Unlike the previous charging-led scheme, the New GM CAP will attend to the emerging cost-of-living crisis and other factors set out in this section. It will actively consider the impacts of Covid-19 and wider global economic instability on supply chains, aims to be delivered in 2023, and crucially takes into account the significant benefits that the delivery of electric buses can have along key routes with persistent exceedances.

1.4 Core objectives

- 1.4.1 The core objectives of the New GM CAP are as follows:
- To reduce NO₂ concentrations to below the legal limits in the shortest possible time and by 2026 at the latest;
 - Achieve compliance in a way that is fair to businesses and residents, and does not damage business or cause financial hardship to people in Greater Manchester; and

- Ensure the reduction of harmful emissions is at the centre of Greater Manchester 's wider objective for delivering the Bee Network's core objectives.

1.4.2 An investment-led non-charging GM CAP will aim to encourage upgrade to cleaner vehicles, leading to better air quality, by providing funding packages to those most polluting vehicles travelling in locations experiencing NO₂ exceedances.

1.5 Why is Greater Manchester not proposing a revised charging Plan?

1.5.1 The primary focus of the new GM CAP is to achieve compliance in a way that considers the current cost of living crisis and associated economic challenge faced by businesses and residents. Through an investment-led approach, that together with all the wider measures that Greater Manchester is implementing as part of its efforts to create a safe, integrated, clean and sustainable transport network, aims to reduce NO₂ emissions in the shortest time possible, and at the latest by 2026. Unlike the previous charging-led scheme defined by Government guidance, the investment-led non-charging GM CAP also seeks to attend to the cost-of-living crisis – through avoiding the use of charging.

1.5.2 In particular, it will actively consider the impacts of the pandemic (particularly given the shape of the remaining NO₂ problem over time) on the regional centre, where GM needs to support its ongoing recovery as a result of changes in economic activity and wider global economic instability on supply chains. The investment-led non-charging GM CAP can be delivered from 2023.

1.5.3 The updated modelling summarises the existing areas of exceedance that are likely to remain unless action is taken through the New GM CAP during the period from now until 2026. Targeting these areas of exceedance will form the basis of the New GM CAP and Greater Manchester's local authorities are now making the case to Government that this should take the form of an investment-led non-charging GM CAP, which aims to achieve compliance in the shortest possible time and by 2026 at the latest but without creating additional financial hardship for local businesses and families.

1.5.4 Without the need to mitigate a Greater Manchester-wide charging CAZ, a new investment-led non-charging GM CAP can target resources more effectively at the most persistent exceedances. For example, at the city centre locations sites that are forecast to remain non-compliant in 2025, buses account for over 70% of emissions, meaning that electric buses could be very effective in improving air quality. In contrast, Regent Road has very few buses running on it and acts as a major strategic route for commercial vehicles – with particularly high volumes of HGVs – and cars heading to the city centre and inner relief road. With supported funding through the City Region Sustainable Transport Settlement (CRSTS), targeted investment in electric bus could feasibly enable Greater Manchester to reduce the number of last exceedances. Regent Road is still expected to remain in exceedance without other action by 2026.

1.5.5 Importantly, this plan is not just a request of Government funds. Greater Manchester will also review local policy changes, such as local servicing plans, alongside regulatory measures such as licensing standards to accelerate fleet upgrades.

1.6 Nitrogen Dioxide (NO₂) exceedances forecast

1.6.1 The results of the updated modelling demonstrate there are more points of exceedance (71 to 79 in 2023) from the 'Approved GM CAP' model Do Minimum with exceedances in all districts in 2023 with the exception of Wigan. By 2025, exceedances are only predicted in Manchester, Salford, and Bury, which is consistent with the Consultation and 'Approved GM CAP' modelling scenarios. The majority of the last points of exceedance are located within the regional centre and within or near the Inner Relief Route (IRR). By 2025, there are 13 exceedances in the core scenario and 5 exceedances in the Clean Bus Fund (CBF) test which reduces to 5 sites in the core scenario and 1 site in the CBF test in 2026.

1.7 Changes to the economic context

1.7.1 The economic context in the UK has changed dramatically in the period since July 2021. A range of factors associated with the pandemic, impact from war in Ukraine, increased costs of energy and fuel, changes to Bank of England base rates and forecasts, global supply chain challenges, and the cost-of-living crisis have combined to create a context of increased financial hardship for businesses and families. UK inflation reached a 40-year high of 9% during April 2022, up from 2% in July 2021. It is widely accepted that inflation will increase to higher levels still during the remainder of 2022, with evidence already pointing to consumer demand being dampened.

- 1.7.2 Greater Manchester is not insulated from the impacts of high inflation and higher interest rates, in fact in some respects it is particularly vulnerable - noting its relatively high volume of small businesses, and a higher than average (vs.UK) proportion of residents who typically have below average disposable household incomes. Any intervention that could see businesses forced to pay additional charges and potentially pass costs on to the consumer, could have severe consequences for those groups who are already struggling to cope with the cost of living crisis. A charging CAZ could therefore cause unacceptable financial hardship and potentially contribute to business failures.

1.8 Changed conditions within the vehicle market

- 1.8.1 Research was commissioned in late 2021 to analyse and report on the market conditions. It found evidence that the used van market had materially changed, with evidence suggesting that second-hand van prices had increased by between 13% and c.60% since the modelling for the Previous GM CAP had been undertaken.
- 1.8.2 Advisors concluded that at that level, fewer van owners would choose to (or be able to) upgrade in response to the charging CAZ and that this price inflation devalues the funding offer for vans, with the Previous GM CAP being particularly sensitive to van prices given their number in Greater Manchester.
- 1.8.3 For Heavy Goods Vehicles (HGVs), the evidence illustrated that record-breaking price rises are being reported of around 40% for Euro 6 vehicles, with the price gap between Euro 6 vs 5 vehicles increasing. The price rises reflect these shortages as well as increases in the cost of materials (for new vehicles).
- 1.8.4 The evidence also illustrates that the coach sector was badly affected by the pandemic, many were forced to stop operating for long periods. Additionally, demand from tourism and events remained constrained during 2021, and the recovery is expected to be slow.
- 1.8.5 For taxis, both Hackneys and Private Hire Vehicles (PHVs), the evidence indicates that they lost a substantial proportion of their trade during the pandemic. The number of vehicles licensed has reduced and drivers report that demand has not returned to pre-pandemic levels. The number of new vehicles entering the Hackney and PHV licensed fleets was much lower than normal in 2020 and 2021, so that the age of the fleet has increased.

- 1.8.6 The air quality Do Minimum (without scheme) modelling forecast has been updated because the evidence presented to the Government in February 2022 showed that business as usual (BAU) car sales were lower than expected in 2021, meaning that the fleet was older than forecast, and that this was likely to delay compliance with legal limits of NO₂ with the scheme as planned. Additionally, a sensitivity test has been conducted to forecast the impact on bus emissions of bus retrofits and upgrades already funded and approved via the Clean Bus Fund (CBF).

1.9 Equality considerations

- 1.9.1 Under Section 149 of the Equality Act (2010), public bodies are subject to the Public Sector Equality Duty, which requires that they give due regard to the need to eliminate unlawful discrimination, harassment and victimisation, advance equality of opportunity and foster good relations between people from different groups. In terms of the New GM CAP, this will be evidenced through the development of an Equality Impact Assessment (EqIA) to identify whether people with protected characteristics could be affected by the New GM CAP disproportionately or differentially.
- 1.9.2 An initial screening has been undertaken to assess which protected characteristics are likely to be impacted by the New GM CAP, and in scope for the EqIA.
- 1.9.3 Some groups are more sensitive to changes in air quality and will therefore benefit more quickly from improvements in air quality. The five protected characteristics, identified in **Table 1** are likely to be disproportionately or differentially impacted by changes in air quality and NO₂ levels and will therefore be considered within the EqIA for the New GM CAP:

Table 1 Equality Considerations - Protected Characteristics

Protected characteristic	Likely to be disproportionately affected by improved air quality	Likely to be differentially affected by improved air quality
Age		x
Disability (includes all forms of physical and mental disability)		x
Pregnancy and maternity		x
Gender (male drivers)	x	
Race	x	
Low income / socio-economic deprivation	x	

- 1.9.4 The New GM CAP aims to reduce the health impacts of air pollution as well as reduce NO₂ concentrations to below legal limits in the shortest possible time and by 2026 at the latest whilst minimising any negative socio-economic impacts. The EqIA will consider the impact of this New GM CAP on the groups above.

1.10 Government asks

- 1.10.1 The New GM CAP includes one new specific 'ask' from Government – to remove out-of-area operation by private hire drivers/vehicles. Greater Manchester Authorities are keen to work with the Department for Transport to consider an appropriate regulatory device that would require that all private hire journeys within Greater Manchester to be undertaken by a driver and vehicle which are both licensed by one of the ten Greater Manchester local authorities. In context of the GM CAP, this measure would provide local authorities with stronger regulatory tools to improve the emission standards of all private hire fleets operating in Greater Manchester.
- 1.10.2 Greater Manchester will continue to seek to ensure that the Government takes appropriate action to address exceedances on the A57/A628 a stretch of Strategic Road network, managed by National Highways that cuts through the villages of Hollingworth and Mottram.
- 1.10.3 Under an investment-led non-charging GM CAP the ANPR cameras installed for the Class C charging CAZ could be used to inform and support the development of investment-led solutions. GM also wants to work with Government to agree the use of the GM CAP ANPR cameras to support identification of vehicles that could be upgraded, and also for potential law enforcement activity related to the detection of crime, subject to the consideration of the outcome of public consultation.

1.11 Participatory Policy Development

- 1.11.1 The approach to Participatory Policy Development will include engagement with GM based groups representing the protected characteristic groups potentially impacted by the New GM CAP.
- 1.11.2 Any plan should be developed in conjunction with the residents and businesses in Greater Manchester. The ten Greater Manchester authorities are currently working to develop the New GM CAP, in conjunction with a range of stakeholders. Further participatory approach will ensure that the New GM CAP works for the residents and businesses of Greater Manchester. Greater Manchester will test with vehicle owners their plan that where non-compliant vehicles are identified as contributing to locations where NO₂ exceedances have been modelled, Greater Manchester Authorities will have funding packages to incentivise upgrades to the cleanest possible vehicle, in order to get the greatest emissions reduction.

1.12 Next steps

- 1.12.1 Before the Air Quality Administration Committee can confirm the submission as an agreed document there needs to be an opportunity for the 'Case for a New Greater Manchester CAP' document and associated appendices attached as **Appendix A-E** to be considered, as required, through the local governance arrangements of the individual authorities. This will take place in the next month and before the next Air Quality Administration Committee who can then formally confirm the submission as final.
- 1.12.2 Following the Participatory Policy Development process, Greater Manchester will develop, assess and agree a package of measures forming a proposed New GM CAP. This package of measures will be consulted upon in early 2023.
- 1.12.3 Greater Manchester will review the responses to the consultation and make any adaptations to the proposals as necessary. It is anticipated that a decision could be made to proceed with the New GM CAP in July 2023.

2 Introduction

- 2.1.1 The Government has instructed many local authorities across the UK to take quick action to reduce harmful roadside levels of Nitrogen Dioxide (NO₂) 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).
- 2.1.2 The GMCA – Clean Air Final Plan report on 25 June 2021⁵ endorsed Greater Manchester's Final CAP and policy following a review of all of the information gathered through the GM CAP consultation and wider data, evidence and modelling work. Throughout the development of the previous Plan, JAQU reviewed and approved all technical and delivery submissions. The Plan was agreed by the ten Greater Manchester local authorities. Within this document, this is referred to as the Previous GM CAP.
- 2.1.3 On the 8th February 2022, a new Direction was issued by the SoS⁶ which confirmed that the March 2020 Direction to implement a Class C charging Clean Air Zone (CAZ) had been revoked and required that a new plan be submitted to the SoS by 1st July 2022 which should:⁷
- review the measures specified in the local plan for NO₂ compliance and associated mitigation measures; and
 - determine whether to propose any changes to the detailed design of those measures, or any additional measures.
- 2.1.4 The Direction also states that the local plan for NO₂ compliance must ensure the achievement of NO₂ compliance in the shortest possible time and by 2026 at the latest. It should also ensure that human exposure to concentrations of NO₂ above the legal limit is reduced as quickly as possible.
- 2.1.5 Within this document, this new Plan, and any subsequent further development of the new Plan, is referred to as the New GM CAP.

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

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054931/Environment_Act_1995_Greater_Manchester_Air_Quality_Direction_2022.pdf

⁷ In addition to recommendations about interim arrangements for changes to delivery arrangements for the CAZ in the meantime, including signage, funding and discount/exemption applications.

- 2.1.6 The development of the GM CAP is funded by Government and overseen by the Joint Air Quality Unit (JAQU), a joint DEFRA and DfT unit established to deliver national plans to improve air quality and meet legal limits of NO₂ concentrations. 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 test.⁸

2.2 What does this document set out?

- 2.2.1 This document sets out the case for Greater Manchester's proposal for a New GM CAP. It sets out why the ten local authorities of Greater Manchester believe that an investment-led non-charging GM CAP is the best solution to address the region's NO₂ problem, highlighting:

- A summary of the background to the GM CAP to date;
- What the Greater Manchester authorities are already doing to improve air quality through the work undertaken to date on the GM CAP and via other strategies and investments;
- How economic conditions have changed over the last year, both globally and locally, and how this has impacted Greater Manchester's residents and businesses;
- The current position and the way forward, to include a further submission to Government later in the year;
- Equality impact considerations; and
- Next steps.

- 2.2.2 This document does not provide the detailed design of a New GM CAP. In conjunction with a range of stakeholders, as detailed within **Section 15**, the ten Greater Manchester authorities are currently working to develop that detail collaboratively and will submit this to Government in due course. The collaborative approach is referred to in this document as the 'participatory policy development' approach.

⁸ The new burdens doctrine is part of a suite of measures to ensure Council Taxpayers do not face excessive increases.

3 Why are Greater Manchester and the Government taking action on NO₂?

- 3.1.1 Poor air quality has a real and significant effect on people's health. Air pollution is the largest environmental risk linked to deaths every year. Pollutants such as NO_x, principally NO₂, and PM (PM_{2.5} and PM₁₀) that are not visible to the naked eye are found at harmful levels in many urban areas across the UK and particularly on busy roads.
- 3.1.2 Breathing in polluted air contributes to the equivalent of 1,200 premature deaths a year in Greater Manchester.⁹ Both long- and short-term exposure to air pollution are known to adversely affect health. It affects people's lungs in the short and long term, worsening respiratory issues such as asthma or bronchitis, as well as cardiovascular problems, and reduces life expectancy¹⁰. Health damage caused by air pollution can begin as early as a baby's first few weeks in the womb and exposure over a long time can lead to heart and lung disease. Some of the most vulnerable in society are hit hardest – children, older people and those already in poor health.
- 3.1.3 There has been analysis conducted by the Office for National Statistics (ONS) to understand whether exposure to air pollution increases the risk of dying from Covid-19. Although there is caution expressed regarding the link between air pollution and Covid-19 and consideration of other factors, early evidence from the pandemic showed that Covid-19 deaths were more common in highly polluted areas. In total, it is estimated that the health and social care costs of air pollution in England could reach £5.3bn by 2035 unless action is taken.¹¹
- 3.1.4 Greater Manchester has a particular imperative to improve health, as the region has one of the lowest life expectancies at birth in England and significant health inequalities between areas. For example, there is an 18-year gap for men and a 13-year gap for women in healthy life expectancy across Greater Manchester when comparing those areas of highest healthy life expectancy with the lowest.¹² Low-income communities are more affected by air pollution. Achieving a major improvement in air quality across Greater Manchester will not only be important for improving human health but will also help to make Greater Manchester a more attractive place to live, visit and invest. Alongside this, there is a growing body of evidence that relates poor air quality with a secondary set of health impacts arising from spending less time outside, which can lead to more sedentary lifestyles and negative psychological effects on our mental health.¹³

⁹ Public Health England – Air Quality in Greater Manchester – from a Public Health Perspective (September 2018)

¹⁰ <https://www.local.gov.uk/air-quality-briefing-directors-public-health>

¹¹ <https://www.gov.uk/government/publications/nitrogen-dioxide-effects-on-mortality>

¹² <https://blog.policy.manchester.ac.uk/posts/2016/10/life-on-the-line-life-expectancy-and-where-we-live/>

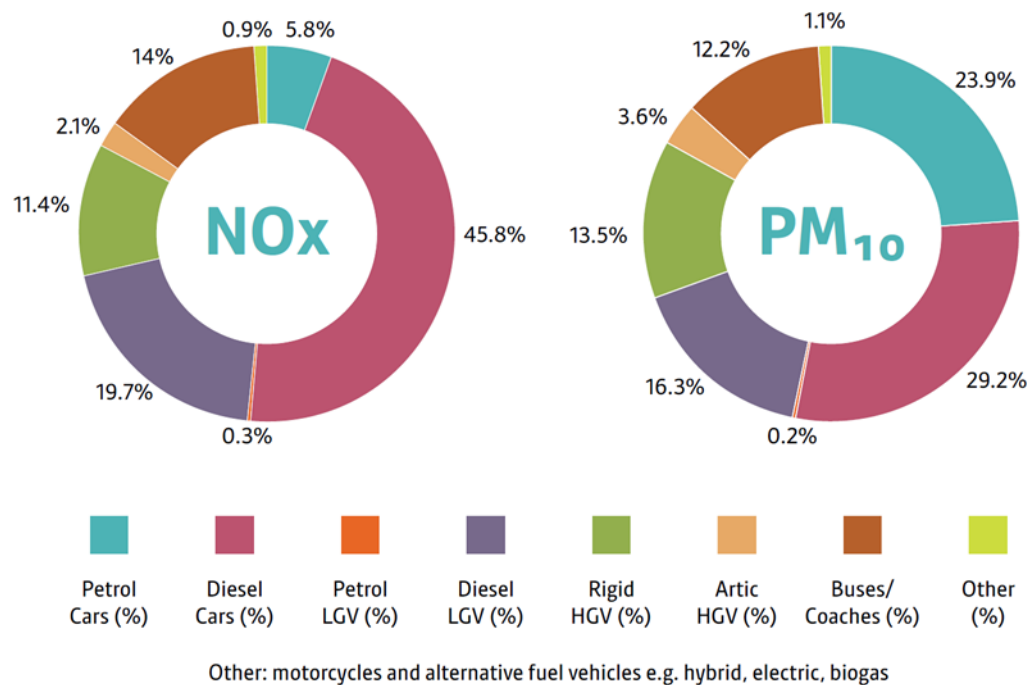
¹³ https://paa.confex.com/paa/2017/mediafile/ExtendedAbstract/Paper13493/IndividualPsychologicalDistress_April7.pdf

- 3.1.5 The people living in places with the dirtiest air are often those least likely to drive, and some of Greater Manchester's most deprived communities suffer the worst air pollution, living close to busy roads. A Public Health England review in 2019 described air pollution as the largest environmental risk to the public's health, reporting strong evidence of the association between air pollution and cardiovascular and respiratory disease and emerging evidence of other possible health effects such as dementia, low birth rates and diabetes. Around 7% of Greater Manchester's population, nearly 200,000 people, live in areas with roads that are close to or in exceedance of the Limit Value for NO₂ and many more people regularly spend time visiting these areas and travelling on these roads.
- 3.1.6 In our society, the youngest, oldest, those living in more deprived places, and those with existing heart or lung problems are at the greatest risk of developing symptoms due to exposure to air pollution.^{14,15} Greater Manchester contains some of the most deprived communities in the country, often living in urban areas with high levels of traffic. Conditions caused or exacerbated by air pollution may significantly reduce quality of life and can result in affected people being less able to work, attend education or carry out their normal daily lives. These impacts in turn widen the health inequality gap further. Further discussion of these equalities considerations is provided in **Section 13** and it is planned that a full Equalities Impact Assessment (EqIA) will be published based on the New GM CAP.
- 3.1.7 Diesel vehicles are the main source of road-based NO_x emissions in Greater Manchester, as shown in **Figure 1**, and older vehicles are typically more polluting than newer vehicles.

¹⁴ Air Quality – A Briefing for Directors of Public Health (2017), <https://www.local.gov.uk/air-quality-briefing-directors-public-health>

¹⁵ RCP and RCPCH London, Every breath we take lifelong impact of air pollution (2016), <https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution>

Figure 1 Vehicles responsible for emissions damaging to health in Greater Manchester¹⁶



¹⁶ <https://www.greatermanchester-ca.gov.uk/media/1276/low-emission-strategy-dec-2016.pdf>

4 What has led to Greater Manchester revising its approach to the GM CAP?

- 4.1.1 Since 2010, the UK has been in breach of the legal limits for concentrations of NO₂ in major urban areas. The Air Quality Standards Regulations 2010 implemented the Ambient Air Quality Directive (2008/50/EC), which sets legally binding limits for concentrations of major air pollutants that affect human health, including NO₂ and particulates, into English law, and requires the SoS to draw up and implement a national air quality plan to achieve the relevant limit within the 'shortest possible time'.
- 4.1.2 In 2015 compliance with the legal limits of NO₂ had still not been achieved. In response, the UK Government was held to be in breach of its legal obligations and was required to take action by the UK Supreme Court.
- 4.1.3 In July 2017 the UK Government published its Air Quality Plan requiring local authorities with persistent exceedances to undertake local action to consider the best option to meet the legal NO₂ Limit Value in the shortest possible time. In the same month, the SoS issued a Direction under the Environment Act 1995 requiring seven Greater Manchester local authorities to produce a feasibility study to identify the option which will deliver compliance with the requirement to meet legal limits of NO₂ in the shortest possible time¹⁷.
- 4.1.4 Oldham Metropolitan Borough Council (MBC) was not directed along with the other Greater Manchester local authorities (alongside Rochdale MBC and Wigan MBC) in 2017, however following a court ruling in 2018¹⁸ the UK Government was ordered to produce supplements to the UK 2017 Air Quality Plan.
- 4.1.5 Consequently, Oldham MBC was directed to conduct a feasibility study and provide the SoS with a document setting out the measure(s) that would achieve compliance with the Legal Limits in the shortest possible time.
- 4.1.6 In October 2018 the UK Government produced a supplemental plan,¹⁹ which acknowledged that, as Oldham MBC is part of the Greater Manchester Plan, the Oldham exceedances were being considered as part of the GM CAP. Local modelling in the Target Determination exercise also identified exceedances in Rochdale and Wigan.

¹⁷ Environment Act 1995 (Feasibility Study for Nitrogen Dioxide Compliance) Air Quality Direction 2017. Source: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/746095/air-quality-no2-plan-directions-2017.pdf

¹⁸ Client Earth (No3)) v (1) Secretary of State for the Environment, Food & Rural Affairs; (2) The Secretary of State for Transport and (3) Welsh Ministers [2018] EWHC 315.

¹⁹ Supplement to the UK plan for tackling roadside nitrogen dioxide concentrations October 2018.

- 4.1.7 The Greater Manchester authorities have collaborated on the preparation of the GM CAP since 2017, with the clear intention of securing a Plan in agreement with Government that best reflects both the impact of NO₂ roadside emissions at a city-region level and the wider strategies for social, economic and environmental improvement in Greater Manchester.
- 4.1.8 Throughout the development of the GM CAP the local authorities have made clear the expectation that the 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 England²⁰ 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 time.²¹
- 4.1.9 In March 2019, all ten Greater Manchester local authorities collaboratively submitted an Outline Business Case (OBC) for the GM CAP to JAQU outlining a package of measures (including a Class C charging CAZ) to deliver regional compliance with the Limit Value for NO₂ concentrations. The OBC and associated documentation are available to view on the Clean Air Greater Manchester website.²²
- 4.1.10 Ministerial feedback was received in July 2019 along with a further Direction under the Environment Act 1995 requiring all ten of the Greater Manchester local authorities to implement a Class C²³ charging CAZ across the region.
- 4.1.11 This was superseded by a further Direction issued in March 2020 which required the ten Greater Manchester authorities to implement the GM CAP so that:
- (a) compliance with the legal Limit Value for NO₂ is achieved in the shortest possible time and by 2024 at the latest; and
 - (b) exposure to levels above the legal limit for NO₂ are reduced as quickly as possible.

²⁰ 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.

²¹ Greater Manchester 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 CAP.

²² Accessible at: <https://cleanairgm.com/technical-documents/>

²³ The following vehicle types would be charged under a charging CAZ Class C: Buses, coaches, taxis, private hire vehicles, heavy goods vehicles, vans, minibuses. Source: <https://www.gov.uk/guidance/driving-in-a-clean-air-zone>

- 4.1.12 Throughout 2020/2021, progress was made by Greater Manchester in preparing to implement a Class C charging CAZ across the region with Government, including the procurement of operational services, operational readiness and implementation of infrastructure to support a Class C charging CAZ to be operational from 30 May 2022.
- 4.1.13 The GMCA – Clean Air Final Plan report on 25 June 2021²⁴ endorsed Greater Manchester’s Final CAP and policy following a review of all of the information gathered through the GM CAP consultation and wider data, evidence and modelling work. Throughout the development of the Previous GM CAP, JAQU reviewed and approved all technical and delivery submissions. The Previous GM CAP was agreed by the ten Greater Manchester local authorities. This included the GM CAP Policy, that outlined the boundary, discounts, exemptions, daily charges of the Class C charging CAZ as well as the financial support packages offered towards upgrading to a compliant vehicle, including the eligibility criteria to be applied with an agreement to keep funding arrangements under review. The aim of the funding was to support an upgrade to a compliant vehicle and to mitigate the negative socio-economic effects of a Class C charging CAZ.
- 4.1.14 Concurrently, Greater Manchester has already begun to implement measures to improve air quality across the city-region, launching the Clean Bus Fund and Clean Heavy Goods Vehicle (HGV) Fund in December 2020 and November 2021 respectively as well as expanding the network of Electric Vehicle chargers across Greater Manchester. Since May 2021, over 1,000 buses have been awarded funding to upgrade their vehicles by either retrofit or replacement. Additionally, over 300 HGVs have been awarded funding through the Clean HGV Fund. Greater Manchester is also implementing a number of additional schemes that will have a positive impact upon air quality across the region and further detail on this is set out in **Section 6**.
- 4.1.15 In Summer 2021 when the Previous GM CAP was agreed by the Greater Manchester Authorities, there was only evidence of a temporary disruption in vehicle supply due to the pandemic in 2020, which was assumed to be addressed by the market, with the Society of Motor Manufacturers and Traders (SMMT) predicting some level of ‘catch up’.²⁵ Greater Manchester sought a number of measures to address this, including negotiating improved vehicle replacement funding with Government in early 2021 to reflect our understanding of the impact of the pandemic at that stage.

²⁴ Also considered by the Greater Manchester authorities through their own constitutional decision-making arrangements.

²⁵ https://assets.ctfassets.net/tlpgbv1k6h2/2ZMJ3DJXiv7p3xOeZu4CYQ/247196ef60e33ac89f7f8938e1e16418/Appendix_6D_GM_proposed_approach_to_representing_the_impact_of_Covid-19_in_core_modelling_scenarios.pdf

- 4.1.16 Consultants Arup and AECOM were commissioned in late 2021²⁶ to analyse and report on the market conditions within the LGV sector in particular. The investigation found evidence that the used van market had materially changed, with evidence suggesting that second-hand van prices had increased by between 13% and c.60% since the modelling for the Previous GM CAP had been undertaken.
- 4.1.17 GM concluded that at that level, fewer van owners would choose to (or be able to) upgrade in response to the Class C charging CAZ, devaluing the funding offer for vans, with the Previous GM CAP being particularly sensitive to van prices given their number in Greater Manchester.
- 4.1.18 At the same time, in early 2022, analysis carried out as part of GM's ongoing commitment to review vehicle sales trends also found that sales of new private cars had been lower than expected in 2021, reducing the natural rate of fleet upgrade, indicating that the impacts of an older fleet of private cars based on recorded sales would be expected to lead to a delay in the predicted year of compliance for the Previous GM CAP, irrespective of any other changes to the assumptions.
- 4.1.19 GM concluded that independently either factor could be sufficient to delay compliance beyond 2024 and that this risk would be amplified if both factors are occurring simultaneously. In light of the above, the Greater Manchester Air Quality Committee requested that the SoS agreed to pause opening of the next phase of the Clean Air Funds at the end of January 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.
- 4.1.20 Following this, the Greater Manchester Mayor met the SoS for Environment to relay the issues set out above and the formal request for suspension. It was agreed that further evidence would be shared between officials and a report was prepared by Greater Manchester, *Issues Leading to Delayed Compliance Based on the Approved GM CAP Assumptions*.²⁷
- 4.1.21 This report was shared with JAQU on 2 February 2022. It concluded that the Previous GM CAP could no longer be expected to achieve compliance in 2024.
- 4.1.22 On 4 February 2022 Jo Churchill, Parliamentary Under-SoS at the Department for Environment, Food and Rural Affairs, Andy Burnham, Mayor of Greater Manchester and Cllr Andrew Western, GMCA portfolio lead for clean air met to find a solution. Subsequently, a new Direction was issued to Greater Manchester, requiring a review of the GM CAP with any revised proposals to achieve compliance in the shortest possible time and by 2026 at the latest.²⁸

²⁶ https://democracy.greatermanchester-ca.gov.uk/documents/s18685/ARUP_Technical_Note.pdf

²⁷ https://democracy.greatermanchester-ca.gov.uk/documents/s19330/Appendix_3_Issues_leading_to_delayed_compliance_report.pdf
(greatermanchester-ca.gov.uk)

²⁸ [The Environment Act 1995 \(Greater Manchester\) Air Quality Direction 2022 \(publishing.service.gov.uk\)](#)

4.1.23 This new (2022) Direction revoked the Direction dated March 2020 which required the ten Greater Manchester local authorities to implement a Class C charging CAZ so as to achieve compliance with the legal Limit Value for NO₂ in the shortest possible time and by 2024 at the latest.²⁹

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²⁹ [Appendix 2 - 200316 Greater Manchester NO2 Plan Direction.pdf \(greatermanchester-ca.gov.uk\)](#)

5 What has changed since Summer 2021?

- 5.1.1 The Previous GM CAP was developed based upon the best evidence available at the time and following prescribed Government guidance. After the initial OBC submission, a series of technical notes were published setting out the results of analysis and research carried out to better understand the vehicles in scope for the scheme. This evidence formed the basis of the development of the Option for Consultation.
- 5.1.2 From March 2020, it became clear that the pandemic would affect the GM CAP; a programme of work was carried out in 2020/2021 to better understand the possible impacts of the Covid-19 pandemic on the Plan, published as the *Impacts of Covid Report* in June 2021.³⁰ This evidence, alongside feedback from the Consultation, was used to inform the GM CAP following consultation as approved by the ten Greater Manchester local authorities in June/July 2021.
- 5.1.3 At that time, Greater Manchester identified a number of possible risks to the GM CAP, which included concerns about the risk of vehicle price increases and the impact of any further lockdowns in the UK or countries in the supply chain. To evaluate the case for a New GM CAP, analysis into the changed economic environment has been conducted to determine whether the Previous GM CAP remains fit for purpose (**Appendix E**). Additionally, a series of vehicle evidence papers have been developed, as set out in **Appendix A to D**, to evaluate the ability of affected vehicle owners to upgrade their vehicles following the impacts on the global supply chain and the cost-of-living crisis.

5.2 Economic context

- 5.2.1 The economic context in the UK has changed dramatically in the period since July 2021. A range of factors associated with the pandemic, global supply chain challenges, and the cost-of-living crisis have combined to create a context of increased financial hardship for businesses and families. As a result of these changed conditions since Summer 2021 and the Previous GM CAP, Greater Manchester has undertaken research to understand the size and scale of the impacts. It should be noted that these factors continue to evolve, and the economic forecast is currently extremely difficult to predict. These levels of uncertainty only exacerbate the negative impact on businesses and households.
- 5.2.2 A summary of the outcomes of this research are set out as follows:
- National / international drivers;
 - Regional (North West) drivers; and
 - Factors specific to Greater Manchester.

³⁰ Accessible at: <https://cleanairgm.com/technical-documents/>

(1) National / international drivers

War in Ukraine (commenced late February and on-going)

5.2.3 Global inflationary pressures have intensified sharply following Russia's invasion of Ukraine. This has led to a material deterioration in the economic outlook for world and UK growth.³¹ In addition, Consumer Price Index inflation is expected to rise further over the remainder of the year, to just over 9% in 2022 Quarter 2 and averaging slightly over 10% at its peak in 2022 Quarter 4.³²

5.2.4 The war in Ukraine is also influencing the cost of energy and food as summarised below:

- Russia is a prominent exporter of energy, producing 17% of the world's natural gas supply and 12% of its oil³³. 8% of UK oil demand is directly imported from Russia, this is to be phased out by end of 2022, a move which could serve to place extra stress on prices; and
- Russia and Ukraine are major agricultural exporters in grain, impacting food community prices with a 30% increase in the price of wheat and c.20% in the price of maize/corn since the war started.^{34,35}

Increases in the cost of energy

5.2.5 The energy price cap calculated by Ofgem increased by 12% in October 2021 to £1,277. Additionally, an increase to the price cap in April 2022 resulted in approximately 17 million households seeing their annual bill raise by 54% to £1,971, equating to a £693 increase (difference due to rounding). A further increase to the price cap is expected in October 2022 of c.£700-£850.³⁶

5.2.6 Unlike residential households, businesses on commercial energy tariffs are not protected by any price cap and tariff prices have been rising in reaction to the spike in wholesale energy prices around the world. Small businesses have a greater tendency to operate on tighter margins and have cashflow restrictions and are therefore more susceptible to increases in running costs. Furthermore, they are more likely to be forced to pass on their running cost increases to consumers through price hikes, just in order to survive. This has potential to put them at a competitive disadvantage.

³¹ <https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-summary-and-minutes/2022/monetary-policy-summary-and-minutes-may-2022.pdf>

³² <https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/april2022>

³³ <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/country-and-regional-insights/russia.html>

³⁴ <https://www.fao.org/3/cb9236en/cb9236en.pdf>

³⁵ <https://tradingeconomics.com/commodities>

³⁶ https://obr.uk/docs/dlm_uploads/CCS0222366764-001_OBR-EFO-March-2022_Web-Accessible-2.pdf

Increases in the cost of fuel for motorists

- 5.2.7 Fuel prices have risen by 42% for petrol and 44% for diesel vehicles between July 2021 and June 2022, costing consumers an additional £0.55 for petrol and £0.59 for diesel per litre³⁷. Fuel price increases will particularly affect vehicle-operating businesses with high mileage such as the logistics and delivery sectors, with press reports that the annual cost to fuel an HGV has risen up to £20,000 per year.³⁸

Increasing cost of food and other products

- 5.2.8 Inflationary pressures have pushed up grocery prices by an additional £271 (5.9%) for each household per year.³⁹ This is likely to have a disproportionate impact on the poorest in society with their ability to absorb any additional costs comparatively diminished.

Ongoing global impacts of Covid-19

- 5.2.9 Shanghai, which is home to the world's largest container port, has been the subject of city-wide lockdown during April 2022 related to the Omicron variant. Global supply chains that were already stretched are being hampered further⁴⁰.
- 5.2.10 The global semi-conductor shortage is still impacting consumer products with retailers expected to increase costs.⁴¹ Intelligence from the Bank of England's Agency network suggests that shortages of semi-conductors have been exacerbated by recent lockdowns in China. Contacts also reported difficulties in obtaining components and other inputs owing to the war in Ukraine, and were seeking alternative suppliers or running down existing stockpiles to support output.⁴²

How the impact of inflation is distributed across society

- 5.2.1 Evidence from an independent think tank, the Resolution Foundation, has stated that the poorest tenth of households (by income) spend three times as much as a share of expenditure on gas and electricity bills as the richest tenth. This means the lowest income tenth of people are facing an inflation rate at least 1.5 percentage points higher than the richest tenth. The Bank of England has warned the UK could see double-digit inflation later this year.⁴³

³⁷ <https://www.rac.co.uk/drive/advice/fuel-watch/>

³⁸ <https://www.bbc.co.uk/news/business-61716039>

³⁹ <https://www.kantar.com/inspiration/fmcg/2022-wp--uk-shoppers-look-out-value-as-grocery-inflation-hits-11-year-high>

⁴⁰ <https://www.controlrisks.com/our-thinking/insights/china-lockdowns-prompt-domestic-shortages>

⁴¹ <https://www.popsci.com/technology/global-chip-shortage/>

⁴² <https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2022/may/monetary-policy-report-may-2022.pdf>

⁴³ <https://www.resolutionfoundation.org/publications/cap-off/>

Interest Rate Changes

- 5.2.2 In response to rising inflation, the Bank of England has increased interest rates from 0.25% in January 2022 to 1.25% in June 2022. This has had a direct impact on the cost of borrowing with rates on lending to small and medium-sized enterprises rising by around 110 basis points between January and March this year and are now slightly above their 2019 levels. While larger firms' ability to access credit is broadly unchanged, credit conditions have tightened slightly for smaller firms since January 2022.⁴⁴

Removal of Government Covid-support schemes

- 5.2.1 The UK Government has withdrawn funding for Covid-19 support schemes such as the job retention (furlough) scheme, enhanced sick pay, business rates pauses, and the Universal Credit uplift across end of 2021 and Q1 of 2022.^{45,46}

Revised Projections for UK GDP Growth

- 5.2.2 The Bank of England estimates that quarterly UK Gross Domestic Product (GDP) growth was 0.9% in 2022 Q1. Growth slowed sharply over the first half of the year, reflecting the significant adverse impact of higher global commodity and tradable goods prices on UK demand. GDP is projected to fall in 2022 Q4, driven largely by the decline in households' real incomes, including that stemming from the projected rise of around 40% in retail gas and electricity prices when the Ofgem price caps are next reset in October. Calendar year GDP growth is forecast to be broadly flat in 2023. Q4 GDP growth picks up to around 0.75% by the end of 2023 as the pressures on household incomes ease somewhat, although this is still below pre-pandemic rates.⁴⁷

(2) Regional (North West) drivers

- 5.2.3 Regionally, the biggest driver in terms of the economic factors that influence the GM CAP, is the labour market, which shows a mixed picture as the economy recovers from the Covid-19 pandemic.
- 5.2.4 Whilst labour market data released by the ONS showed that the employment rate in the North West continued to fall, with the gap between the North West and the UK at its widest in two years in the Jan-March 2022 data (a gap of 2%). Nationally, the employment rate for the UK was 75.7% - up from 75.5% in the three months to February. The North West therefore seems to be on a different trajectory from wider UK patterns.⁴⁸

⁴⁴ <https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2022/may/monetary-policy-report-may-2022.pdf>

⁴⁵ <https://commonslibrary.parliament.uk/examining-the-end-of-the-furlough-scheme/>

⁴⁶ <https://www.gov.uk/guidance/claim-back-statutory-sick-pay-paid-to-employees-due-to-coronavirus-covid-19>

⁴⁷ <https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2022/may/monetary-policy-report-may-2022.pdf>

⁴⁸ <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/regionallabourmarket/latest>

- 5.2.5 An increase in working age economic inactivity has attracted national attention. In the North West of England, the Covid-driven rise is more marked than the national average. As well as the inactivity rate returning to a pandemic high of 23.5% in the most recent data, the gap with the UK has widened once more (2.1ppts).⁴⁹

(3) Factors specific to Greater Manchester

Greater Manchester business composition

- 5.2.6 Based on 2021 data, Greater Manchester has more small businesses (+c.15,000) compared to other areas of comparable total and working age populations such as the West Midlands.⁵⁰

Outlook for Greater Manchester businesses

- 5.2.7 A report by the Growth Company in May 2022 collated 246 surveys with businesses (almost all who responded were based in Greater Manchester) undertaken during April 2022.⁵¹ The report stated that a growing concern was the proportion of businesses facing business finance challenges (43% vs 33% March 2022) and increasingly impacted by the rising costs of raw materials - April 2022 reported a value of 28% vs. 16% for July 2021.
- 5.2.8 Recruitment has been a key challenge for businesses, with total vacancies across all sectors having been at high levels over 2021/2022 – resulting in some businesses facing significant challenges in staffing their operations - Manchester Airport being a key example. Transport operators such as bus, coach and taxi operators have faced driver shortages as the economy emerges out of the pandemic. This has in part been driven by an increase in economic inactivity brought about by the pandemic with the size of the workforce available to Greater Manchester businesses likely having shrunk (in the North West during Jan-March 2022 the working age inactivity rate (the number of people who are not in work and not looking for a job) was 23.5% vs. a national inactivity rate of 21.4% - this is higher than it was at the beginning of 2020).⁵²

Wages in Greater Manchester

- 5.2.9 Median pay in Greater Manchester is over £100 a month below the UK median based upon ONS 'experimental' data (note: this data is unadjusted for inflation and indicates the trend only).⁵³ The wage gap was at its widest in January of 2022 (£127 a month).

⁴⁹

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/regionallabourmarket/latest>

⁵⁰ <https://www.nomisweb.co.uk/sources/ukbc>

⁵¹ <https://www.businessgrowthhub.com/coronavirus/business-survey>

⁵²

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/may2022>

⁵³

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/realtimeinformationstatisticsreferencetableseasonallyadjusted>

Understanding the Greater Manchester residential population

- 5.2.10 53% of Greater Manchester's residential population is classified as either 'Financially Stretched'⁵⁴ or 'Urban Adversity'⁵⁵ based on the Acorn segmentation tool categories, whereas across the UK this figure stands at just 40%. This disparity demonstrates the comparative economic vulnerability of the Greater Manchester population to inflation associated with non-discretionary spend.⁵⁶
- 5.2.11 For 'Financially Stretched' and 'Urban Adversity' households, disposable income is typically well below average, and often below £10,000. This means that those with limited disposable income are likely to be even more vulnerable to any costs that may be passed onto them. It also serves as a reminder that Greater Manchester businesses that predominately serve local markets could be particularly vulnerable to weakening consumer demand.
- 5.2.12 Launched in October 2020 during the Covid-19 pandemic, the Greater Manchester Independent Inequalities Commission undertook a six-month analysis of inequalities across the city region, resulting in the *Good Lives for All in Greater Manchester report*.⁵⁷ Amongst the findings, the report highlights the health inequalities experienced across the city region and recommended that wellbeing and equality goals sit at the heart of the Greater Manchester Strategy, and that universal basic services are accessible to the most disadvantaged groups. The findings of the report will inform the planned EqIA for the New GM CAP.

Economic conditions summary

- 5.2.13 UK inflation reached a 40-year high of 9% during April 2022, up from 2% in July 2021. It is widely accepted that inflation will increase to higher levels still during the remainder of 2022, with evidence already pointing to consumer demand being dampened. Inflationary pressures are already having a significant impact on household bills with the average annual grocery bill on course to rise by £380 according to research conducted by Kantar.⁵⁸
- 5.2.14 Greater Manchester is not insulated from the impacts of high inflation, in fact in some respects it is particularly vulnerable - noting its relatively high volume of small businesses, and a higher than average (compared to the UK) proportion of residents who typically have below average disposable household incomes.

⁵⁴ This category contains a mix of traditional areas of Britain. Incomes tend to be well below average. Although some have reasonably well paid jobs more people are in lower paid administrative, clerical, semi-skilled and manual jobs. Apprenticeships and O levels are more likely educational qualifications. Unemployment is above average as are the proportions of people claiming other benefits.

⁵⁵ This category contains the most deprived areas of large and small towns and cities across the UK. Household incomes are low, nearly always below the national average. The level of people having difficulties with debt or having been refused credit approaches double the national average. The numbers claiming Jobseeker's Allowance and other benefits is well above the national average. Levels of qualifications are low and those in work are likely to be employed in semi-skilled or unskilled occupations.

⁵⁶ Source: Acorn 2021. CACI Limited. The applicable copyright notices can be found at <http://www.caci.co.uk/copyrightnotices.pdf>

⁵⁷ <https://www.greatermanchester-ca.gov.uk/media/4605/the-next-level-good-lives-for-all-in-greater-manchester.pdf>

⁵⁸ <https://www.kantar.com/uki/inspiration/fmcg/2022-wp-uk-grocery-bills-to-rise-by-380-per-year-but-inflation-fails-to-dampen-jubilee-joy>

- 5.2.15 The Bank of England has already responded by increasing the base rate to 1.25% (up from 0.1% in July 2021) - signalling that further rate rises are likely. This in turn will increase the cost of borrowing to both businesses and residents who require finance and are not protected by fixed rates. Meanwhile the Bank of England's Monetary Policy Report (May 2022) points to an expectation that GDP will fall in Q4 2022 and may be 'broadly flat' during 2023.
- 5.2.16 In summary, any intervention, such as a charging CAZ, that could see businesses forced to pay additional charges and potentially pass costs on to the consumer, could have severe consequences for those groups who are already struggling to cope with the cost of living crisis.

5.3 Vehicle sector impacts

- 5.3.1 Greater Manchester has undertaken research to understand the changed conditions within the vehicle market and subsequent impacts from the economic factors, as discussed in **Section 5.2**, and lasting impacts from the Covid-19 pandemic. The research has been structured into a set of vehicle evidence papers which are provided within **Appendix A – D** and include total vehicle numbers, vehicle type apportionment and non-compliant proportions. The findings are summarised below:

LGV

- 5.3.2 A summary of the LGV sector impacts has been provided below:
- Pre-pandemic, there was significant growth in LGV mileage and LGV stock over a number of years and the expectation was that both growth trends would continue.
 - However, whilst the early phases of the pandemic and subsequent lockdowns and restrictions in 2020 constrained demand, it appears that this effect was temporary and has been offset by growth in demand from some LGV-owning sectors.
 - The pandemic had a major impact on the number of new LGVs sold in the UK, initially due to the halting of production lines and local lockdowns around the world.
 - Whilst new LGV sales recovered to some extent in 2021, they are still not back to 2019 levels and so there is a substantial 'lost supply' that has not been recovered equating to 80,000 vehicles on a conservative assumption that 2019 levels had been maintained.
 - The global semiconductor (an element of electronic circuits) shortage has also impacted the automotive industry and its effects are ongoing.
 - The industry is reporting significant supply issues with extended lead times for new orders.

- It is anticipated that the introduction of CAZs at particular locations in the UK will introduce some regional disparity in terms of the availability of certain vehicles and place additional demand pressure on the market in general.
- Reliable data on the variation in the price of new LGVs as a consequence is not available as it is commercially sensitive.
- There is substantial evidence of significant price increases in the second-hand LGV market – the scale of those rises has a high degree of variability depending on the particular vehicle. The extent of the reported rise varies between 13% and almost 60%.
- Overall, the evidence suggests that demand for new and second-hand LGVs remains strong, and therefore that the loss of supply caused by lockdowns in 2020 and more recently by the semiconductor shortage is leading to price rises in the new and second-hand markets, and to long lead times for new vehicle orders.

HGV

5.3.3 A summary of the HGV sector impacts has been provided below:

- Whilst HGV traffic was significantly reduced in the early lockdown of spring 2020, the overall volume and usage of HGVs recovered quicker than other modes and has generally returned to pre-pandemic levels.
- HGV purchasing patterns were atypical in 2019 and 2020 as a result in a change in regulation, which meant that 2019 saw much higher than normal HGV sales as vehicle owners brought forward sales to avoid the impact of new vehicle regulations. Therefore, sales in 2020 were expected to be lower than normal and it is difficult to disaggregate this impact from that of the pandemic. Overall, between 2019 and 2020, sales were similar on average to sales in previous years.
- The HGV sector is experiencing significant issues in relation to demand and supply of new vehicles. HGV production has been hampered by the shortages in components, particularly semi-conductors. This shortage has impacted on the ability of manufacturers to meet the increased demand as demand from some sectors grows and the requirement to 'catch up' with lower production in Q2 2020. The issue is so significant that some major manufacturers are not taking new orders for this year.
- Significant price increases have been observed, particularly in the second-hand compliant market. For new vehicles, the more significant issue is availability and lead times as noted above.

- Whilst the situation is fluid, responses from vehicle manufacturers and dealerships suggest that the issue will not be resolved until 2023. This means that higher prices for new and used vehicles and a lack of availability of HGVs are likely to continue throughout 2022.

Taxi (Hackney Carriage and Private Hire Vehicle (PHV))

5.3.4 A summary of taxi sector impacts has been provided below:

- Industries served by the taxi industry have suffered heavily through Covid-19. Leisure trips comprised of over half of all taxi journeys in 2019 with Government restrictions having a significant impact on the leisure market, particularly bars, pubs, restaurants and nightclubs. Equally, other important taxi markets have been constrained during the pandemic, stemming from Government restrictions on commuting, shopping and tourism. Emerging from the pandemic, taxis are older and more non-compliant than previously assumed and there are fewer taxis and taxi drivers operating in Greater Manchester compared to pre-pandemic levels.
- The number of new Greater Manchester-licensed Hackney Carriages and PHVs was significantly lower during the pandemic compared to pre-pandemic levels. The number of Greater Manchester licensed taxis decreased from 2019 to 2022 by 5.4% for PHVs and 7.7.% for Hackney Carriages.
- The average age of Hackney Carriages and PHVs has grown older in 2020 and 2022 compared to pre-pandemic levels (2019) with taxi fleets estimated to be one year older than pre-pandemic.
- There has been no significant shift in fuel types for Hackney Carriage with 89% still fuelled by diesel. However, there has been a shift from diesel to hybrid-electric for PHVs, rising from 14% in 2019 to 29% in 2022. The EV uptake remains very low at less than 1% for both Hackney Carriages and PHVs.
- Hackney Carriages, in particular, are likely to have faced a more significant impact from the Covid-19 pandemic, compared to PHVs, due to their dependency on Manchester City Centre where sectors have been hit the hardest. Both Hackney Carriage and PHV owners are likely to have lower cash reserves to upgrade their vehicles than prior to the pandemic.
- Hackney Carriages are older, more non-compliant and are being upgraded at a slower rate compared to PHVs.

- The ability for Hackney Carriage owners to upgrade their vehicles is likely to be more constrained compared to PHV owners due to the higher cost of replacement vehicles and the likelihood of more substantive Covid-19-related impacts. However, there is some evidence to suggest that whilst Hackney Carriage vehicle prices are stable, and even falling for certain vehicle types (although this is based on very limited evidence), the vehicle prices for new and second-hand compliant PHVs are increasing in-line with rising wider car market vehicle prices. For example, Toyota models increased in price by 21% in 2022 compared to 2019 prices and Skoda Octavia prices increased by 14% in 2022 compared to 2019 prices.

Coach/Minibus

5.3.5 A summary of the coach and minibus sector impacts has been provided below:

- The first UK national lockdown in March 2020 had a significant impact on the coach and minibus market, with many coach and minibus operators either having to stop their services altogether or only operate at a significantly reduced capacity.
- Coach operators can be categorised as offering three types of services:
 - Special regular services (e.g. school travel provision);
 - Regular services; and
 - Occasional services, for example for tourism, leisure and events.
- Other than school services, which are largely back to normal, the ongoing impact on the coach market is dependent on how soon tourism and general travel returns to 'normal' levels. At the present time, that remains uncertain though there has been a general increase in leisure travel in recent months.
- Low margin or not-for-profit minibus operators, such as charity transport providers, rely on customers in order to operate and are likely to have reduced demand during the pandemic due the customers they serve being older and government restrictions, reducing already limited cash reserves to upgrade their vehicles.
- The impact of the pandemic has generally reduced prices for both new and second-hand coaches due to the reduced demand in the sector.
- Conversely the price of new and second-hand minibuses has increased other than for second-hand non-compliant vehicles.

- There is a wider range of organisations / businesses that use minibuses. Local authority, community transport and education related are all likely to be relatively unaffected as they are less demand dependant. But local bus and coach operators and leasing companies will be subject to the same travel demand uncertainties associated with the bus and coach sector.

Conclusion

- 5.3.6 Current economic conditions present new challenges, requiring changes to the GM CAP necessary to mitigate against additional costs to Greater Manchester residents and businesses. Since the Previous GM CAP, agreed in Summer 2021, external factors associated with the pandemic, global supply chain challenges, and the cost-of-living crisis are resulting in additional financial challenges for local residents and businesses.
- 5.3.7 In particular, rising inflation, falling consumer confidence, lack of GDP growth and rising cost of borrowing mean that Greater Manchester's businesses and households are more vulnerable to the impact of increased costs and less able to invest in vehicle upgrades than in July 2021. This has been exacerbated by rising vehicle prices and constraints on the supply of new vehicles, with demand for compliant second-hand vehicles outstripping supply in many sectors.
- 5.3.8 For some sectors, the pandemic is still affecting their businesses with demand not having returned to pre-pandemic levels.
- 5.3.9 Overall, it is clear that current economic conditions mean that imposing a charging CAZ would be an additional cost for local residents and businesses at a time of existing financial challenges, and could potentially lead to job losses and business closures.

6 What is Greater Manchester already doing about poor air quality?

6.1.1 This section sets out:

- What the GM CAP has already delivered to improve air quality; and
- Other ways Greater Manchester is investing in schemes and action to deliver air quality improvements.

6.1.2 Some, but not all, of these developments have occurred since the Previous GM CAP was originally approved in Summer 2021. Therefore, this wider action needs to be taken into account when considering an appropriate New GM CAP for the region.

6.2 What has the GM CAP delivered already?

6.2.1 The GM CAP has already taken steps to improve air quality across the city-region, launching the Clean Bus Fund and Clean HGV Fund in December 2020 and November 2021 respectively. As of May 2022, over 1,000 buses have been awarded funding to upgrade their vehicles. Additionally, over 300 HGVs have been awarded funding through the Clean HGV Fund. This has been supplemented by £3.5m of GM CAP funding to deliver a 30 rapid charging points to encourage the transition to Zero Emission Capable vehicles with installation due to commence in late 2022 and continue throughout 2023.

6.2.2 Greater Manchester has secured £3m of early measures funding in advance of submitting the GM CAP. These funds are being used to promote electric vehicles (EVs) and cleaner choices – this includes:

- **The installation of EV charging points:** These funds are being used for the installation of 24 dual-headed rapid EV charging points. The project is nearing completion with 22 charging points having been installed since 2019 up to May 2022, including the first dedicated taxi charging point. The remaining charging points are scheduled to be complete in 2022. The Greater Manchester Electric Vehicle network, comprising approximately 140 charging points, has transitioned to the Be.EV network, an electric vehicle charging infrastructure provider appointed by TfGM. A taxi membership scheme and EV tariff was introduced in October 2021;
- **Promotion of EVs:** Early measures funding has also been used to promote the use of EVs, EV charging and Greater Manchester's expanded publicly owned network; and
- **Communications campaign:** A communications campaign was delivered to support the wider GM CAP by raising awareness of the need to clean up our air and promote alternative travel options.

6.3 What else is Greater Manchester doing to tackle poor air quality?

- 6.3.1 Over the past decade, investment by Greater Manchester in public transport has been second only to London. Using a blend of funding sources, both local and national, Greater Manchester has delivered a range of key transport infrastructure projects that have helped drive Greater Manchester's regional and local economies. These include Metrolink expansion and improvements, bus priority, smart ticketing and information systems, park and ride sites across the conurbation, channelling investment of around £200m each year to radically enhance clean public transport.
- 6.3.2 This built on the ground-breaking £1.5bn Greater Manchester Transport Fund, which paid for the significant expansion of the zero-emission Metrolink network, the Leigh-Salford-Manchester guided busway, as well as key transport interchanges, supporting town centres and regeneration efforts across the conurbation.
- 6.3.3 Greater Manchester have been awarded around £1.2bn through the CRSTS, which will further expand and integrate the network, focusing on improvements to bus routes, funding zero emission fleets and providing further investment in Greater Manchester's rapidly expanding cycling and walking network.
- 6.3.4 Investment in upgrading buses to zero emission standard has been secured through the Zero Emission Buses Regional Area (ZEBRA) Scheme. £35.8m of funding has been awarded after a joint bid to the DfT submitted by GMCA, TfGM, Stockport Council and Stagecoach Group PLC. The ZEBRA funding will be matched by £37.8m of funds from Stagecoach and topped up with £12.5m from GMCA and will support the introduction of 170 zero emission buses running from Stockport by 2024. This equates to 10 per cent of the whole bus fleet in Greater Manchester.
- 6.3.5 Greater Manchester will be bringing buses back under local control for the first time in the City Region since de-regulation in 1986.⁵⁹ The GMCA will introduce a fully franchised system across three phases starting in 2023. From the two rounds of consultation, 86% of responses to the first consultation period supported the franchising scheme with 82% for the second consultation period from more than 12,500 responses.
- 6.3.6 The ability for Greater Manchester to operate a franchised bus system will allow the GMCA / TfGM to directly control bus emission standards for the first time, for example, enabling the transport authority to direct the exclusive use of zero emission buses along particular corridors or within defined geographical areas where there may be specific air quality issues that need addressing.

⁵⁹ <https://www.gmconsult.org/strategy-team/greater-manchester-bus-consultation/>

6.3.7 From September 2023, Greater Manchester is also planning to introduce 50 new zero emission buses into service with the launch of the Area 1 Bus Franchise in Wigan and Bolton.

6.3.8 Greater Manchester has consistently used its available transport funding to improve public transport and active travel options, thereby encouraging people to travel more sustainably. Greater Manchester works to maximise all opportunities to access funding for the region to make it easier and more appealing to travel by transport choices with lower emissions per person including public transport, bike or on foot. In particular:

- **Transforming Cities Fund 1:** Delivering £160m of major walking and cycling improvements across Greater Manchester, supported by an additional £40m Cycle City Ambition Grant, as well as £83m towards 27 new Metrolink trams and supporting infrastructure, which started to come into service in 2021.
- **Transforming Cities Fund 2:** In the 2018 Autumn budget, Greater Manchester was granted an additional £69.5m (to be spent by 2023). The intention is to prioritise this funding to deliver on improving public transport provision for both existing communities, and housing and employment growth areas identified in the Places for Everyone (formally Greater Manchester Spatial Framework) . In January 2021, GMCA announced the scheme prioritisation for investment including £15m for a new rail station at Golborne, £10m for Quality Bus Transit schemes, £10m contribution to the Greek Street Bridge project in Stockport and £2m for a travel hub (including Park & Ride provision) at Tyldesley. This fund has been incorporated into the City Region Sustainable Transport Settlement Fund.
- **Active Travel Fund:** Greater Manchester has been awarded £15.97m, as part of the £2bn Government fund, to deliver 24 miles of cycling and walking routes and dozens of new neighbourhood interventions. The Fund has been used to sustain the unprecedented levels of walking and cycling, attributed to the impacts of the Covid-19 pandemic, delivering measures across Greater Manchester. The schemes include:
 - 'School Streets', where streets around schools are closed to motorists at school times
 - Active neighbourhoods, where residential side streets are closed to through traffic to stop rat-running
 - Segregated cycle lanes
 - Pedestrian improvements

- **Growth Deal:** Delivering over £400m of improvements through schemes such as Stockport Town Centre Accessibility Improvements, Salford Bolton Network Improvements and Ashton-under-Lyne Interchange. Delivery of the Ashton-under-Lyne Interchange has been completed alongside a number of key centre transport improvements. Going beyond the levels agreed with Government, Growth Deal investment in Greater Manchester is expected to deliver 7,000 jobs and £364m in private sector investment in the next few years.
- **City Region Sustainable Transport Settlement:** On 20 July 2021, DfT issued the guidance for the renamed Intra-City Funding Settlement, now City Region Sustainable Transport Fund (CRSTF) and Settlement (CRSTS) process, which will combine certain elements of existing capital funding (including the Integrated Transport Block, Maintenance Funding, and future years Transforming Cities Funding) in addition to the new £4.2 billion. On 10th September, GMCA approved the submission of the Prospectus based upon the upper bound guideline of £1.19bn for government consideration as part of the 2021 Spending Review process. On 22 November 2021, the Secretary of State wrote to the Greater Manchester Mayor to say that GMCA had been allocated an indicative £1.07 billion of capital funding conditional on the submission of a programme business case by the end of January 2022, noting that initially the Secretary of State letter requested submissions by January, which were submitted to government on 31st January 2022. On 1st April 2022, the Secretary of State wrote to the Greater Manchester Mayor to confirm that Greater Manchester would receive the full amount of the indicative allocation of £1.07bn, subject to agreeing to a series of conditions and the final scheme list.⁶⁰
- **Clean Bus Technology Fund:** Greater Manchester also secured c.£6m from the Clean Bus Technology Fund (CBTF) to upgrade the local bus fleet, targeted at air quality hotspots. The CBTF provides support to operators to retrofit their vehicles as follows:
 - 280 buses have been awarded retrofit funding at a total cost of £4.26m; and
 - The remaining £1.73m of funding is currently planned to be distributed through the GM CAP as part of proposals to support bus operators.

6.3.9 Greater Manchester has recently been successful in securing further funding to support the delivery of a low emission bus and taxi fleet:

⁶⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1066118/crstf-funding-settlement-letter-for-greater-manchester-1-april-2022.pdf

- **Office for Zero Emission Vehicles (OZEV):** £1.8m of funding has been secured to deliver 30 dual-headed rapid charging devices installed across Greater Manchester for primary use by Hackney Carriages and private hire vehicles (PHVs). This will be supported by local match-funding of circa £600k. This has been combined with £3.5m of GM CAP funding to deliver a further 30 rapid charging points. A total of 60 dual-headed charging points will be delivered through the project, across the 10 Local Authorities. Feasibility studies have been completed and work on detailed design has commenced. Installation is due to commence in late 2022 and continue throughout 2023.
- **Zero Emission Buses Regional Area (ZEBRA) Scheme:** GMCA was awarded £35.7m in March 2022 for the replacement of 170 diesel buses that operate from Stockport Bus Depot to Zero Emission technology, by Spring 2024.
- **City Region Sustainable Transport Settlement for Zero Emission Buses:** £115m of funding has been secured and TfGM is currently developing detailed plans for the deployment of these funds. Greater Manchester expects to have sufficient funds to deploy 400 to 500 zero emission buses by 2027. In combination with the ZEBRA Stockport 170 buses and the Stagecoach ULEB 32 Zero Emission Buses that run on routes 43 and 111, this represents approximately one third of the fleet. The deployment plan is being heavily influenced by Clean Air considerations. Analytical work is underway to ensure the buses are deployed onto streets in Greater Manchester with the worst air quality, thereby helping to deliver the greatest strategic impacts for the CRSTS funds invested.
- **Bus Service Improvement Plan (BSIP):** On 5th April 2022, it was confirmed that Greater Manchester would receive an indicative allocation of £94.8m of BSIP funding from the government's Bus Back Better strategy.⁶¹ The BSIP will work towards achieving the interim-year 2030 "Right Mix" target for bus travel and removing enable Greater Manchester to remove up to 450,000 tonnes of carbon tailpipe emissions over the period to 2030. This includes reductions associated with the conversion of the bus fleets to fully electric as proposed within this BSIP.

6.3.10 Greater Manchester uses its local transport levy and the Mayoral Precept to fund a range of public transport services. This includes concessions, supported bus services (which make up 20% of the network) and Ring & Ride Services, which provides door-to-door, demand responsive transport to restricted local residents.

⁶¹ https://assets.ctfassets.net/nv7y93idf4jq/1Cu66Ouc9StC7JIRPiuSVI/95b9734bb0096523ec1328dd7c582035/BSIP-PM-PUB-0005_GM_Bus_Service_Improvement_Plan_October_2021.pdf

6.3.11 Local authorities in Greater Manchester are seeking new sources of funding to deliver cleaner air and improve sustainable travel options in the city region:

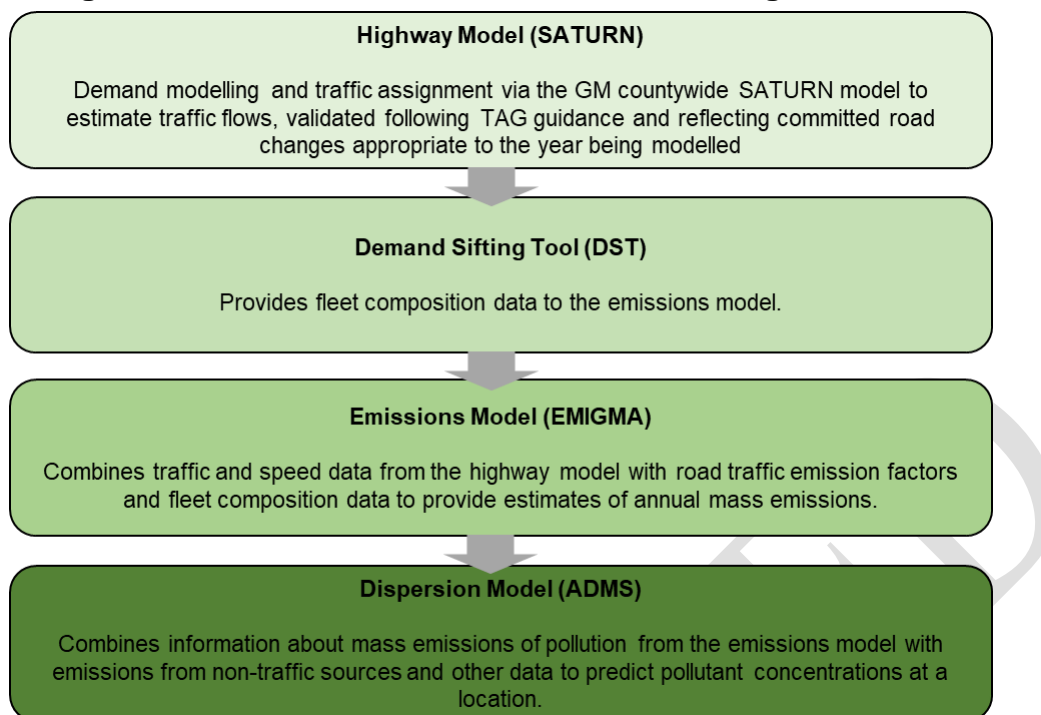
- **Future High Streets Fund:** Six towns in Greater Manchester have been granted full funding, totalling an estimated £90m, to improve transport links, build new homes and transform underused spaces in a key milestone for the government's levelling up agenda. Stretford (£17.6m), Rochdale (£17.1m), Wigan (£16.6m), Stockport (£14.5m), Farnworth (£13.3m) and Oldham (£10.8m) have all received a share of the fund.
- **Towns Fund:** Announced in 2019, 100 places were invited to develop investment priorities and proposals as part of a £3.6bn Towns Fund. The investment includes planning and land use and development of local transport schemes that complement regional and national networks. The 2020 budget announced 45 areas of England have been successful in their funding bids including three areas in Greater Manchester: Bolton (£22.9m), Cheadle (£13.9m) and Rochdale (£23.6m).
- **National Highways (formerly Highways England):** In addition to major committed schemes, National Highways has discretion to fund a range of smaller projects through its Designated Funds, of which £936m has been allocated in the next five years. Greater Manchester will work with National Highways to identify opportunities where use of Designated Funds may be appropriate to deliver infrastructure. The funds cover a range of projects including safety and congestion; users and communities; environment and well-being; and innovation and modernisation. Greater Manchester will also work closely with National Highways on their Route Strategy process which will inform the determination of funding needs and priorities for the next Road Investment Strategy (RIS) which will commence in 2025.

7 What are the current air quality issues in Greater Manchester?

7.1 Methodology

- 7.1.1 Air quality in Greater Manchester has been modelled as part of the GM CAP, and areas of exceedance of the Limit Values identified. This modelling has been updated at relevant stages throughout the development of the plan for a number of reasons, for example to reflect changes to the key phasing dates, to revise underpinning assumptions such as vehicle fleet age (due to Covid-19), or as a response to policy refinements as a result of the public 'conversation' or consultations.
- 7.1.2 Air quality is expected to gradually improve over time as a result of the ongoing cycle of newly purchased vehicles replacing older more polluting equivalents. The Government has required that the GM CAP delivers compliant air quality, using modelling to forecast future concentrations and showing how potential measures might reduce concentrations.
- 7.1.3 The air quality problem for Greater Manchester is assessed by reference to the "Do Minimum" scenario modelling, which sets out air quality as forecast if no action is taken by the GM CAP. The forecast does take into account other investment/interventions that are planned, funded and committed, where they have an impact on travel, traffic or the road network. The forecast appraisal years were developed as the original planned scheme commencement date for the GM CAP (2021 – not updated), the current expected scheme commencement date (2023) and a further year to inform the trajectory of improvement to compliance with the Limit Values (2025).
- 7.1.4 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, Greater Manchester 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.
- 7.1.5 The modelling approach has been updated to reflect the impacts of Covid-19 in line with JAQU guidance and changes to the GM CAP Policy following public consultation and now in respect to changing market conditions and further Covid-19 related impacts.
- 7.1.6 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 Greater Manchester. A brief summary of the Do Minimum modelling input steps feeding into the appraisal is presented in **Figure 2**, which shows each of the modelling components and their linkages within the modelling suite.

Figure 2 Overview of the Do Minimum Modelling Process



7.1.7 The Do Minimum forecast has been updated because the evidence presented to the Government in February 2022 showed that business as usual (BAU) car sales were lower than expected in 2021, meaning that the fleet was older than forecast, and that this was likely to delay compliance with legal limits of NO₂ with the scheme as planned. Therefore, in order to update the Do Minimum forecast, the underpinning assumptions have been reviewed to ensure they remain up-to-date. These changes are set out in **Table 2** below. In addition to those set out in the table, work is ongoing to carry out a sensitivity test representing the impact of key schemes affecting the road network in Manchester and Salford, as part of the City Centre Transport Strategy (CCTS).

Table 2 Do Minimum Modelling Assumptions – Changes since February 2022

Vehicle Type	Criteria	Changes
HGV	Fleet age	<ul style="list-style-type: none"> No changes made in 2021 version as evidence did not suggest HGV purchases had been affected by the pandemic in 2020 (given impact of regulatory change in 2019 which had distorted purchase patterns such that lower than normal purchases were expected in 2020 anyway). No changes made in latest forecast.

Vehicle Type	Criteria	Changes
LGV	Fleet age	<ul style="list-style-type: none"> Delay applied in 2021 version. Evidence suggests sales in 2021 were similar to Greater Manchester's forecast and therefore no additional changes are proposed.
Car	Fleet age	<ul style="list-style-type: none"> Delay applied in 2021 version to reflect loss of sales in 2020 and SMMT forecast of gradual Covid recovery. New evidence suggests that car purchases were lower than expected in 2021 and therefore this additional delay has been reflected in this forecast version, with a delay of one year applied.
Taxi	Fleet age	<ul style="list-style-type: none"> Evidence in 2021 suggested that upgrades had been delayed but could not quantify impact, therefore a delay of one year was applied as a cautious estimate in that version. No changes made in latest forecast.
Bus	Funding	<ul style="list-style-type: none"> Electric bus funding was represented in the model as follows: <ul style="list-style-type: none"> Removal of ULEB funding from Vantage and Free Bus routes Addition of ZEBRA funding for Stockport CRSTS funding not yet assigned so cannot be represented in Do Minimum scenario.

7.2 Updated modelling results

7.2.1 Modelling has been undertaken for the following scenarios:

- Do Minimum (i.e. No GM CAP)**, which represents what would be forecast to happen in the absence of all GM CAP proposals. In reality this is overly pessimistic because funds for buses and HGVs have been available and successfully applied since these aspects of the GM CAP opened in 2021. This scenario is used to enable appraisal of the full impact of the GM CAP itself; and

- **Do Minimum plus CBF grants test** – a sensitivity test scenario, which represents what is forecast to happen with incorporation of approved GM CAP Clean Bus Fund (CBF) grants. The test is based upon the number of buses in each Greater Manchester operator's fleet where grants have been approved as of March 2022 (around 1,000 buses have been approved for retrofit or replacement funding, with 500 already on the road), with adjustments made to each specific operator's fleet mix to represent a newer set of buses running their service routes, reducing forecast emissions. It is not certain that all operators would now utilise an approved grant in the absence of a CAZ charge to penalise use of their non-compliant buses. Therefore, this scenario is being treated as a sensitivity test at this stage. However, it is expected that investment in bus fleets and the transition to bus franchising in Greater Manchester consider this test to become a most likely scenario.

- 7.2.2 Note that the Stockport depot ZEBRA funded buses are not expected to be fully deployed until 2024. To enable the interpolation of modelled concentrations for 2024, using the available 2023 and 2025 forecast models, the Stockport ZEBRA electric buses have been applied in the 2023 model as well as the 2025 model. This means that the emissions and concentration predictions along these bus routes, which are predominantly on the corridors from central Stockport towards the Manchester regional centre, will be under-predicted in 2023 because many buses would still be diesel variants at that time.
- 7.2.3 Note that this does not include representation of the City Centre Transport Strategy (CCTS) schemes which are expected to have been opened by 2025. Further sensitivity testing of the Do Minimum scenario is underway to better reflect the possible impact of these schemes.

Emission results

- 7.2.4 Summary results from the EMIGMA modelling for the tests are presented below in **Table 3**, which shows modelled mass NO_x emission totals for 2023 and 2025 for Greater Manchester as a whole, disaggregated by vehicle type.
- 7.2.5 It should be noted that overall emissions in this Do Minimum version are approximately 2% greater in 2025 than in the Do Minimum scenario used for the Previous GM CAP. This is mainly a result of the increased age of the private car fleet due to the latest understanding of Covid-19 impacts leading to reduced new cleaner vehicle sales, with private car fleet emissions increasing by 5% in 2025. This total mass emissions value also includes a reduction in emissions associated with new electric buses, but these emission improvements are confined to specific bus route corridors, whereas the private car fleet delay leads to a more geographically even spread of increased vehicle emissions.

- 7.2.6 **Table 3** show that across Greater Manchester as a whole, emissions from road traffic are released from a wide range of vehicle types, with private cars releasing most, followed by commercial freight vehicles (HGVs, LGVs) and then buses and taxis. However, the nature of road traffic varies widely across road types, and further detailed site-specific breakdowns of the sources at the most persistent exceedances are provided in the next section. It can also be seen that forecast emissions are reducing into the future with a reduction from 6,345T to 5,281T predicted from 2023 to 2025 as a result of the natural cycle of vehicle replacement and renewal with cleaner newer models.
- 7.2.7 As a result of the CBF grants, bus emissions are forecast to reduce by 60% in 2023 (if the upgrades have been fully delivered by then) and 44% in 2025 compared to the Do Minimum forecasts for those years, delivering localised improvements along bus routes. This equates to potential reductions in total road vehicle NO_x emissions over Greater Manchester of approximately 4% relative to the Do Minimum in 2023 and 3% in 2025.

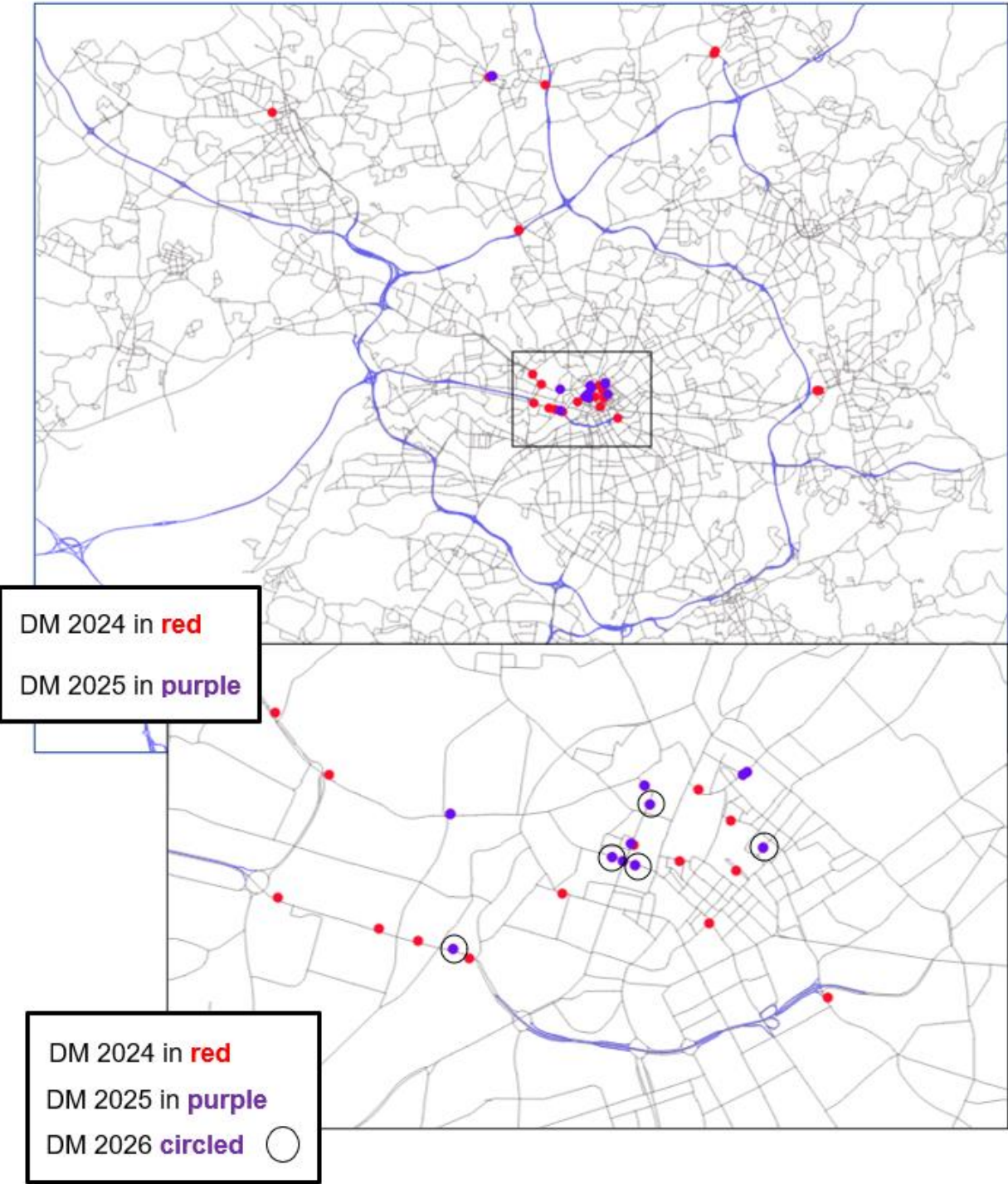
Table 3 Mass NO_x Emission Totals from EMIGMA Modelling (Greater Manchester, Tonnes per Year (T), with Percentage Changes Relative to the Do Minimum)

2023						
Scenario	Car	LGV	HGV	Taxi	Bus	Total
Do-Minimum	2,938	1,888	796	357	449	6,435
Do Min with CBF	2,938	1,888	796	357	179	6,165
% Change (DM)	0%	0%	0%	0%	-60%	-4%
2025						
Scenario	Car	LGV	HGV	Taxi	Bus	Total
Do-Minimum	2,526	1,610	523	294	320	5,281
Do Min with CBF	2,526	1,610	523	294	179	5,140
% Change (DM)	0%	0%	0%	0%	-44%	-3%
Notes: <i>Taxis comprise Private Hire Vehicles and Hackney Carriages combined</i> <i>% Changes for the Do Min with CBF are relative to the Do Minimum</i> <i>Totals may not sum due to rounding</i>						

Air quality results

- 7.2.8 **Table 4** and **Table 5** summarise the updated Do Minimum scenario modelling results and the Do Minimum with CBF Test, both of which incorporate the current understanding of the impacts of Covid-19 on vehicle fleets, for the Do Minimum years of 2023 and 2025. These results are then reported as the number of exceedances by each district in **Table 6**.
- 7.2.9 The location of the predicted exceedances in 2024 and 2025 are shown in **Figure 3**, with the spatial pattern continuing to resemble that in the 'Option for Consultation' and 'Previous GM CAP' modelling iterations.

Figure 3 Greater Manchester Do-Minimum Exceedance Points in 2024, 2025 and 2026



Air quality in the Do Minimum scenario

- 7.2.10 As shown in **Table 4**, there is an increase in the number of points of exceedance in 2023 from the Previous GM CAP model Do Minimum as modelled in spring/summer 2021 (from 71 to 79). This is primarily associated with the wider road network outside of the regional centre where private car emissions have increased due to an older fleet profile due to Covid-19, leading to increases in NO₂ concentrations of typically 0.5 µg/m³ up to 1.0 µg/m³. However, on the route corridors where the new electric buses will operate there are improvements, with a reduction in exceedances inside the Inner Relief Route (IRR) on these routes. Conversely, on the Vantage and FreeBus routes where the ULEB funding will no longer be available it is assumed that diesel variants would still be operating, with associated increases in NO₂ concentrations.
- 7.2.11 By 2025, the number of exceedances reduces due to the natural upgrade of the vehicle fleet, which is expected to continue despite the depressive effect of Covid-19 on some markets, and which has been accounted for where relevant. Compared with the Previous GM CAP Do Minimum scenario, there has been an increase in the overall number of exceedances (from 11 to 13).
- 7.2.12 There are predicted to be exceedances in all districts with the exception of Wigan in the Do Minimum scenario for 2023.⁶² By 2025, exceedances are only predicted in Manchester, Salford, and Bury, which is consistent with the Consultation and Previous GM CAP modelling scenarios.
- 7.2.13 The updated modelling shows results consistent with the methodological modelling alterations described previously. The locations where car flows are greatest have an increased number of exceedances, typically sites classed as 'Other Locations'. The last points of exceedance (13 in total) in 2025 still remain at:
- Inside the IRR, including the A34 Bridge St /John Dalton St, Lever St and the A56 Deansgate;
 - A57 Regent Rd, Salford;
 - A6 Chapel St, Salford; and
 - A58 Bolton Road, Bury.
- 7.2.14 The modelling indicates that exceedances would remain in 2026 at 5 sites: 4 inside the IRR and on the A57 Regent Road. However, the A6 Chapel Street and the A58 Bolton Road would by this point have become compliant. All sites are predicted to be compliant by 2027 in the Do Minimum scenario.

⁶² Note that analysis carried out based upon the Do Minimum modelling as at consultation suggested that all local authorities would remain non-compliant in 2022. Updated analysis for 2022 has not yet been completed.

7.2.15 Note that this does not include representation of the CCTS schemes which are expected to have been opened by 2025. A further sensitivity test of the Do Minimum modelling is underway to incorporate the CCTS schemes which are expected to be in place in the relevant forecast years.

Table 4 Predicted annual mean NO₂ concentrations at points on the Greater Manchester road network – 2023 to 2026 without action ('Do Minimum')

Road classification ⁶³	Compliant sites		Non-compliant sites			
	Very compliant (below 35 µg/m ³)	Compliant but marginal (35 to 40 µg/m ³)	Non-compliant (>40 to 45 µg/m ³)	Very non-compliant (>45 to 50 µg/m ³)	Extremely non-compliant (>50 µg/m ³)	Total non-compliant (>40 µg/m ³)
2023						
Inside Manchester-Salford Inner Relief Route (IRR)	211	33	23	8	0	31
Urban centres	209	24	4	0	0	4
Other locations	1829	157	38	6	0	44
Total	2249	214	65	14	0	79
2024 (Interpolated)						
Inside IRR	227	32	11	5	0	16
Urban centres	223	12	2	0	0	2
Other locations	1936	75	18	1	0	19
Total	2386	119	31	6	0	37
2025						
Inside IRR	243	23	9	0	0	9
Urban centres	233	4	0	0	0	0
Other locations	1984	42	4	0	0	4
Total	2460	69	13	0	0	13

⁶³ "Inside Inner Relief Route" is the area encircled by the Inner Relief Route. "Urban centres" are areas that met a definition used for the purposes of air quality modelling for OBC Option testing. "Other locations" are roads outside of Urban centres and the Inner Relief Route.

Road classification ⁶³	Compliant sites		Non-compliant sites			
	Very compliant (below 35 µg/m ³)	Compliant but marginal (35 to 40 µg/m ³)	Non-compliant (>40 to 45 µg/m ³)	Very non-compliant (>45 to 50 µg/m ³)	Extremely non-compliant (>50 µg/m ³)	Total non-compliant (>40 µg/m ³)
2026 (Extrapolated)						
Inside IRR	257	14	4	0	0	4
Urban centres	235	2	0	0	0	0
Other locations	2008	21	1	0	0	1
Total	2500	37	5	0	0	5

Air quality in the Do Minimum plus CBF Grants scenario

- 7.2.16 The assumption is that when the CBF grants have been utilised by the relevant operators to upgrade non-compliant buses to Euro VI diesel, this will lead to an improvement in air quality across bus corridors, and a reduction in the number of predicted exceedances. Note that Greater Manchester is assuming that all CBF grants will be utilised as planned.
- 7.2.17 As shown in **Table 5**, under this scenario, there is a predicted decrease in the number of points of exceedance in 2023 from the Do Minimum from 79 to 44. This is primarily associated with the regional centre inside the IRR, where bus emissions comprise a greater proportion of total emissions, alongside the arterial routes that lead into the IRR on wider road network outside of the regional centre.
- 7.2.18 There are predicted to be exceedances in all districts with the exception of Wigan, Trafford and Oldham in the Do Minimum plus CBF scenario for 2023.
- 7.2.19 By 2025, the number of exceedances reduces due to the natural upgrade of the vehicle fleet. Compared with the Do Minimum scenario, there would be a decrease in the overall number of exceedances from 13 to 5 as a result of the CBF.
- 7.2.20 By 2025, whilst there are fewer exceedances predicted, the key locations remain as per the Do Minimum scenario at:
- Inside the IRR, including the A34 Bridge St /John Dalton St;
 - A57 Regent Rd, Salford; and
 - A58 Bolton Road, Bury.
- 7.2.21 The modelling indicates that exceedances would remain in 2026 at one site, on the A57 Regent Road. All sites are predicted to be compliant by 2027 in the Do Minimum plus CBF Grants scenario.

Table 5 Predicted annual mean NO₂ concentrations at points on the Greater Manchester road network – 2023 to 2026 without further action (Do Minimum with CBF Grants)

Road classification ³	Compliant sites		Non-compliant sites			
	Very compliant (below 35 µg/m ³)	Compliant but marginal (35 to 40 µg/m ³)	Non-compliant (>40 to 45 µg/m ³)	Very non-compliant (>45 to 50 µg/m ³)	Extremely non-compliant (>50 µg/m ³)	Total non-compliant (>40 µg/m ³)
2023						
Inside Manchester-Salford Inner Relief Route (IRR)	241	26	8	0	0	8
Urban centres	219	14	4	0	0	4
Other locations	1881	117	30	2	0	32
Total	2341	157	42	2	0	44
2024 (Interpolated)						
Inside IRR	250	19	6	0	0	6
Urban centres	228	8	1	0	0	1
Other locations	1952	66	12	0	0	12
Total	2430	93	19	0	0	19
2025						
Inside IRR	259	13	3	0	0	3
Urban centres	233	4	0	0	0	0
Other locations	1995	33	2	0	0	2
Total	2487	50	5	0	0	5
2026 (Extrapolated)						
Inside IRR	265	10	0	0	0	0
Urban centres	237	0	0	0	0	0
Other locations	2011	18	1	0	0	1
Total	2513	28	1	0	0	1

Air Quality results by local authority

Table 6 Number of sites remaining in exceedance of legal limits for NO₂ concentrations by year, Greater Manchester, by local authority for the Do Minimum and Do Minimum with CBF Grants Test Scenario

District	2023		2024 (interpolated)		2025		2026 (extrapolated)	
	Do Min.	Do Min with CBF Test	Do Min.	Do Min. with CBF Test	Do Min.	Do Min with CBF Test	Do Min.	Do Min. with CBF Test
Bolton	3	2	1	0	0	0	0	0
Bury	11	7	6	4	2	1	0	0
Manchester	40	16	18	7	9	3	4	0
Oldham	1	0	0	0	0	0	0	0
Rochdale	2	2	2	2	0	0	0	0
Salford	14	10	8	5	2	1	1	1
Stockport	3	3	0	0	0	0	0	0
Tameside	4	4	2	1	0	0	0	0
Trafford	1	0	0	0	0	0	0	0
Wigan	0	0	0	0	0	0	0	0
GM Total	79	44	37	19	13	5	5	1

Note: Calculation of 2024 and 2026 was undertaken using linear interpolation or extrapolation from 2023 and 2025 year's modelled NO₂ results for each model output point.

7.2.22 It is important to note that the modelled scenarios do not include representation of the CCTS schemes which are expected to have been opened by 2025. A further update to the Do Minimum modelling is underway. There are a number of schemes which could alter the nature of local traffic flows and routing, especially on the A34 Bridge St/John Dalton St, A56 Deansgate, A57 Regent Road and A6 Chapel St. These schemes have the potential to interact, so the exact values presented in this section should be treated with caution.

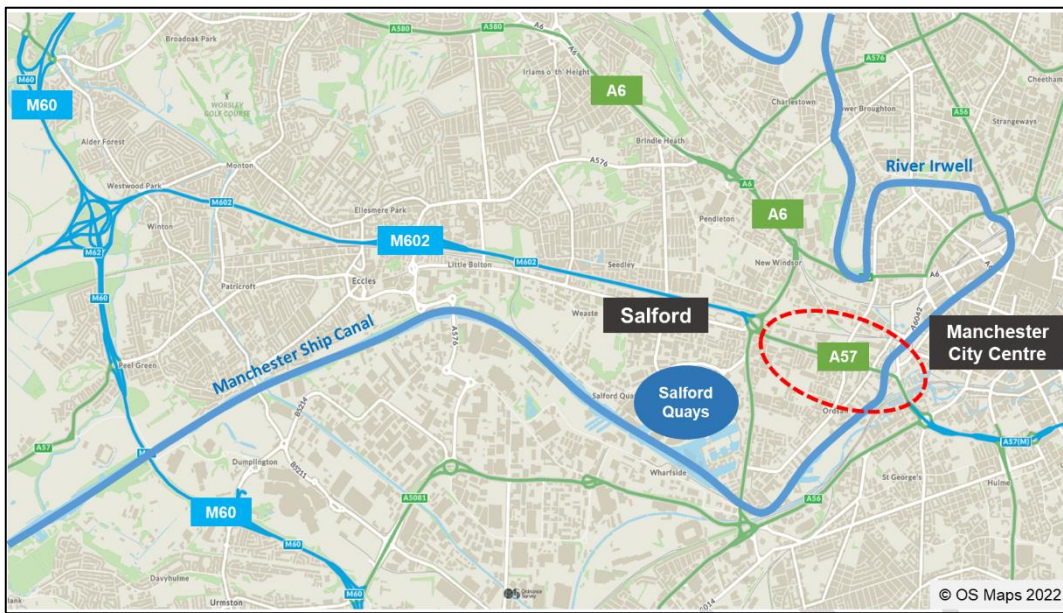
8 Where are the persistent exceedance areas in Greater Manchester?

- 8.1.1 This section builds upon the updated do-minimum modelling outputs presented in **Section 7**. The persistent exceedance areas, detailed in this section, are included to provide supporting evidence of the underpinning of poor air quality at these locations. In many cases these can be seen to be driven by bus emissions and therefore the CBF test, which represents bus upgrades, delivered as part of the GM CAP to date would demonstrably deliver improvements in-line with the objectives of the GM CAP.
- 8.1.2 In 2025, there are predicted to be 13 points where roadside NO₂ exceedances persist. These exceedance points are concentrated in three Greater Manchester local authority areas, namely, Manchester, Salford and Bury. This section will provide further information on the location and source apportionment (in other words, how each vehicle type contributes to emissions at that location) of each point of last exceedance (2025). Under the CBF sensitivity test, only the exceedance at the A57 Regent Road (Salford) would remain in 2026.
- 8.1.3 In addition to the points of last exceedances which have been identified through the updated do-minimum modelling outputs, the A628/A57 at Mottram, Tameside is an area with very special route characteristics to be considered. The A57 and the A628 form part of the Strategic Road Network (SRN) operated by National Highways and runs east-west linking the M67 motorway in Greater Manchester towards West Yorkshire and Sheffield over the Pennines. Measured and modelled concentrations indicate exceedances can be expected up to 2026 and beyond.
- 8.1.4 Source apportionment data has been extracted based on the persistent exceedance areas in 2025 and shown in **Sections 8.2-8.4**. It is believed that the Previous GM CAP could no longer be expected to achieve compliance in 2024 and therefore persistent exceedance areas are based upon 2025 data.

8.2 Persistent Exceedance Area (2025) - A57 Regent Road

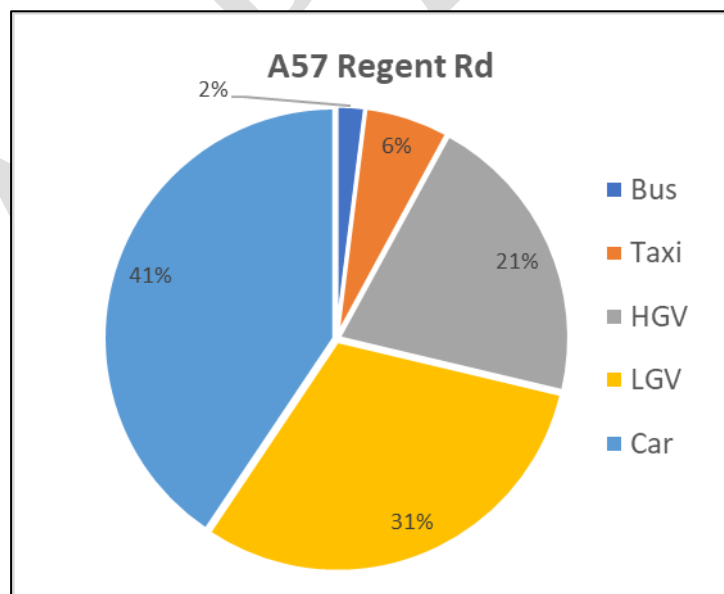
- 8.2.1 **Figure 4** shows the location of the A57 Regent Road in context of the wider highway network. The A57 Regent Road is an important highway corridor providing an East-West connection through Manchester City Centre and joining the M602, part of the Strategic Road Network which is managed by National Highways.

Figure 4 Persistent exceedance area: A57 Regent Road



8.2.2 **Figure 5** shows the source apportionment for Regent Road. This route contains a relatively high proportion of commercial vehicles, with emissions from HGVs & LGVs at c50% of total emissions, and the remainder primarily derived from private cars c40%. Emissions from buses are very low (just 2% of total), with very few bus services operating on this corridor. This reflects the nature of this route as a primary arterial route from the Strategic Road Network, serving traffic demands of the Regional Centre and surrounding area.

Figure 5 A57 Regent Road Source Apportionment



8.3 Persistent Exceedance Area (2025) - Regional Centre / IRR, Manchester and A6 Chapel Street, Salford

8.3.1 The majority of the last points of exceedance are located within Manchester City Centre and the IRR. This persistent exceedance area also includes locations close to the IRR such as Chapel Street. **Figure 6** shows the high-level location of each of the exceedance road links.

Figure 6 Persistent exceedance area: Regional Centre / IRR, Manchester and A6 Chapel Street, Salford



8.3.2 The source apportionment indicates that bus emissions dominate the contributions to the predicted exceedances at almost all locations, typically 70% to 100% of vehicle emissions. This can be viewed in **Figure 7** to **Figure 13**. This reflects the higher frequency of buses running on these routes compared with wider Greater Manchester, but also the slower traffic speeds inside the IRR where queuing and congestion occurs more frequently, and signalised junctions occur at a greater density. At low speeds, buses and HGV NO_x emissions are elevated even for Euro VI models.

8.3.3 The A56 Deansgate and A6 Chapel Street show a different source pattern to the other exceedance locations, with a lower but still significant proportion of bus emissions (15% or less), and higher proportion of private car and LGV emissions.

Figure 7 A34 Bridge St Source Apportionment

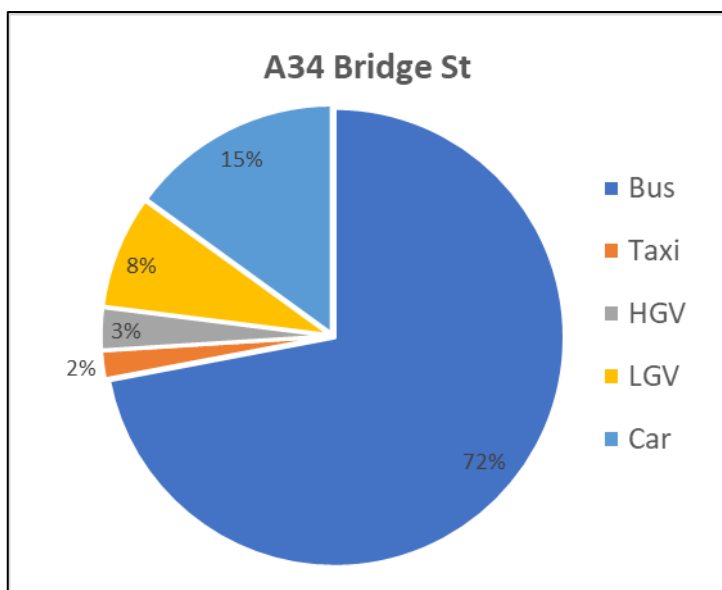


Figure 8 A34 John Dalton St Source Apportionment

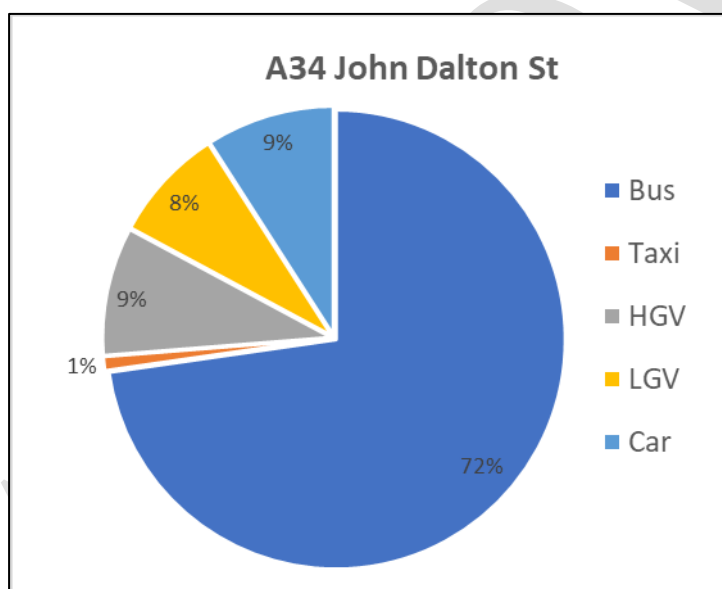


Figure 9 A56 Deansgate Source Apportionment

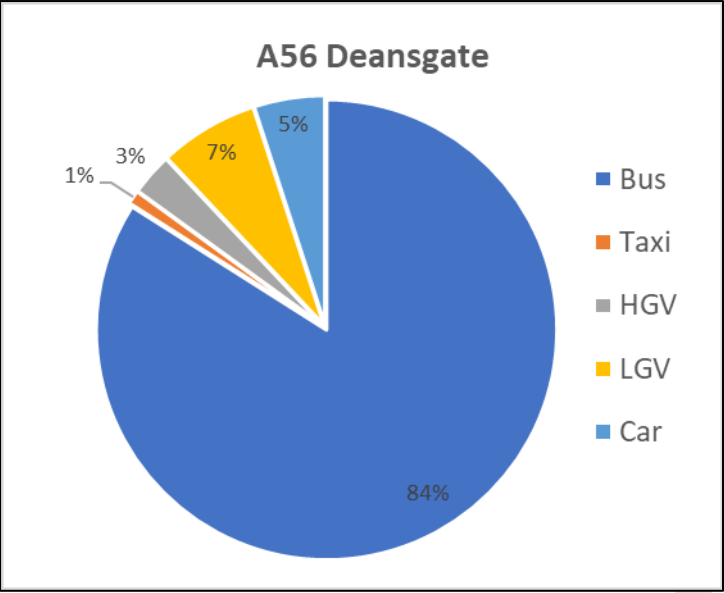


Figure 10 Lever St Source Apportionment

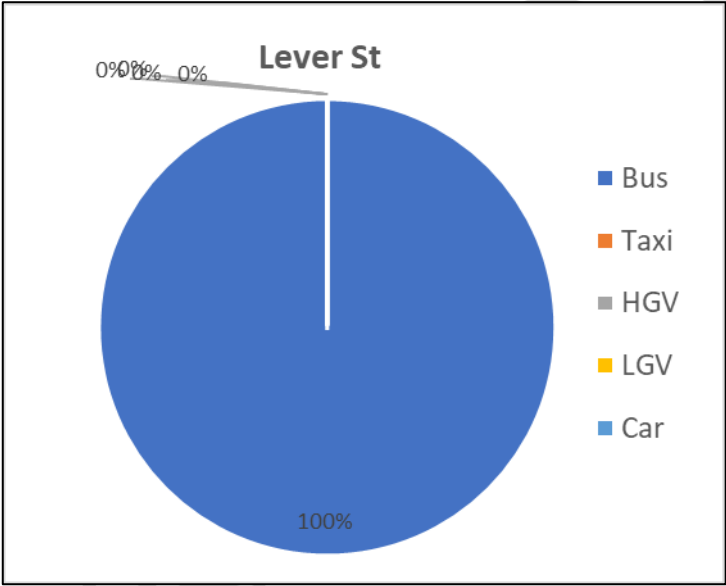


Figure 11 A6 Chapel St Source Apportionment

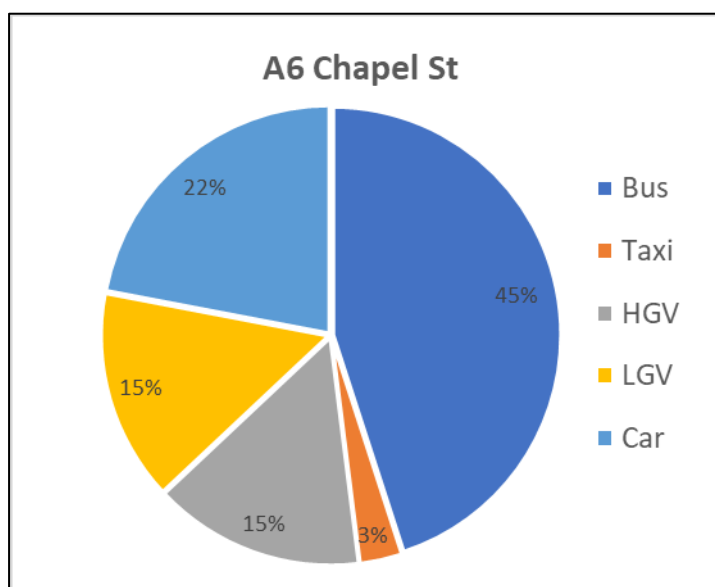


Figure 12 A6041 Blackfriar's Rd Source Apportionment

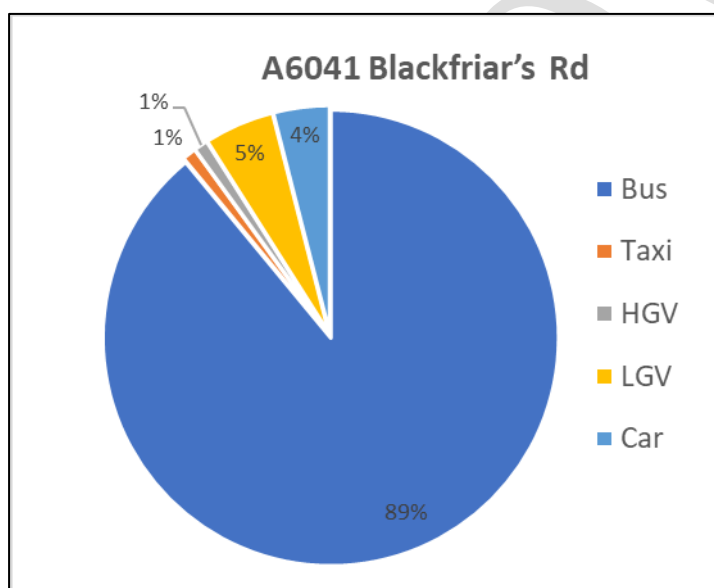
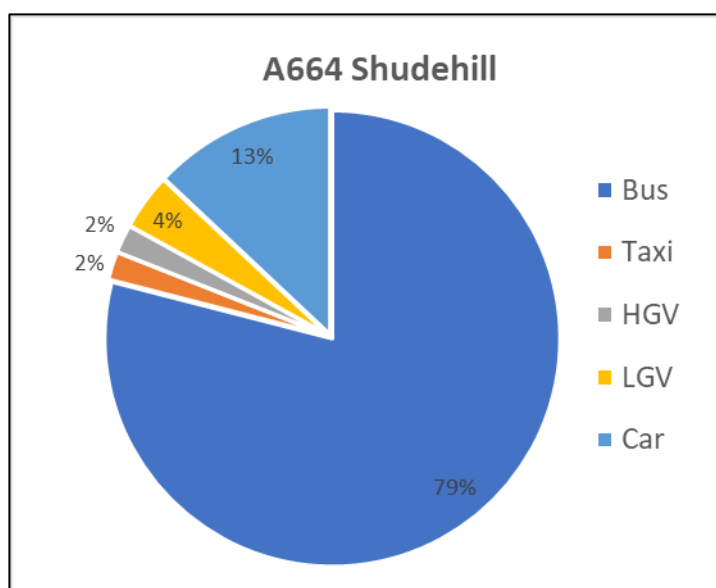


Figure 13 A664 Shudehill Source Apportionment

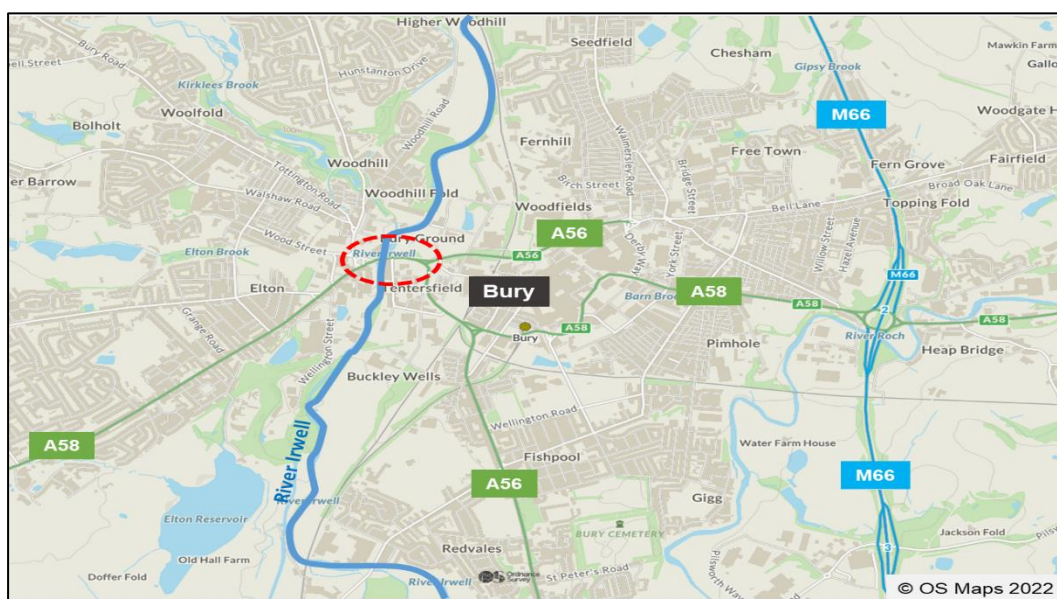


8.3.4 Finally, analysis of ANPR data indicates that the modelling under-represents the proportion of taxi movements within the IRR. This is because the modelling process does not have a user class for taxi available, and taxi movements have been represented as a fixed proportion of private car trips, across GM as a whole. The modelling process could be locally refined to address this issue if required.

8.4 Persistent Exceedance Area (2025) – A58 Bolton Road (Bury Bridge)

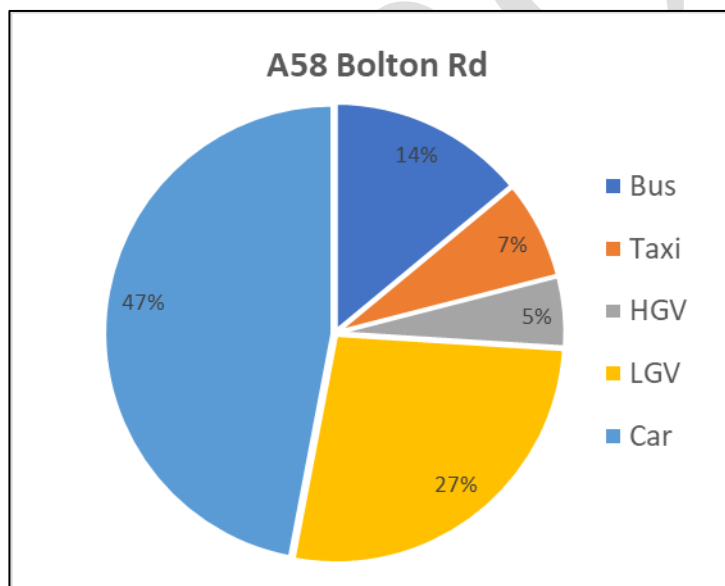
8.4.1 **Figure 14** shows the location of the A58 Bolton Road exceedance at Bury Bridge. At this location, the A58 Bolton Road is a dual carriageway over the River Irwell, serving traffic from the confluence of the A58, B6196 & B6213 roads to and from the Bury town centre ring road. There are modelled exceedances on both of the carriageways but these essentially both represent the same traffic flows.

Figure 14 Persistent exceedance area: A58 Bolton Road (Bury Bridge)



8.4.2 **Figure 15** shows the source apportionment for the A58 Bolton Road, Bury. The contribution from HGVs is low on this link, with the majority of emissions derived from private cars and LGVs. However, there is also a material proportion of emissions from diesel buses.

Figure 15 A58 Bolton Road (Bury Bridge), Bury Source Apportionment



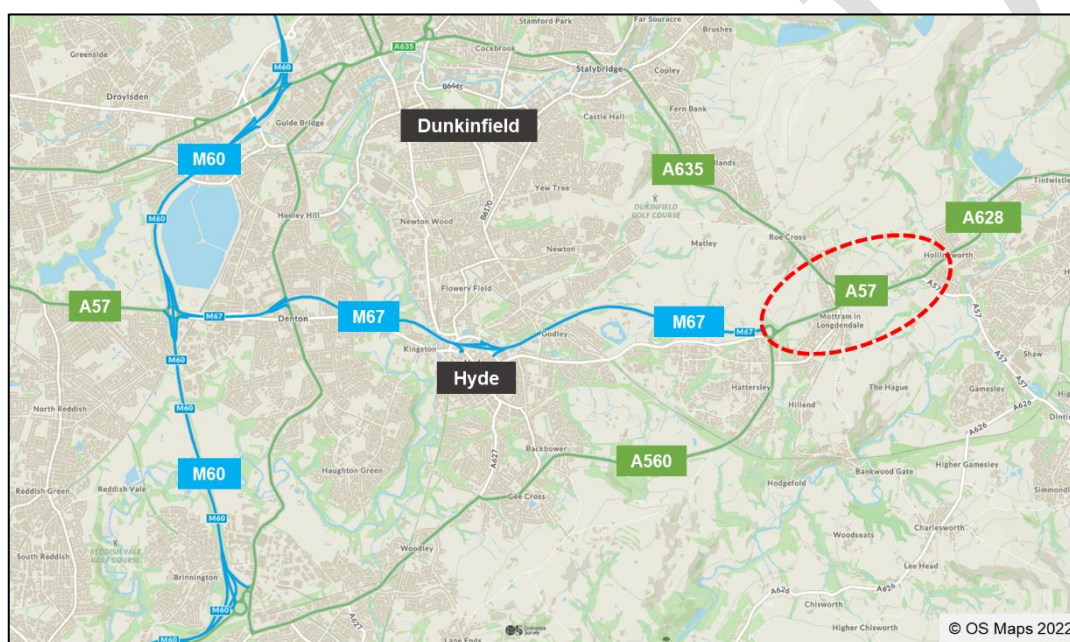
8.5 A57 / A628 Strategic Road Network, Tameside

8.5.1 The ten Greater Manchester local authorities continue to ask the Government to direct National Highways to tackle NO₂ exceedances on the SRN in the same way the Greater Manchester local authorities are having to take action on the local road network.

8.5.2 Tameside MBC has highlighted to Government ministers that the inconsistency in approach between the SRN and local road network is leaving many residents unprotected, particularly, around the A628/A57, a strategically important trans-Pennine route that passes through the villages of Hollingworth and Mottram as a single carriageway. This route, managed by National Highways (formerly Highways England), will be left with NO₂ exceedances that are not being addressed, despite the area being declared as part of Greater Manchester's Air Quality Management Area.

8.5.3 **Figure 16** shows the location of the A57 and the A628 in context of the wider highway network.

Figure 16 Persistent exceedance area: A57 and A628



8.5.4 However, in this location the SRN resembles more typically 'local' roads, rather than a motorway environment, with frequent signalised junctions, single-lane carriageways, pedestrian pavements and residential facades abutting the road.

8.5.5 Following a review of the beneficial impact to compliance with NO₂ legal limits shown by National Highways in their *Assessment of Impact of Potential Charging on A57/A628*, Ministers wrote to Tameside Metropolitan Borough Council in June 2021 to confirm that a section of the A57/A628 should be included as part of the upcoming GM Class C charging CAZ. Ministers noted, the inclusion must be deliverable within current legislative provisions, and with the objective of integrating seamlessly with the GM Class C charging CAZ in order to minimise complexity and confusion for road users.

- 8.5.6 A joint officer working group concluded that there were two viable options: a trunk road charging scheme (complementary to the local charging scheme required to implement the GM CAZ) or a De-trunking Order (the process of returning the National Highways road to the control of Tameside Council - the Highway Authority). Whilst the working group concluded that both options are legally viable, as they presented legal, administrative and procedural complexities, JAQU advised that the options needed further consideration by Ministers. In December 2021 JAQU advised that both options identified did not offer a timeline that guaranteed implementation could coincide with the planned launch of the Class C charging CAZ on the 30 May 2022.
- 8.5.7 In January 2022 the Air Quality Administration Committee received an update and resolved that:
- the inclusion of the identified section of the A57/A628 SRN remains critical and vital to delivering improved air quality in Greater Manchester; and
 - Greater Manchester authorities are resolute in continuing to press Government for the expedient implementation of the scheme on the A628/A57 SRN as a matter of urgency to ensure the benefits to the health of the residents in the villages of Hollingworth and Mottram can be realised without any further delay.
- 8.5.8 Until the outcome of the review is complete and any revised plans are agreed, JAQU has not been able to commit to any specific course of action in relation to the A57/A628. However, because in this instance a trunk road charging scheme cannot be made without a local charging scheme being in place, if the GM charging CAZ does not proceed there can be no charging scheme on the A57/A628, unless and until those roads are detrunked. Notwithstanding this, the Greater Manchester local authorities want to ensure that as government takes appropriate action in relation to exceedances in this locale. It is also recognised that additional SRN is planned by National Highways close to this location through the A57 Link Roads scheme which includes proposals for the creation of two new link roads between the M67 Junction 4 roundabout and the A57 in Woolley Bridge to reduce pollution to neighbouring properties in Mottram in Longdendale as well as improvements in journey time reliability and reductions in congestion and severance impacts.⁶⁴ The scheme is currently awaiting a Development Consent Order (DCO) outcome and the SoS for Transport is anticipated to make a decision around Autumn 2022.

⁶⁴ <https://nationalhighways.co.uk/our-work/north-west/a57-link-roads/>

9 Why Greater Manchester needs a new GM CAP – A Summary

- 9.1.1 The information presented in **Sections 2-8** sets out the background to the GM CAP, the circumstances leading to the current review (the impact of the pandemic such as global supply chain challenges, and the cost-of-living crisis) and the updated evidence in terms of air quality modelling and areas of exceedance.
- 9.1.2 In summary, and considering all the above, it is proposed that the Previous GM CAP developed pre-pandemic and agreed in Summer 2021 (comprising a blanket measure across the city-region in the form of a Class C charging CAZ) is no longer the right solution to achieve compliance with Legal Limits for NO₂ on the local road network in Greater Manchester. The most significant reasons for this have been set out in depth in this paper, and in summary are:
- The **cost-of-living crisis** means that businesses are less able to afford to invest in vehicle upgrades, whilst households are less able to absorb any costs that may be passed on to them.
 - This is exacerbated by **rising vehicle prices** and – for some vehicle types – lower residual values of non-compliant vehicles. There is evidence that illustrates the demand for new and compliant second-hand vehicles is exceeding supply; leading to longer wait times and rising prices.
 - A charging CAZ could therefore cause **unacceptable financial hardship** and potentially contribute to business failures.
 - In addition, **new opportunities have arisen** – via the approval of bus franchising and new funding for electric buses – that mean that Greater Manchester has the opportunity to directly tackle a major source of emissions in a different, more targeted way.
 - The exceedances become more localised from 2025 onwards, therefore **action can be targeted** at those locations suffering the worst air quality.
- 9.1.3 It is clear that the GM-wide Class C charging CAZ as approved in Summer 2021 could lead to hardship in Greater Manchester and that to develop and deliver a revised charging CAZ would take time to design, consult upon and implement.
- 9.1.4 Unlike the previous charging-led scheme, the New GM CAP will attend to the emerging cost-of-living crisis and other factors set out in this section. It will actively consider the impacts of Covid-19 and wider global economic instability on supply chains, aims to be delivered in 2023, and crucially takes into account the significant benefits that the delivery of electric buses can have along key routes with persistent exceedances.

9.2 Cost-of-living crisis

- 9.2.1 As a result of the ongoing impacts of the pandemic and the more recent impacts of the war in Ukraine, the UK is experiencing a cost-of-living crisis, with inflation reaching a 40 year high of 9% during April 2022, compared to 2% in July 2021. This crisis is far from over – inflation and interest rates are expected to keep rising and this is being reflected in consumer confidence, which has plummeted, and in falling consumer demand.
- 9.2.2 Greater Manchester has a higher than average proportion of small businesses and low income households, making the region particularly vulnerable to inflationary impacts. The evidence shows that prices of basic goods and commodities such as energy and fuel are rising faster and therefore those on lower incomes, who spend a higher proportion of their income on necessities and have less disposable income to cover any cost increases, will be affected more.
- 9.2.3 From a business perspective, those businesses that rely on high vehicle mileage will be particularly affected by rising fuel prices, which were a third higher in March 2022 than July 2021 (for diesel, used in most commercial vehicles) and have risen further since. Furthermore, key vehicle owning sectors such as construction and manufacturing are being affected by the rising cost of materials such as steel, with just under three in ten businesses surveyed by the GM Growth Company reporting such concerns in April 2022, compared to under 5% in autumn last year.
- 9.2.4 The cost of borrowing is increasing, making capital investments such as a vehicle upgrades more challenging and expensive. The Bank of England base rate has risen from 0.25% at the start of the year to 1.25% by early June. The real cost of borrowing will be higher than this for many consumers and will vary depending on their personal circumstances.
- 9.2.5 Businesses and consumers are already feeling the impact of rising costs being passed on, and measures that increase those costs, such as the imposition of a charging CAZ, could lead to real financial hardship and potentially business closures.
- 9.2.6 During this period of widespread economic hardship, the local Government will do its utmost to support the public economically, rather than create additional financial demands and hardship.

9.3 Supply chain issues and vehicle price increases

- 9.3.1 The price of new and used commercial vehicles is rising, making upgrade less affordable. For some vehicle types, there are long lead times for the purchase of new vehicles, and for second-hand vehicles demand is outstripping supply in some sectors. There is some evidence of a growing gap between the value of non-compliant (Euro 5 and older) and compliant (Euro 6) vehicles, adding to the capital cost of upgrade for vehicle owners losing trade-in value of their existing vehicle.

9.3.2 **Table 7** sets out the conditions affecting each vehicle type, based on the evidence Greater Manchester has collected. **Appendix A – D** set this information out in more depth.

Table 7 Changed conditions in vehicle markets

Vehicle Type	Commentary on changed conditions
HGV Est. 70,900 vehicles serving Greater Manchester 81% compliant in 2023 ⁶⁵	<ul style="list-style-type: none"> • Having remained stable for many years, price rises are being reported of around 40% for Euro 6 vehicles, with the price gap between Euro 6 vs 5 vehicles increasing. • Dealers are reporting constraints on availability of new vehicles – due to shortages of materials including semi-conductors – and that this means people are extending leases (so fewer vehicles enter the second-hand market) or trying to buy second-hand, leading to shortages in that market. • Price rises reflect these shortages as well as increases in the cost of materials (for new vehicles).
Van Est. 277,400 vehicles serving Greater Manchester 52% compliant in 2023 ⁶²	<ul style="list-style-type: none"> • There is substantial evidence of significant price increases in the second-hand van market – the scale of those rises has a high degree of variability depending on the particular vehicle. The extent of the reported rise varies between 13% and almost 60%. • Overall, the evidence suggests that demand for new and second-hand vans remains strong, and therefore that the loss of supply caused by lockdowns in 2020 and more recently by the semi-conductor shortage is leading to price rises in the new and second-hand markets, and to long lead times for new vehicle orders. • A high proportion of non-compliant vans are owned by sole traders and very small businesses which are vulnerable to the impacts of inflation and the cost-of-living crisis.
Coach 1,700 vehicles serving Greater Manchester 59% compliant in 2023 ⁶²	<ul style="list-style-type: none"> • The coach sector was badly affected by the pandemic, with lockdown restrictions meaning that many were forced to stop operating for long periods. • Demand from tourism and major events remained constrained during 2021, and recovery is expected to be slow. • The SMMT states that demand for new buses and coaches dropped further in 2021 and was the weakest year since records began in 1996.

⁶⁵ best estimate in a highly changeable economic/vehicle market situation, forecast should be considered subject to review

Vehicle Type	Commentary on changed conditions
Hackney Cab 2,100 Hackneys licensed in Greater Manchester 35% compliant in 2023 ⁶²	<ul style="list-style-type: none"> • Hackneys and PHVs lost a substantial proportion of their trade during the pandemic, as travel for business, leisure and tourism purposes ceased. • The number of vehicles licensed has reduced and drivers report that demand has not returned to pre-pandemic levels. • The number of new vehicles entering the Hackney and PHV licensed fleets was much lower than normal in 2020 and 2021, so that the age of the fleet has increased. • This is assumed to result from market conditions and conditions in the wider economy, as well as continued uncertainty about licensing and clean air requirements for the fleet. • Furthermore, there is anecdotal evidence that the value of Euro 5 and older Hackney Carriage is falling, as more cities bring in tighter licensing standards and/or CAZs.
PHV 12,400 PHVs licensed in Greater Manchester 68% compliant in 2023 ⁶²	

9.3.3 This evidence shows that, in addition to the cost-of-living crisis, some key vehicle owning sectors are still experiencing impacts from the pandemic, with travel demand not back to pre-pandemic levels in some sectors for example.

9.3.4 Rising vehicle prices, constraints of the availability of compliant new and second-hand vehicles, as well as rising borrowing costs, mean that upgrade is less affordable and may take more time than previously assumed.

9.3.5 This in turn would mean that any charging CAZ proposal would be less effective – with less upgrade and a higher proportion choosing to stay-and-pay. Negative economic impacts would also be increased, with potential equalities impacts for affected vehicle owning groups.

9.4 New opportunities for electrification of the bus fleet

9.4.1 Since the Previous GM CAP was developed, there has been a significant increase in funding opportunities for electric buses in Greater Manchester. This has had an impact on the Do-Minimum forecast, as set out in **Section 7.2**.

9.4.2 In April 2022, following a court ruling that the decision to franchise bus services was lawfully carried out, as were all other aspects of the franchising process, the GMCA confirmed that it would be proceeding with bus franchising across Greater Manchester. The current programme sees the first franchised services in place by September 2023, and across the whole of the city region by the end of 2024.

- 9.4.3 Bus franchising will enable the integration of the bus network across bus services and with other modes of transport, significantly increasing the efficiency of the network. It will allow the introduction of integrated ticketing and a single, clear point of customer information. Critically for the GM CAP, it allows Greater Manchester to invest in buses with the confidence that they have control of the strategic delivery. Crucially, franchising allows TfGM to specify the vehicles to be used on the network. Under franchising, governance/planning processes are being established so that the cleanest buses are running on routes containing most persistent exceedance points to ensure compliance - with a focus on the regional centre/city centre as the transport hub of the city-region.
- 9.4.4 In April 2022, Greater Manchester was awarded its City Region Sustainable Transport Settlement (CRSTS) and an indicative allocation of £115m from that award has been made to towards zero emission buses, with the aim that a third of the bus fleet in Greater Manchester will be zero carbon by 2027. These funds will build on the existing ZEBRA scheme, and will be used to fund the incremental costs of updating buses to zero emission over above the cost of new diesels. A commitment has been made that from September 2023, 50 new zero emission buses will be brought into service with the launch of the regulated bus system in Wigan and Bolton which will be a major contributor to resolving exceedances at the Bury Bridge persistent exceedance location.
- 9.4.5 Early analysis indicates that the CRSTS funding could support the deployment of sufficient numbers of electric buses targeted at the most persistent exceedance locations in order to achieve compliance at those locations, subject to a delivery plan. This could mean that, because poor air quality at the majority of the locations contains a significant contribution from diesel bus emissions, most areas of Greater Manchester could potentially be compliant in 2025, if electric buses were deployed at those locations.
- 9.4.6 The exception is the A57 Regent Road, which has very few bus services, and therefore electric buses cannot deliver significant reductions in vehicle emissions. Without supporting funding (CRSTS), it is likely that compliance would be achieved in most areas (excluding the A57 Regent Road – which has very few bus services) in 2026, under the CBF test scenario. This scenario is currently not included in Greater Manchester's core modelling, because take up of the CBF grants is less certain without the charge and because Greater Manchester cannot be certain where on the network the upgraded buses will be deployed.

9.5 Targeting the most persistent exceedances

- 9.5.1 As shown, the spatial pattern of exceedances within the timeline now under consideration is such that a Greater Manchester-wide charging CAZ would be an excessive solution to address the issues remaining in 2025.

- 9.5.2 In addition, a Greater Manchester-wide charging CAZ is increasingly unacceptable given the current economic conditions, as set out in this paper. In Summer 2021, Greater Manchester had proposed a Greater Manchester-wide charging CAZ, forecast to achieve compliance in 2024. By February 2022, it had become clear that the Previous GM CAP was no longer likely to achieve compliance by that date, as a result of greater-than-expected reductions in new car purchases in 2021 and rising van prices. Concerns were also emerging about the affordability of upgrade for key groups given rising prices and supply constraints.
- 9.5.3 In February 2022, the Government revoked the 2020 Direction to Greater Manchester which required the implementation of a Class C charging CAZ in the shortest possible time and by 2024 at the latest and gave Greater Manchester until 1st July to present a new plan to achieve compliance with legal air quality standards in the shortest possible time and by 2026 at the latest.
- 9.5.4 The Do Minimum NO₂ forecasts show that the number of sites in exceedance reduces over time, moving from a Greater Manchester -wide problem in 2023 to a localised problem from 2025 focused around the regional centre with some acute outliers. This means that, in order to achieve compliance by 2026, Greater Manchester can target measures as part of an investment-led approach, such as deployment of electric buses to those most persistent exceedances, which are particularly found in and around the city centre.
- 9.5.5 The updated modelling summarises the existing areas of exceedance that are likely to remain unless action is taken through the New GM CAP during the period from now until 2026. Targeting these areas of exceedance will form the basis of the New GM CAP and the Greater Manchester local authorities are now making the case to Government that this should take the form of an investment-led non-charging GM CAP, which aims to achieve compliance in the shortest possible time and by 2026 at the latest but without creating additional financial hardship for local businesses and families. Without the need to mitigate a Greater Manchester-wide charging CAZ, a New GM CAP should target resources efficiently and effectively at the most persistent exceedances while providing support to those vehicles contributing the most to poor air quality. Additionally, with supported funding for electric bus through CRSTS, targeted investment could enable Greater Manchester to reduce the number of exceedances to only one point remaining in exceedance without other action by 2026.

9.6 A revised charging CAZ would take time to design, consult upon and implement

- 9.6.1 In summary, as shown in this document, the spatial pattern of exceedances within the timeline now under consideration is such that a Greater Manchester-wide charging CAZ would be an excessive to address the issues remaining in 2025. In addition, a Greater Manchester-wide charging CAZ is increasingly unacceptable given the current economic conditions, as set out in this paper. The updated modelling summarises the existing areas of exceedance that are likely to remain unless action is taken through the New GM CAP during the period from now until 2026. Targeting these areas of exceedance will form the basis of the New GM CAP and the Greater Manchester local authorities are now making the case to Government that this should take the form of an investment-led non-charging GM CAP, which aims to achieve compliance in the shortest possible time and by 2026 at the latest but without creating additional financial hardship for local businesses and families.
- 9.6.2 Since this review commenced, Greater Manchester necessarily paused the implementation of the Previous GM CAP, to allow the review to take place. For the reasons set out above, implementing a Greater Manchester-wide Class C charging CAZ, as per the Previous GM CAP, is no longer the right plan for Greater Manchester as it would result in unacceptable financial hardship and would not be expected to achieve compliance in 2024 as previously forecast.
- 9.6.3 Implementing a materially revised charging CAZ, for example with a different boundary, vehicles in scope or discounts and exemptions, would take time to design and consult upon and then implement.

10 The way forward: an Investment-led non-charging GM CAP

10.1.1 An investment-led non-charging GM CAP will target action at the most polluted places. This could be delivered using a three-pillared approach including:

- Funding for electric buses;
- Funding to support vehicle upgrades; and
- Working in partnership with delivery bodies and other stakeholders to develop targeted solutions.

10.1.2 The new investment-led non-charging GM CAP will develop measures based on the following core objectives:

- To reduce NO₂ concentrations to below the legal limits in the shortest possible time and by 2026 at the latest;
- Achieve compliance in a way that is fair to businesses and residents, and does not cause financial hardship to people in Greater Manchester; and
- Ensure the reduction of harmful emissions is at the centre of Greater Manchester's wider objective for delivering the Bee Network's core objectives.

10.1.3 Targeted investment is envisaged to be developed based on the following three mechanisms:

10.2 Electric buses

10.2.1 Investment in electric buses across the network and particularly targeting the last points of exceedance will bring significant air quality benefits, as set out in **Sections 7-9**, though further work is required to develop this evidence base.

10.2.2 It is anticipated that this investment would include 50 electric buses delivered in September 2023 in the first phase of Greater Manchester's bus franchising programme. This programme of works has been approved for delivery recently, and is therefore only now able to be factored into the New GM CAP. The New GM CAP will also likely specify funding for electric buses on services travelling through the regional centre, particularly at key 'last compliance' sites as set out in this report.

10.2.3 Bus accounts for a high proportion of emissions at the majority of the most persistent locations of exceedance in Greater Manchester. By targeting zero emission bus investment at services passing through those locations, Greater Manchester could achieve substantial reductions in NO_x emissions and reduce NO₂ concentrations. This approach could bring air quality improvements and additional benefits to passengers benefiting from high quality new buses without the need to implement a charging CAZ.

10.3 Vehicle upgrades

- 10.3.1 An investment-led non-charging GM CAP will also aim to encourage upgrade to cleaner vehicles, leading to better air quality, by providing funding packages to those most polluting vehicles travelling in locations experiencing NO₂ exceedances.
- 10.3.2 Under an investment-led non-charging GM CAP, rather than a formally signed charging CAZ, the ANPR cameras could be used to inform and support the development of investment-led solutions, which will be developed further.
- 10.3.3 An investment-led non-charging GM CAP could facilitate upgrade for those still in a financial position to do so, over a timescale that they can achieve, without requiring any investment from those not able to afford it. This approach will provide businesses that could be in a position to upgrade with financial support to do so, bringing fresh investment into Greater Manchester's local economy and allowing businesses to access cleaner vehicles that may be cheaper and more efficient to operate. Under an investment-led approach and without a charging CAZ in place, those businesses and individual vehicle owners who are not in a financial position to upgrade are able to continue operating as now, without any increase in costs imposed by the scheme.

10.4 Partnership working

- 10.4.1 The 10 authorities are committed to working in partnership with stakeholders and with other transport bodies to deliver solutions that are area-specific and appropriate for Greater Manchester. This could include working with National Highways to tackle poor air quality on Regent Road and on the A628/A57 at Mottram (some of the last compliance sites that are discussed in more depth in **Section 8**). Partnership working could also include working with vehicle-owning stakeholders to ensure the New GM CAP delivers change and meets their needs.
- 10.4.2 **Table 8** sets out the type of measures that an investment-led non-charging GM CAP could consider; the next steps are to carry out a participatory policy development exercise to determine a package of measures to deliver the best possible investment-led non-charging GM CAP. Further detail on this planned approach is set out in **Section 12**.
- 10.4.3 Under an investment-led non-charging GM CAP, rather than a formally signed charging CAZ, the ANPR cameras could be used to better understand those vehicles where GM would get the greatest emissions reduction from those non-compliant vehicles travelling regularly through GM's most NO₂ polluted places. This will be explored in further detail, alongside other approaches to targeting the funds in the most impactful manner.

Table 8 Greater Manchester CAP Vehicle Measures

Vehicle type	Measure subject to review during participatory policy approach
Bus	<p>Continue with existing funding.</p> <p>Ensure franchising and other governance/planning processes are established so that electric buses are running on routes containing most persistent exceedance points to ensure compliance - with a focus on the regional centre/city centre as the transport hub of the city-region.</p> <p>Initial sensitivity testing indicates that delivery of sufficient bus electrification would achieve compliance at modelled exceedance locations except Regent Road by 2025. A delivery plan is under development with the aim of achieving this.</p>
HGV	<p>Consider offer including eligibility for funding, in light of needing to ensure the cleanest vehicles are running in areas containing most persistent exceedance points to ensure compliance.</p>
Coach	<p>Consider offer including eligibility for funding, in light of needing to ensure the cleanest vehicles are running in areas containing most persistent exceedance points to ensure compliance.</p>
Greater Manchester Hackney Carriage	<p>Consider offer including eligibility for funding, in light of needing to ensure the cleanest vehicles are running in areas containing most persistent exceedance points to ensure compliance – most Hackney Carriages are licensed in the Manchester City Council (MCC) district.</p> <p>Target GM CAP funding to increase roll out of dedicated taxi and other general electric vehicle charging infrastructure points to ensure fleet upgrade to electric vehicles is viable and taxi industry is supported. Consider opportunities for regulatory measures such as licensing standards to complement funding incentives to accelerate fleet upgrades.</p>
Greater Manchester PHV	<p>Consider offer including eligibility for funding, in light of needing to ensure the cleanest vehicles are running in areas containing most persistent exceedance points to ensure compliance. Consider opportunities for regulatory measures such as licensing standards to complement funding incentives to accelerate fleet upgrades.</p>
Clean air promotion of clean air initiatives	<p>Explore opportunities for EVCI investment to support expansion of Car Club in and around city centre and wider city.</p> <p>Target GM CAP funding to continue to roll out sustainable transport infrastructure investment and messages particularly in and around the regional centre to reduce emissions in key exceedance areas. This will include a particular focus on city centre in points of persistent exceedance, such as Deansgate and surrounding streets, as well as other active travel and public transport schemes.</p>

Vehicle type	Measure subject to review during participatory policy approach
	Explore opportunities for GM CAP funding to support other infrastructure investment to address air quality issues, such as green infrastructure.

Table 9 Greater Manchester CAP Cluster Measures

Exceedance cluster	Measure subject to review during participatory policy approach
City centre	<p>In the city centre, bus emissions account for at least 70% of total NO_x emissions at the majority of locations and therefore electric buses can be very effective. Initial sensitivity testing indicates that delivery of sufficient bus electrification would achieve compliance at these locations by 2025. A delivery plan is under development with the aim of achieving this.</p> <p>Further work is also underway to develop a proposition for taxi that encourages upgrade to the cleanest vehicles, and to explore how investment in highway and other transport infrastructure under the city centre transport strategy can best support clean air.</p>
Regent Road	<p>Emissions on Regent Road are principally derived from commercial and logistics traffic, which accounts for c.50%. In addition, the corridor is immediately fed by the M602 motorway and subject to the implications of National Highways signage and traffic management policies.</p> <p>Salford City Council (SCC) and MCC have commissioned analysis via TfGM to improve understanding of the operation of the road and nature of the traffic on Regent Road to help with the joint working with National Highways (NH) which must include how the deployment of funds and local servicing plans can support appropriate solutions to deal with the exceedance at this location.</p> <p>Note that Electric Towns and Cities Infrastructure initiative (ETCI) – NH initiative being explored for mitigation for sections of the SRN.</p>
Bury Bridge	<p>The electrification of bus services over the bridge should happen with the first 50 new zero emission buses that will be brought into service with the launch of the regulated bus system in Wigan and Bolton. Initial sensitivity testing indicates that delivery of sufficient bus electrification would achieve compliance at this location by 2025. A delivery plan is under development with the aim of achieving this.</p>

- 10.4.4 Under an investment-led non-charging GM CAP the ANPR cameras installed for the Class C charging CAZ could be used to inform and support the development of investment-led solutions- for example, ANPR cameras could help determine eligibility for upgrade funding by identifying those non-compliant vehicles travelling most regularly through areas of NO₂ exceedance. GM would also want to utilise the ANPR cameras for potential law enforcement activity related to the detection of crime, subject to the consideration of the outcome of public consultation.
- 10.4.5 Greater Manchester will continue to seek to ensure that the Government takes appropriate action to address exceedances on the A628/A57, a stretch of the Strategic Road network, managed by National Highways that cuts through the villages of Hollingworth and Mottram.

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11 How will Greater Manchester deliver the New GM CAP?

- 11.1.1 The ten Greater Manchester local authorities have taken a region-wide approach to producing a GM CAP because it is recognised that air pollution does not respect local authority boundaries. This enables a consistent and coordinated approach, maximising air quality benefits for all people living and working in Greater Manchester, whilst minimising the risk of unintended consequences. These could include the displacement of existing, elevated NO₂ concentrations to other locations within Greater Manchester. A coordinated approach also helps to ensure, as far as possible, alignment between the GM CAP and other Greater Manchester strategies, including the existing Greater Manchester Air Quality Action Plan.^{66,67}
- 11.1.2 Governance arrangements for the ten Greater Manchester local authorities have been established through the Greater Manchester Clean Air Charging Authorities Committee⁶⁸ (a committee created to enable joint decision-making by the 10 local authorities as charging authorities) and the Air Quality Administration Committee⁶⁹ (a further joint committee created by the ten Greater Manchester local authorities and the GMCA).
- 11.1.3 Whilst the New GM CAP will propose an alternative to a Greater Manchester-wide Class C charging CAZ, as set out in **Section 9**, the approach to delivery of the New GM CAP will not change and will build upon the existing collaborative delivery and governance arrangements already developed between the ten local authorities through the development of the Previous GM CAP. The New GM CAP will also be developed in conjunction with a range of stakeholders, using a 'Participatory Policy Development' process, which is described in **Section 12**.

⁶⁶ <https://www.greatermanchester-ca.gov.uk/media/1272/air-quality-action-plan-2016-21.pdf>

⁶⁷ <https://www.greatermanchester-ca.gov.uk/media/1276/low-emission-strategy-dec-2016.pdf>

⁶⁸ [Clean Air Charging Authorities Committee Terms of Reference.pdf \(greatermanchester-ca.gov.uk\)](#)

⁶⁹ [Terms of Reference - Air Quality Administration Committee.pdf \(greatermanchester-ca.gov.uk\)](#)

12 How will Greater Manchester ensure a participatory approach to the development of a New CAP?

12.1 Changing Public Awareness

12.1.1 The Previous GM CAP development has gone through multiple stages including an options assessment. That options assessment concluded in February 2019 that a Greater Manchester-wide Class C charging CAZ was the preferred option to achieved air quality compliance in the shortest possible time, as accepted by government per ministerial Directions issued in 2019 and 2020. Since that stage, the proposals forming the GM CAP have been refined based on further evidence gathering and stakeholder consultation which formed the Previous GM CAP in Summer 2021. This included:

- In 2019, a public conversation⁷⁰ was held on the proposals at the outline business case, with over 3,300 responses.
- Between 8 October and 3 December 2020, a statutory consultation on the GM CAP was held on the proposed Class C charging CAZ. A total of 4,768 responses were received during the consultation period.
- A six-week public consultation commenced from the 1st September 2021 on the inclusion of motorhomes classified as MSP1 within the scope of CAZ charges and on the inclusion in the GM CAZ of the A575 and A580 at Worsley. The analysis of consultation responses was paused when the review of the Previous GM CAP commenced.

12.1.2 Signage implementation for the GM Class C charging CAZ commenced on 29th September 2021 with temporary sign faces developed in accordance with existing DfT authorisation to raise awareness about the zone. In January 2022 a Facebook group formed asking Greater Manchester leaders to rethink the GM CAP. In a short space of time this group gathered 85,000 followers on a social media page with the core aim of the campaign stating something needed to be changed or the scheme needed to be scrapped all together.

12.2 Participatory Approach

12.2.1 The ten Greater Manchester authorities are currently working to develop the New GM CAP, in conjunction with a range of stakeholders. This wider, more participatory approach will ensure that the Plan works for the residents and businesses of Greater Manchester. This process is set out below.

⁷⁰ The information provided at the conversation, as well as the summary of responses can be found here:
<https://cleanairgm.com/technical-documents>

- 12.2.2 The 10 authorities are working to ensure that the New GM CAP is the right fit to deal with Greater Manchester's challenges, both in economic and air quality terms. Given the situation – a poor economic outlook for the UK as a whole and for Greater Manchester – and increasing evidence of the harm poor air quality causes, this is a delicate balance.
- 12.2.3 Integral to the success of any New GM CAP is active engagement with those it will affect. Greater Manchester is committed to undertaking a participatory approach to the development of the New GM CAP to ensure that Greater Manchester's proposals consider evidence regarding deliverability and the impacts on affected groups. Greater Manchester has conducted such engagement throughout the development of the GM CAP, and will continue to do so at this next, critical, stage.
- 12.2.4 Due to the timescales governing the initial submission back to Government, it is proposed that Greater Manchester will continue with a process of Participatory Policy Development after this initial submission is provided. This is described further in **Section 15** and will involve engaging with a wide range of stakeholder groups to continue to gather feedback on proposals as they are developed.

13 What are the equalities considerations?

13.1.1 Under Section 149 of the Equality Act (2010), public bodies are subject to the Public Sector Equality Duty, which requires that they have due regard to the need to:

- Eliminate discrimination, harassment, victimisation, and any other conduct that is prohibited by or under the Act;
- Advance equality of opportunity between persons who share a protected characteristic and persons who do not share it; and
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

13.1.2 The aim of an Equality Impact Assessment (EqIA) is to identify whether people with protected characteristics could be affected by the GM CAP disproportionately or differentially:

- Disproportionate effects arise when an impact has a proportionately greater effect on people with protected characteristics than the rest of the population.
- Differential effects arise where people with protected characteristics could be affected differently from the rest of the population, due to a particular need or sensitivity.

13.1.3 In addition to the 9 protected characteristics covered within the Equality Act, the majority of Greater Manchester's local authorities also consider socio-economic deprivation as a characteristic in their equality assessments. As such, low income / socio-economic deprivation will be considered in this instance.

13.1.4 A full EqIA will be undertaken to support and inform the development of the policy and measures within the New GM CAP. This will build on the learning from the work undertaken in 2020-2021, taking into account the proposed measures and updated demographic and socio-economic data, including the 2021 census data if available.

13.1.5 An initial screening has been undertaken to assess which protected characteristics are likely to be impacted by the New GM CAP, and in scope for the EqIA as shown in **Table 10**.

Table 10 Equality Considerations - Protected Characteristics

Protected characteristic	Likely to be disproportionately affected by improved air quality	Likely to be differentially affected by improved air quality
Age		x
Disability (includes all forms of physical and mental disability)		x
Pregnancy and maternity		x
Gender (male drivers)	x	
Race	x	
Low income / socio-economic deprivation	x	

13.1.6 The 2022 Direction requires that any revised GM CAP must reduce NO₂ concentrations to below legal limits in the shortest possible time and by 2026 at the latest. In addition to a GM-wide assessment of the impact of improved air quality on the scoped-in groups, the EqlA will pay particular attention to those communities within, or neighbouring the last points of exceedance: namely, those in the city centre, at Bury Bridge and Regent Road.

13.1.7 Those impacted by air quality changes with protected characteristics could potentially be impacted by the proposed measures adopted within the New GM CAP. The nature and scale of the impact will depend on the preferred policy option and the measures chosen. Therefore, **Table 11** provides a summary of the protected characteristics which will also be considered in the EqlA.

Table 11 Equality Considerations – Protected Characteristics Scope

Protected characteristic	Potential disproportionate impact dependent on option
Age	X
Disability (includes all forms of physical and mental disability)	X
Pregnancy and maternity	X
Race	X
Religion / belief	X

Protected characteristic	Potential disproportionate impact dependent on option
Sex	X
Gender Reassignment	X
Sexual Orientation	X
Low income / socio-economic deprivation	X

13.1.8 As a result of this screening process, marriage and civil partnership will not be scoped into the EqlA process for the New GM CAP.

13.1.9 To inform a robust EqlA for the New GM CAP the approach to Participatory Policy Development, as described in **Section 12**, will include engagement with Greater Manchester-based organisations and networks which represent protected characteristic groups that could potentially be impacted by the New GM CAP. Representative groups will be identified at the next stage and their feedback will also be used to inform the final EqlA.

14 Government asks

14.1.1 Throughout the development of the GM CAP the 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 National Highways 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 time⁷¹.

14.1.2 In particular, Greater Manchester had been clear from the outset in the OBC for the GM CAP (2019) that any GM CAP based on significant vehicle change could only be sustained under stable vehicle market conditions. Greater Manchester had been from the outset concerned about the scale and diversity of the LGV fleet/LGV-owning business sectors; the fact that compliant diesel LGVs had only become available in 2016; the high volume of diverse and active Small and Medium-sized Enterprises (SMEs) in Greater Manchester, many of whom rely on small commercial vehicles on a daily basis; and the relatively old age profile of LGVs in Greater Manchester.

14.1.3 Greater Manchester therefore required Government to maintain a clear oversight of the supply chain conditions, within which the GM CAP would have to operate, recognising the structural nature of markets that are beyond the influence of any one local authority or area.

14.1.4 Further, one key barrier preventing Greater Manchester local authorities from being able to effectively oversee the progressive improvement of private hire vehicle (and therefore emission) standards, is the ongoing ability of vehicle owners / drivers to be licensed 'out of area'.

14.1.5 Over the past three years, the ten Greater Manchester local authorities have worked together to adopt Minimum Licensing Standards to increase public safety including driver standards, rationalising age and emissions policies and livery on vehicles. However, the effect of out-of-area licensing has been to undermine Greater Manchester's approach, and to negatively impact public safety while doing nothing to improve public confidence in a well-regulated local trade.

⁷¹ Greater Manchester 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 CAP.

- 14.1.6 Accordingly, Greater Manchester is looking to secure, via Greater Manchester's Devolution Trailblazer bid, a commitment from Government to devise an appropriate regulatory approach that will legally require that all private hire journeys within the Greater Manchester boundary must be undertaken by a driver and vehicle which are both licensed by one of the ten Greater Manchester local authorities. The effect would be to ensure that private hire operators with a license to operate in one or more of the ten Greater Manchester local authorities will be required to serve any intra Greater Manchester journey request with a locally licensed driver and locally licensed vehicle.
- 14.1.7 Greater Manchester represents the ideal spatial scale to introduce this vital measure. With over 40 million trips taken each year by hackney and private hire vehicles, around 20,000 driver licenses issued and 13,000 vehicle licensed locally across an area with a coherent economic geography, the vast majority of these trips are undertaken within the external boundary of the ten Greater Manchester local authorities.
- 14.1.8 Government's response to the DfT Task and Finish Group on taxi and private hire licensing report was to highlight that *"Local authorities are accountable for licensing in their areas and it is only right that they have the powers to properly shape and influence their local market."* To this end, Greater Manchester is keen to work with the Department to *"consider further (with a view to legislation) how it might best work in detail"*.⁷²
- 14.1.9 As it stands, out-of-area operation enables the evasion of fair, safe and democratically determined local licensing standards, which undermines public safety as well as local measures to progressively improve up driver and vehicle standards.
- 14.1.10 In context of the GM CAP, the ability to provide local licensing standards would help to improve the emission standards of taxis operating in Greater Manchester whilst providing incentives to upgrade non-compliant vehicles. This complementary measure would provide more certainty in Greater Manchester's ability to meet required exceedance levels.
- 14.1.11 Under an investment-led non-charging GM CAP the ANPR cameras installed for the Class C charging CAZ could be used to inform and support the development of investment-led solutions. GM also wants to work with Government to agree the use of the GM CAP ANPR cameras to support identification of vehicles that could be upgraded, and also for potential law enforcement activity related to the detection of crime.

⁷² <https://www.gov.uk/government/publications/taxi-and-private-hire-vehicle-licensing-government-response-to-independent-report>

15 Next steps

- 15.1.1 Greater Manchester recognises that the current economic climate has changed. This has impacted on individuals and businesses' ability to upgrade their vehicles and ultimately, deliver compliance in the shortest possible time.
- 15.1.2 This submission has set out the evidence base underpinning Greater Manchester's belief that a charging CAZ scheme is no longer the best solution to deliver compliance. Additionally, this submission has set out that an investment-led non-charging GM CAP is the best solution to address the air quality problem in Greater Manchester.
- 15.1.3 In support of this submission, Greater Manchester has engaged with the following key groups to discuss their experiences of current economic and vehicle market conditions and validate the evidence and conclusions set out throughout this submission document. The groups that have been engaged with prior to this submission are:
- Greater Manchester business leaders as convened through the LEP Chair;
 - Road Haulage Association;
 - A number of Hackney Carriage and PHV groups including trade representation organisations, the National Private Hire and Taxi Association and the Licensed Private Hire Car Association;
 - One Bus Partnership – representing bus operators in Greater Manchester; and
 - The Confederation of Passenger Transport.
- 15.1.4 Feedback from these discussions is reported to the Air Quality Administration Committee on the 1st July 2022. Following submission of this document, Greater Manchester will undertake a Participatory Policy Development process. This will involve exploration of three aspects of policy:
- Developing Greater Manchester's electric bus proposition, including identifying bus routes and services to be upgraded, assessing the impact on NO₂ concentrations and proposing a delivery plan;
 - Developing a Fund proposition and any other measures to encourage upgrade to cleaner vehicles considering questions such as what funding offer would be effective, who should be in scope for funding, and whether funds should be targeted at the last points of exceedance; and
 - Carrying out local area studies of the last points of exceedance to assess what measures are required to achieve compliance at each site.

15.1.5 The policy development process will involve the following stages:

- Evidence gathering – including via stakeholder engagement, research and the development of analytical tools and methods for estimating the impact of different measures;
- Review of that evidence to define the challenge and inform the development and assessment of different individual measures and policy options; and
- Development of a package of proposed measures and assessment of that package.

15.1.6 At each stage of this process, stakeholder input and feedback will be sought and this will be used to inform the proposed package of measures and ensure that it has been designed in collaboration with those affected by the scheme.

15.1.7 Alongside the Participatory Policy Development process, Greater Manchester will work with JAQU to agree the submission requirements for a New GM CAP and will review delivery plans and operational requirements for any new scheme, including financial and commercial considerations.

15.1.8 As the final output of the Participatory Policy Development process, Greater Manchester will have developed, assessed and agreed a package of measures forming a proposed New GM CAP, suitable for public consultation. It is anticipated that local authorities would be in a position to proceed with public consultation in early 2023.

15.1.9 The requirement for statutory consultation on the GM CAP arose as a consequence of the use of Transport Act 2000 powers for road user charging and therefore it is likely that an investment-led non-charging GM CAP would not require statutory consultation. However, in line with the principles for the review outline by Greater Manchester authorities in the Spring, it is proposed that broad public engagement on the New GM CAP will be undertaken in line with good local authority practice, to ensure impacts are understood, and in particular to inform the ongoing equality impact analysis.

15.1.10 Greater Manchester will review the responses to the consultation and make any adaptations to the proposals as necessary. It is anticipated that local authorities could be in a position to make a decision to proceed with the New GM CAP in July 2023.

15.1.11 Greater Manchester will agree with JAQU the nature and timescale of a submission to Government. Alongside the proposed package of measures and policy for a New GM CAP, it is anticipated that this would include analysis setting out the air quality and socio-economic impacts of the scheme and an EqIA.

- 15.1.12 The submission will set out Greater Manchester's approach to managing the performance of the scheme through a performance management plan, a monitoring and evaluation plan and an adaptive planning process if alterations to the scheme post-implementation are required. This will ensure that the policy contained in the New GM CAP remain appropriate throughout the lifetime of the interventions. Air quality monitoring data will be kept under review and further action may be taken at any sites identified as being at risk of persistent exceedance.
- 15.1.13 Through preparation and commissioning of the Previous GM CAP, Greater Manchester has experience in engaging and appointing contractors to deliver clean air benefits. The scheme submission will include a delivery plan to provide confidence in the proposed procurement and management approach for delivery of each aspect of an investment-led non-charging GM CAP.