

GM Clean Air Plan - Tackling Nitrogen Dioxide exceedances at the Roadside

Outline Business Case – the journey so far

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Lynda Stefek
Salford City Council

Points to be covered

- How much of a problem is air pollution in Salford and Greater Manchester?
- What options have GM and TfGM looked at for addressing air quality?
- What are the challenges?
- How can people input into the plans and find out more?

How much of a problem is air pollution in Salford and Greater Manchester?

Consequences of Poor Air Quality

Health effects from exposure to air pollution

- Poor air quality can have long term health impacts on all and immediate effects on the most vulnerable in society; the youngest, the oldest, those living in areas of deprivation, and those with existing respiratory or cardiovascular disease are most likely to develop symptoms due to exposure to air pollution
- Long-term exposure to elevated levels of particulate matter (PM2.5) and nitrogen dioxide may contribute to the development of cardiovascular or respiratory disease, and may reduce life expectancy

Effect of air pollution within Greater Manchester

- It's estimated that approximately 5% of deaths (1200) each year in Greater Manchester are attributable to particulate air pollution
- However it is important to acknowledge that Coronary Heart Disease and cancer are the leading causes of death in Salford, which smoking and poor diet are the leading risk factors.

Background

- The UK has been in breach of the legal limits for NO₂ since 2010.
- Government v ClientEarth in High and Supreme Courts
 - Government plans judged as failing to achieve legal NO₂ limit values “in the shortest possible time”
 - 60+ local authorities directed by Government to take action.
- National air quality plans - Joint Air Quality Unit (JAQU – DfT & Defra)

AIR POLLUTION

can be split into **TWO** categories

NO_2

Gases including benzene,
carbon monoxide, carbon dioxide,
ozone and nitrogen dioxide

PM

Particles of dust (particulates)
and liquid droplet suspended
in the air



ROAD TRANSPORT

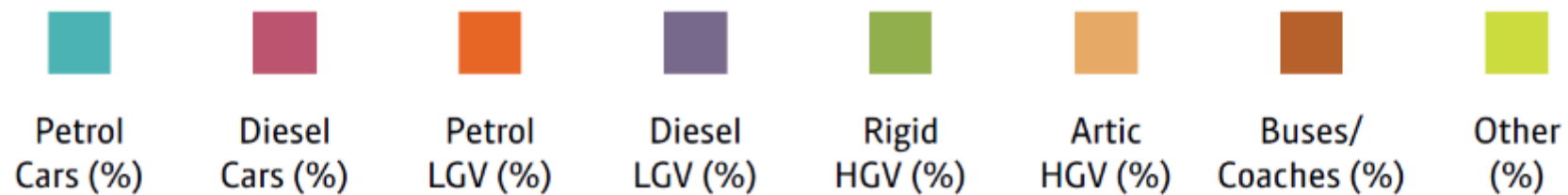
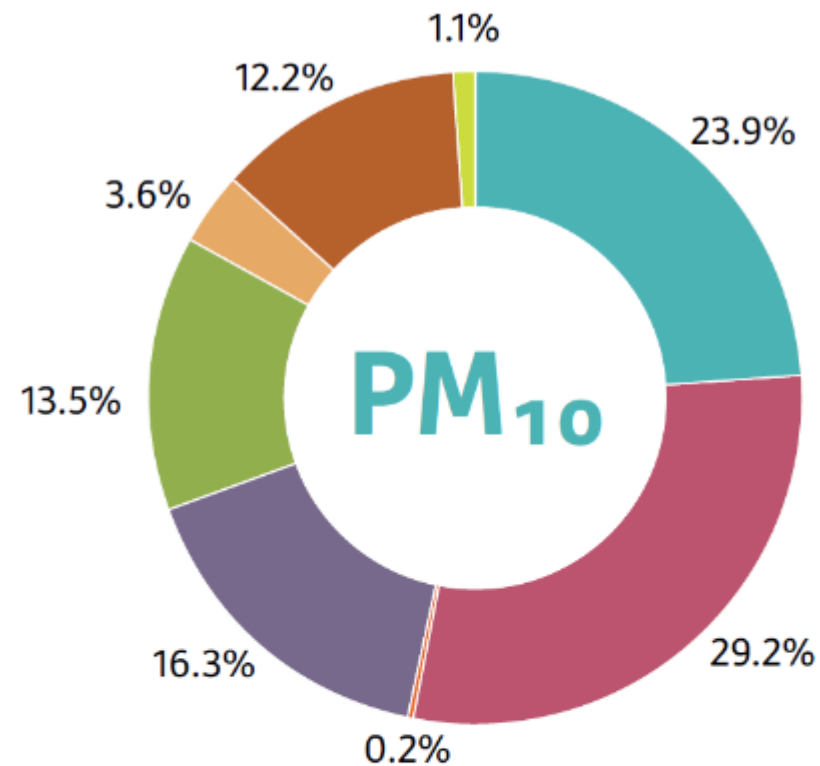
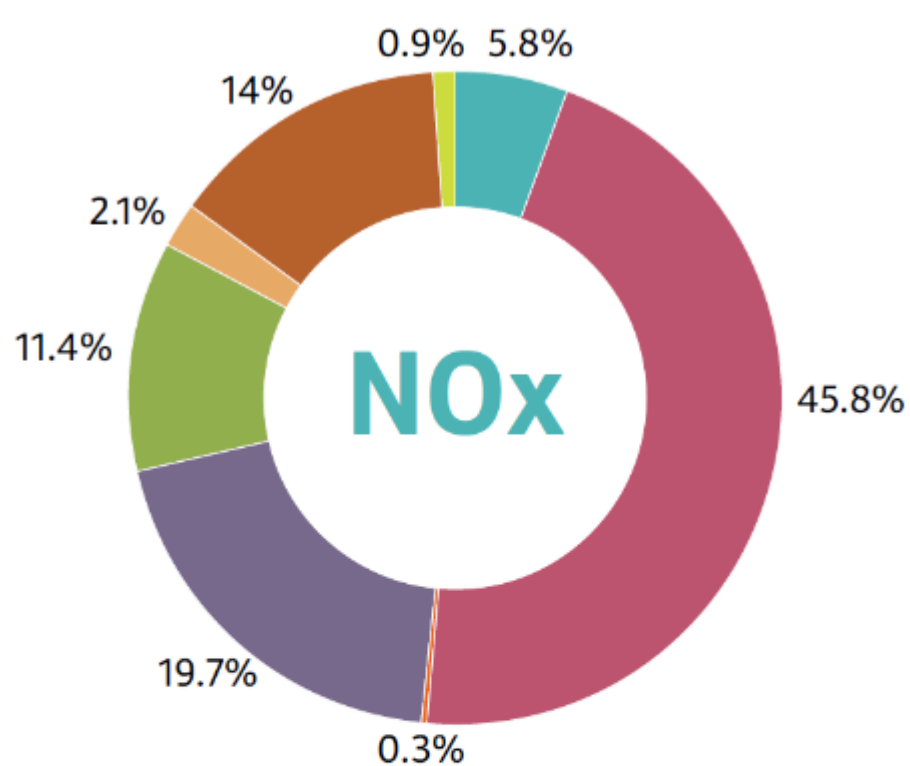


is responsible for

80%

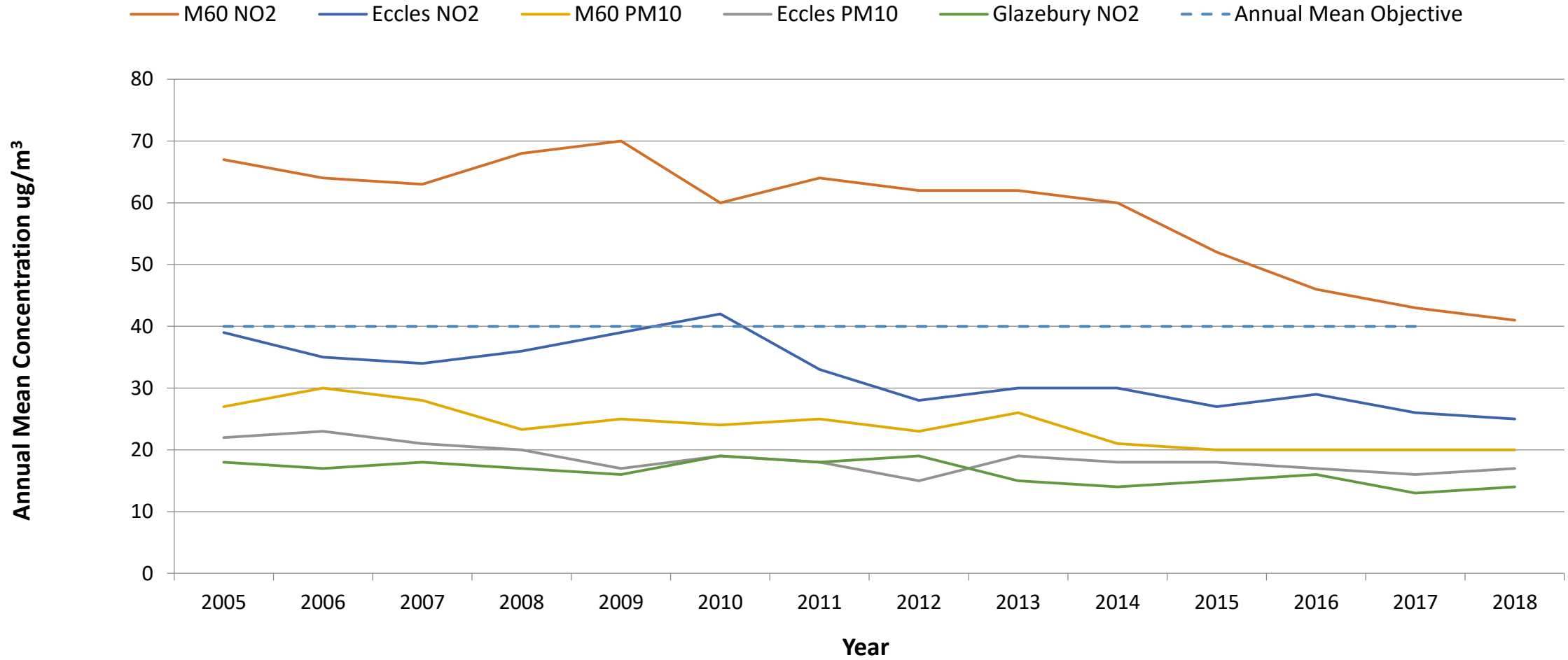
of NO_2
CONCENTRATIONS

AT ROADSIDE, OF WHICH DIESEL VEHICLES
ARE THE LARGEST SOURCE.

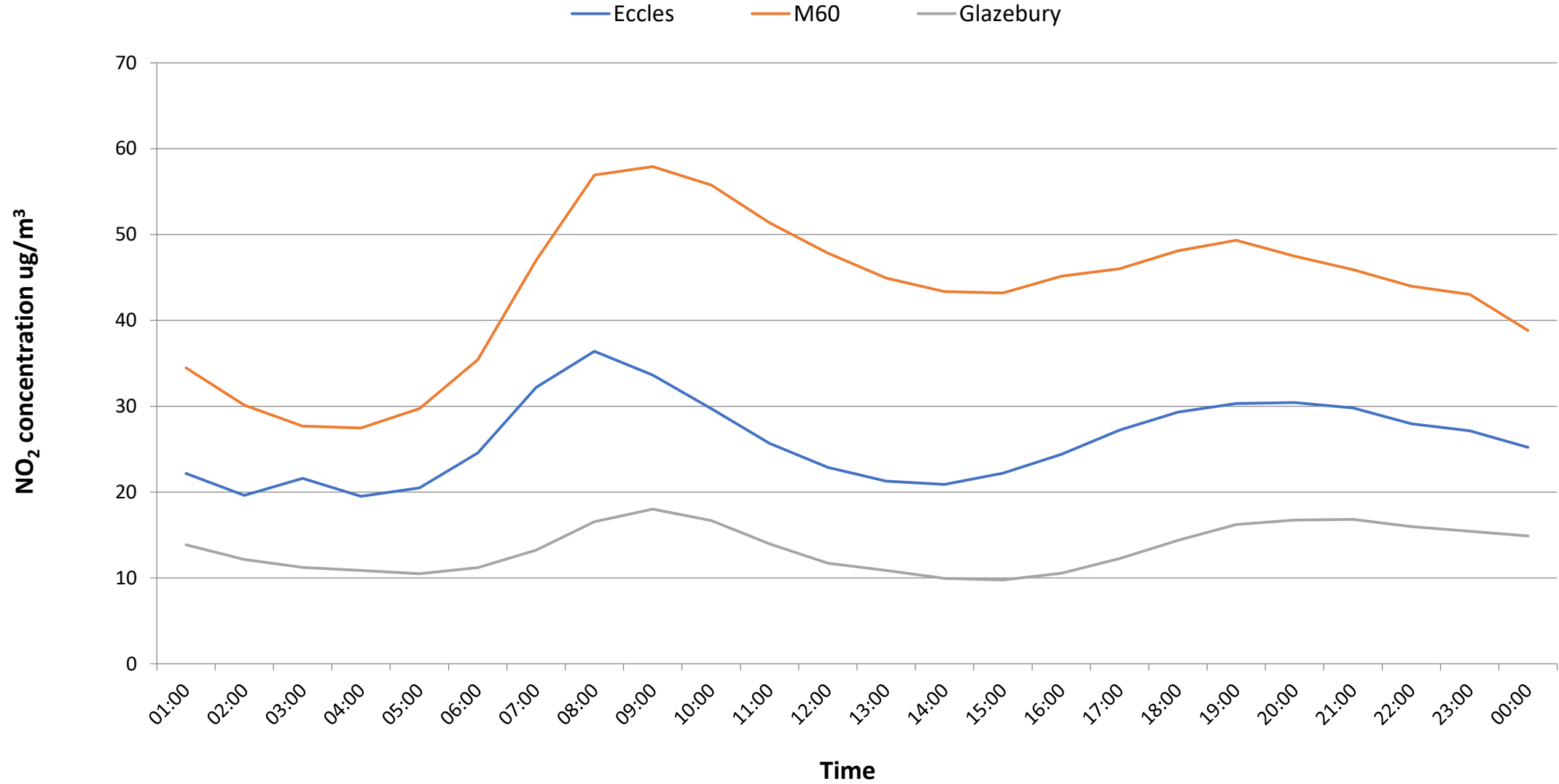


Other: motorcycles and alternative fuel vehicles e.g. hybrid, electric, biogas

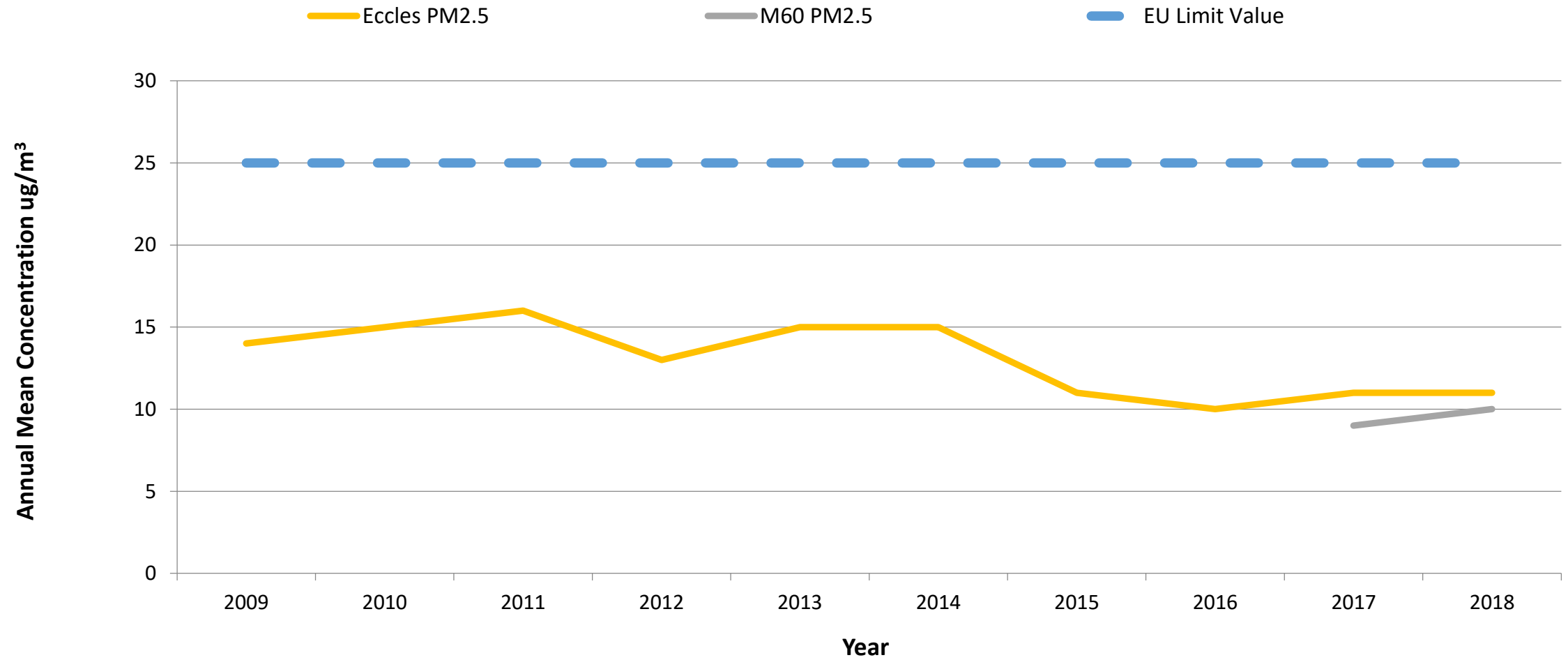
Salford Automatic Monitoring Results 2005 to 2018



Salford Average Daily Variation in NO₂ Concentrations 2017



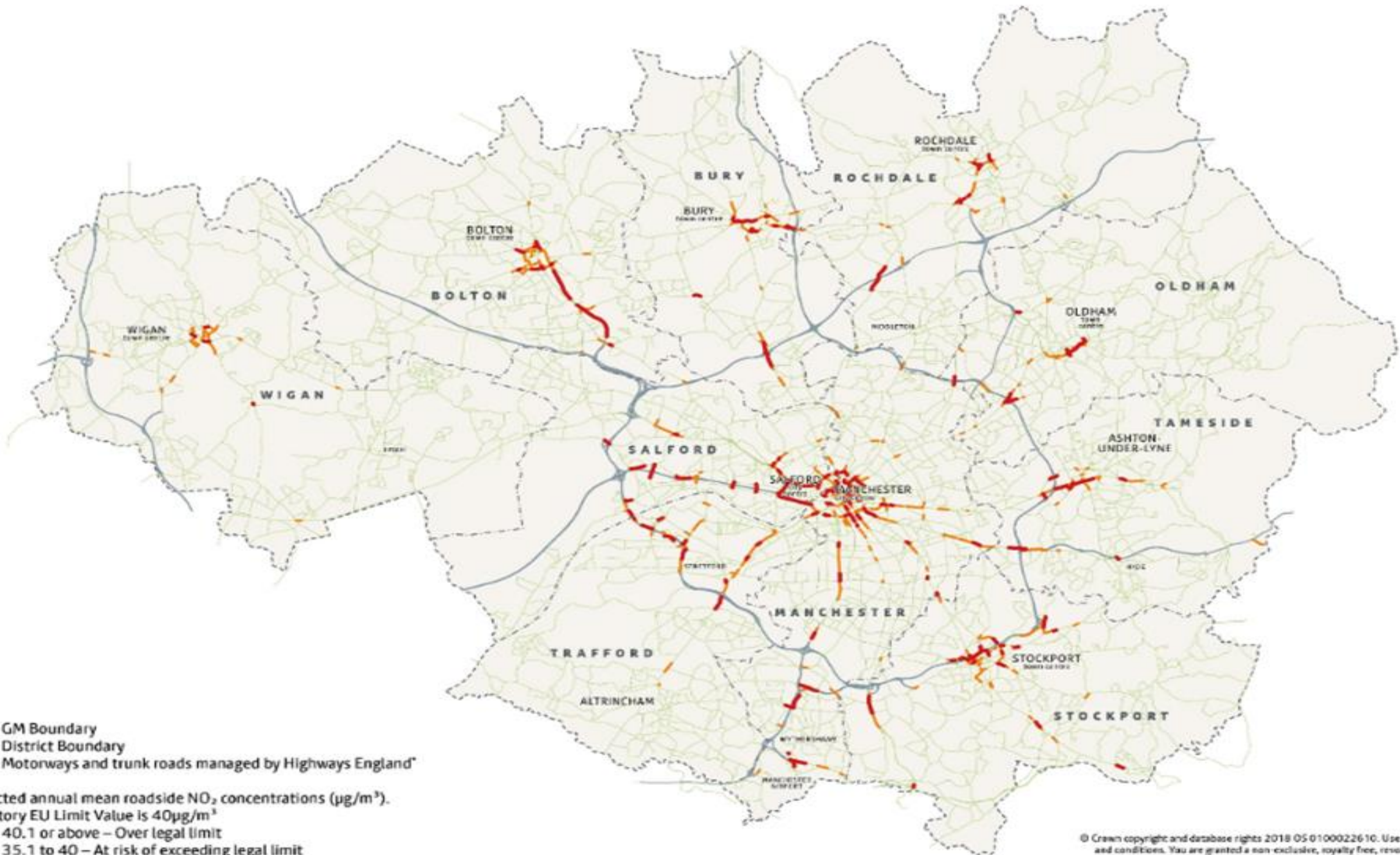
Salford Automatic Monitoring PM2.5 Results 2009 to 2018





UNDERTAKE A DETAILED FEASIBILITY STUDY

to assess the options for reducing NO₂ to legal limits in the shortest possible time (benchmarked against a Charging Clean Air Zone)



Key

- GM Boundary
- District Boundary
- Motorways and trunk roads managed by Highways England*

Predicted annual mean roadside NO₂ concentrations (µg/m³).
 Statutory EU Limit Value is 40µg/m³

- 40.1 or above – Over legal limit
- 35.1 to 40 – At risk of exceeding legal limit
- 35 or below

* Concentrations not included as out of scope for the GM Clean Air Plan

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What options have GM and TfGM looked at for addressing air quality

Tackling elevated levels of NO₂ at the roadside



Six Options combining the shortlisted measures were developed in Summer 2018: high level assessment concluded that 4 & 5 were most likely to deliver compliance in the shortest possible time

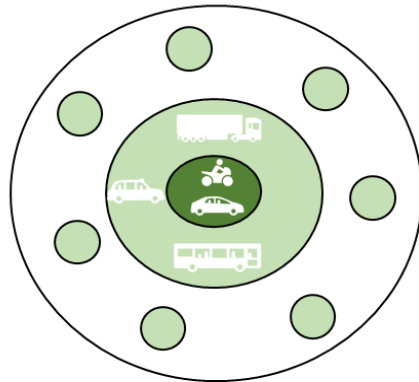
1. Incentivisation measures only	2. Parking	3. Charge-based CAZ: Minimum	4. Charge-based CAZ: More & Local	5. Charge-based CAZ: More & GM	6. Charge-based CAZ: Everything
<ul style="list-style-type: none"> • Increase PT • Active travel • More parking @P+R • Switch to GtL (HGV) • EV incentives: charge points, free parking • EV taxi incentives • Traffic mgt • Retrofit PT fleet • Improve LA fleets • Comms/awareness • Travel choices 	<p>Option 1+</p> <ul style="list-style-type: none"> • All on-street parking differential • Differential parking in public car parks • Workplace parking levy 	<p>Option 1 +</p> <ul style="list-style-type: none"> • CAZ D Inner Ring Road with 2 year sunset period for residents, scrappage scheme, Blue badge & blue light & classic car exempt • Parking controls • More PT & active travel investment • Possible fares incentives 	<p>Option 1+</p> <ul style="list-style-type: none"> • CAZ D Inner Ring Road <i>with all support measures</i> • CAZ – Class C M60 • CAZ – Class C Satellites <i>both with</i> • 2 year sunset period for local SMEs • Scrappage scheme (vans) • Blue light exempt 	<p>Option1 +</p> <p>ULEZ Inner Ring Road inc. charging all diesel cars <i>with all support measures</i></p> <ul style="list-style-type: none"> • CAZ C M60 <i>with all support measures</i> • Annual license scheme for taxis & phvs GM-wide • LEZ for HGVs & coaches GM-wide 	<p>Option 1+</p> <ul style="list-style-type: none"> • CAZ D GM-wide <i>with</i> • Scrappage schemes, • Blue badge & blue light & classic car exempt
<p>Insufficient by itself. <i>Best performing measures incorporated into all Options</i></p>	<p>Rejected: Poorly targeted and not deliverable</p>	<p>Rejected: Insufficient beyond city centre</p>	<p>Best Performing: adapted versions progressed to next stage</p>		<p>Rejected: Not deliverable or effective</p>

Three options were considered further in Autumn 2018. Local Authorities raised concerns around socio-economic impacts and need to explore further options

Best Performing Options

Phase One

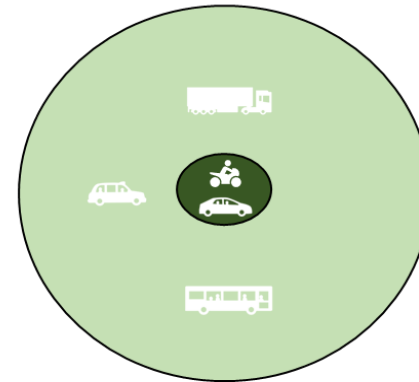
Option 4



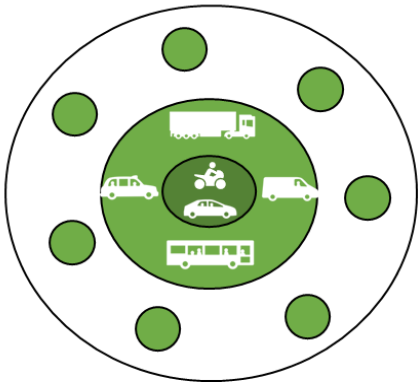
Option 5 (i)



Option 5 (ii)



Phase Two



A city centre penalty for high polluting vehicles including cars and within the M60 and town centres for high polluting commercial vehicles

A city centre penalty for high polluting vehicles including cars and GM-wide for commercial vehicles

A city centre penalty for high polluting vehicles including all diesel cars and GM-wide for commercial vehicles

As well as Clean Air Zones, the package of measures included:

- Active travel
- EV incentives
- EV taxi incentives
- Retrofit PT fleet
- Improve LA fleets
- Comms/awareness

As a result, further work was undertaken to address these concerns, and two additional Options were developed and assessed

This involved:

- Additional analysis of the socio-economic impacts of the existing and new options
- Assessment of two new Options, following the same process as utilised to date

Like the other Options, the packages also include incentive measures.

Option 7



A GM-wide penalty for buses, taxis (hackney cabs/PHVs) and commercial vehicles

Option 8

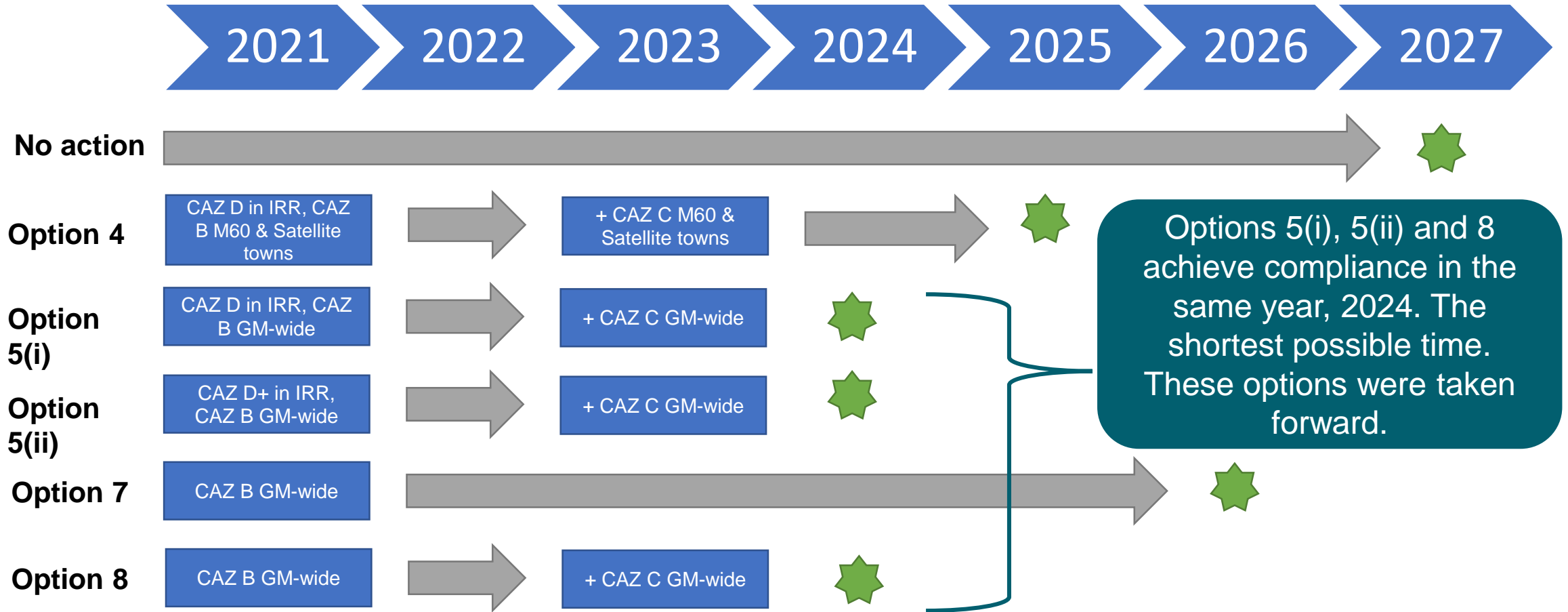


A GM-wide penalty for buses, taxis and commercial vehicles in phase one, expanding to LGVs in phase 2

Phase 1

Phase 2

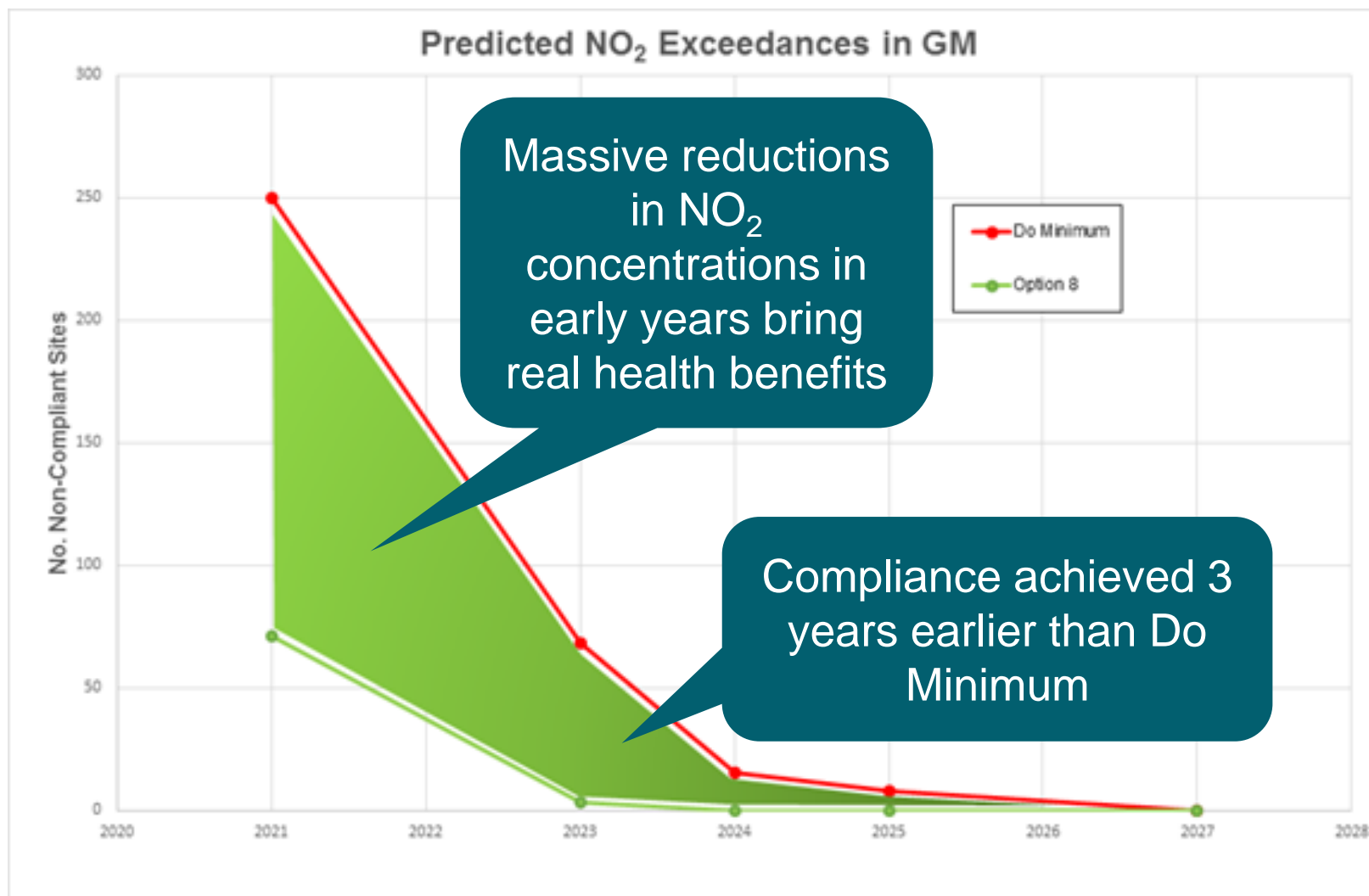
By taking action through a package of measures, legally compliant levels of NO₂ concentrations can be achieved as early as 2024



Options 5(i), 5(ii) and 8 achieve compliance in the same year, 2024. The shortest possible time. These options were taken forward.

= Compliance achieved GM-wide

Option 8 delivers compliance in the shortest possible time, and considerable health benefits between 2021 and 2023



The preferred package of measures

The preferred package of measures as outlined in the GM Clean Air Plan Outline Business Case includes:

- **Clean Air Zone Category C across GM**
 - Phase 1: (assumed from 2021) daily penalty for non-compliant buses, taxis/PHV and HGVs
 - Phase 2: (assumed from 2023) expanding to non-compliant LGVs
- **Vehicle Renewal Schemes**
 - Clean Freight Fund – HGV's £59m,
 - Clean Taxi Fund – Taxi & PHV's £29m,
 - Clean Bus Fund – Buses and Coaches £28m,
 - Loan Finance – to be determined
- **Electric Vehicle Infrastructure and Promotion**
 - 300 public Charging points – plans to be doubled
- **Sustainable Journeys** (behaviour change activity)
- £500m cycling and walking network covering 1000miles

The preferred package of measures – cont.

- **Supported by**
 - Local Authority & Greater Manchester Fleet Upgrades,
 - a review of Parking Standards,
 - Bus Capacity Network Planning and
 - ongoing activity arising from existing investment decisions to improve Greater Manchester's active travel and transport network
- **Sitting alongside this package of measures is the ask of Government**
 - funding to develop workable, local vehicle scrappage / upgrade measures;
 - Replacement of non-compliant buses;
 - And a clear instruction to Highways England with regard to air pollution from the strategic highway network in Greater Manchester.

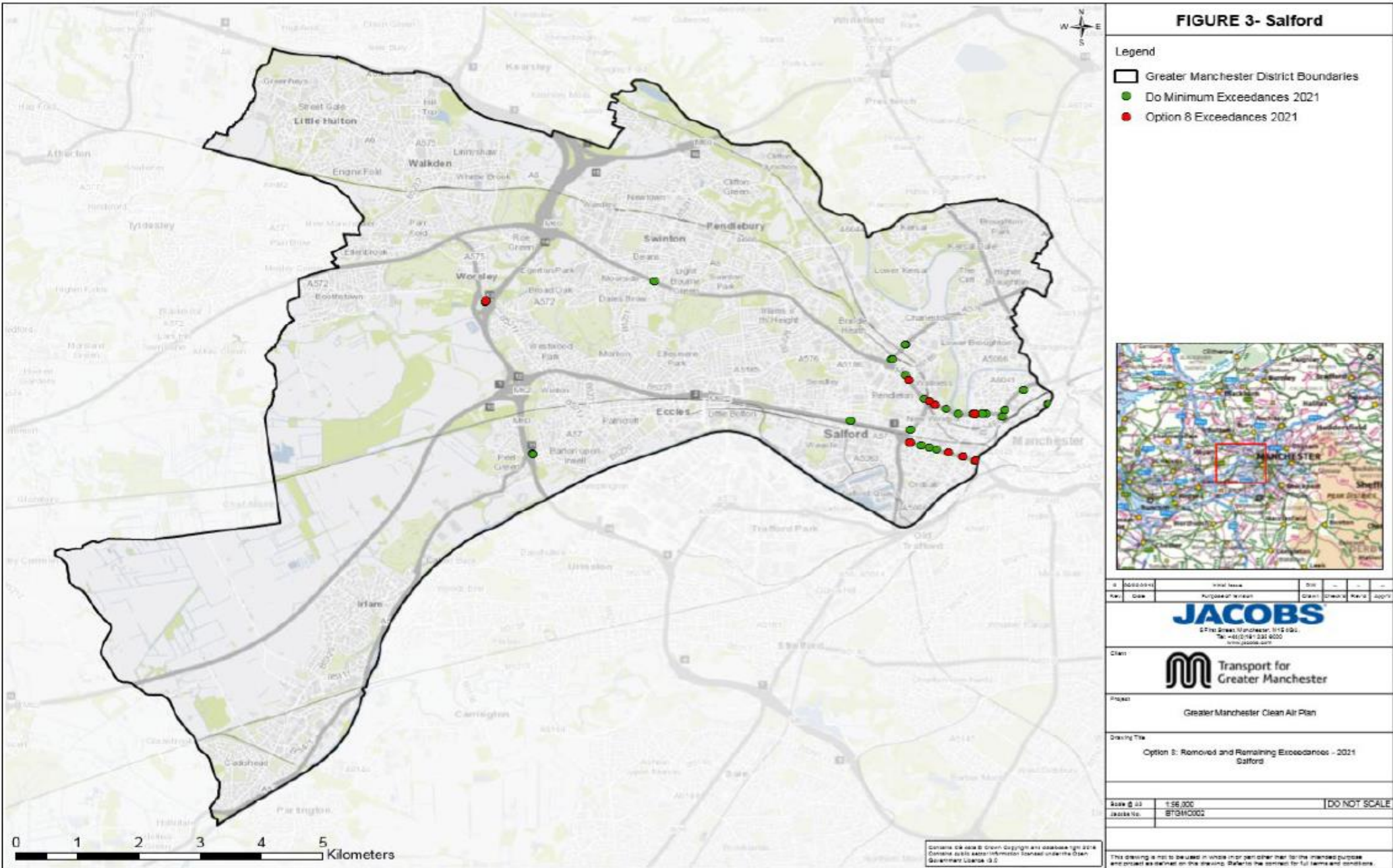


Figure 3: Predicted locations of removed and remaining exceedances of the annual mean nitrogen dioxide Limit Values with the CAP Option 8 in Salford in 2021

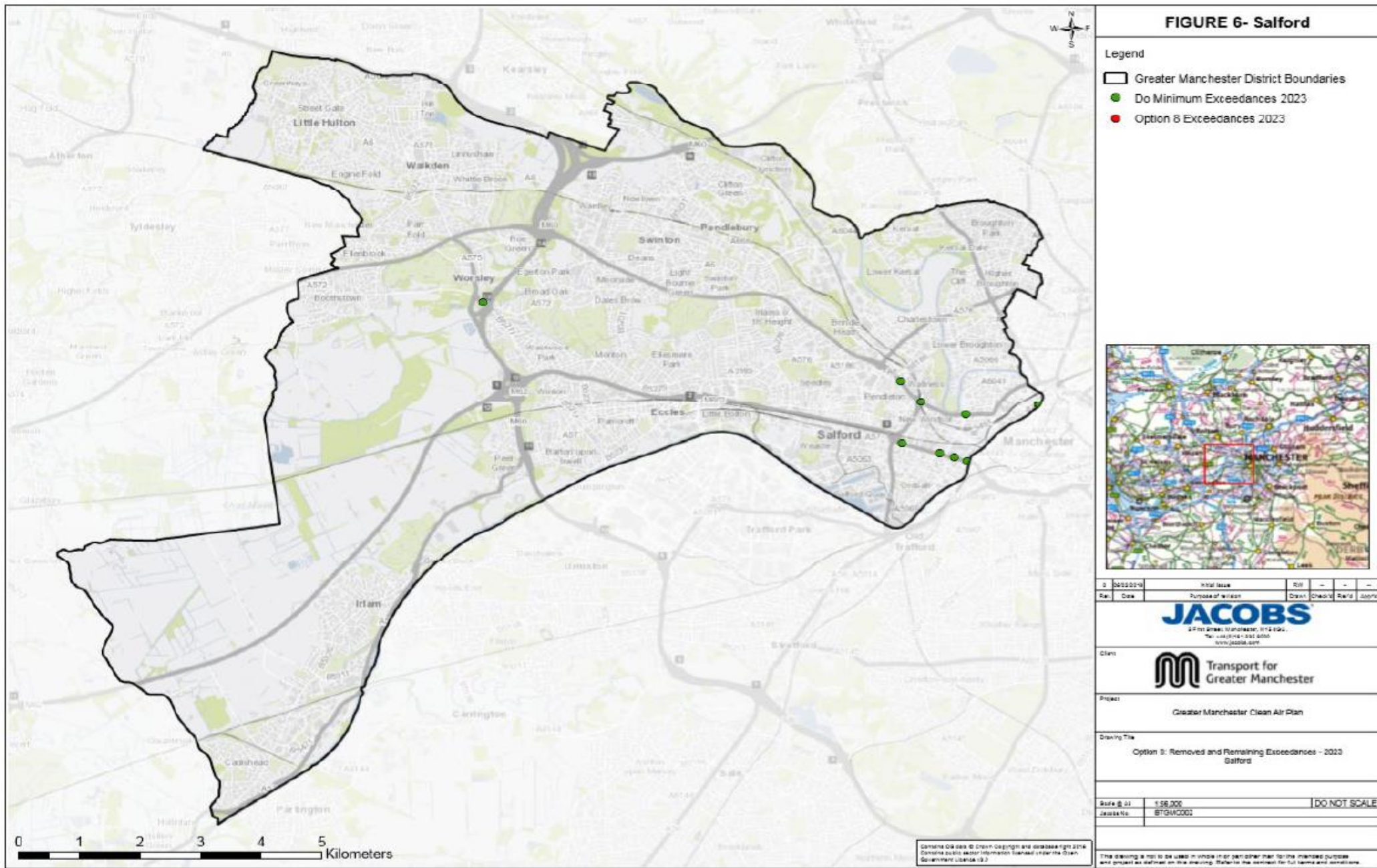


Figure 6: Predicted locations of removed and remaining exceedances of the annual mean nitrogen dioxide Limit Values with the CAP Option 8 in Salford in 2023

About a Clean Air Zone

Categories: Government has specified four categories of Clean Air Zones where drivers of non-compliant vehicles would pay a penalty to travel within a designated area.

CLASS A –   

CLASS B –    

CLASS C –     

CLASS D –       

Age of compliant vehicles:

Car/Taxi

Diesel Euro 6 (2015)

Petrol Euro 4 (2005)

Van

Euro 6 (2016)

Bus/HGV

Euro 6 (2013)

Motorcycle/Moped

Euro 3 (2007)

Ultra-low emission vehicles with a significant zero-emission range are exempt.

Assumed CAZ penalty rates

Vehicle Type	CAZ Penalty	Full PCN
Taxi/PHV	£7.50	£120
LGV	£7.50	£120
HGV	£100	£120
Bus/Coach	£100	£120

1. Reduced to £60 if paid in 14 days
2. With discounts in place for certain groups

Re-cap

- Road transport is responsible for 80% of NO₂ concentrations at roadside of which diesel vehicles are the largest source.
- Modelling shows that illegal levels of NO₂ will span all ten Local Authorities in 2021 if no action is taken
- The GM CAP sits within GM's wider goals to deliver sustainable growth in the region
- GM is leading the way with an ambitious plan for the whole of the city-region
- The GM CAP follows a specific process and meets specific criteria as set out by Government
- An Outline Business Case, setting the direction of travel will be submitted to Government by 31 March 2019.
- In line with Government requirements, public conversation and consultation activity will take place in 2019, with a Full Business Case submitted to Government by the end of 2019.

- **What are the challenges**

Challenges

- The time frame –
 - Direction served July 2017
 - SOC March 2018
 - OBC December 2018
 - FBC December 2019
- The scale of modelling all of GM in the above timeframe
- Obtaining sufficient funding to ensure the plan is a success
- Extensive stakeholder engagement/consultation in the time frame
- Engagement with small and micro businesses
- Collating all the feedback expected
- Modelling assumptions and uncertainties – affect on date of compliance

- **How can people input into the plans?**

How can people find out more?

Public engagement - next steps

- GM Air quality campaign, focused on health impacts was launched 18 February and run until pre-election period
- Public conversation running between early May–mid June (for six weeks)
- Statutory consultation running between August–October 2019 (to be confirmed)
- Stakeholder engagement dialogue informing development of measures – continues across 2019

How to Find Out More

- <https://cleanairgm.com/>
- <https://cleanairgm.com/clean-air-plan>
- <https://cleanairgm.com/share-your-views>
- You can also email info@cleanairgm.com or phone **0161 244 1000**.

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GREATER
MANCHESTER

Lynda Stefek

Lynda.Stefek@Salford.gov.uk

0161 686 6201