

# air that is safe to breathe for all

## Sheffield's Clean Air Zone proposals

# Air pollution is killing people – it is a global public health challenge

- 7m deaths globally are caused by air pollution.
- It is responsible for an estimated up to 36,000 deaths a year in the UK
- Impacts on the day-to-day lives and life chances of our communities:
  - It makes chronic illnesses worse, shortens life expectancy and damages lung development in children
  - Causes asthma, increases the chances of hospital admissions and respiratory and cardiovascular disease.
- It's an issue of social justice
  - poorer communities are most exposed to and suffer the consequences of polluted air
  - And through poor and ill-health, air pollution impacts on people's jobs, families and incomes
- UK has been in breach of legal limits since 2010.

# We have an ambitious **Clean Air Strategy** to make the air in Sheffield safe to breathe for all our communities

- In Sheffield, toxic air contributes to around 500 deaths a year
- In 2017, we set out an ambitious Clean Air Strategy which committed us to:
  - Making the air in Sheffield safe to breathe, regardless of where people live, work or visit
  - Tackling the sources of air pollution to create a healthier city
- Clean air is a fundamental part of our Transport Strategy
- The changes we need are both immediate and for the longer term
  - challenge for how we currently move people and goods around the city
  - Short term pain to improve health and life chances.

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## **Our approach**

- close the gap between the communities with the least and most polluted air.
- focus on the biggest causes of air pollution and improve them as quickly as possible.
- support people to make healthy and active travel choices.
- particularly support and protect vulnerable people
- invest meaningful resources in becoming a clean, sustainable city.

# We're already delivering a number of approaches to reduce harmful air

- Infrastructure changes
- Air Aware Campaign
- Anti-idling campaign across the city
- Clean Air Champion Scheme
- Promoting and supporting active travel
- Trialling electric Hackney-style taxis (10)

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# Our air breaches legal limits – Sheffield and Rotherham have been required to ensure NO<sub>2</sub> pollution is brought within legal limits

- We have a duty to get within the legal limits in the '**shortest possible time**'
- It's a joint approach - Sheffield and Rotherham worked together with DEFRA to understand our air quality challenge

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## Comprehensive data assessment

- Analysis of our locally collected air quality data
- Looked at the latest data on transport flows in the city and ANPR data
- Small scale behavioural research

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## Identify proposals that:

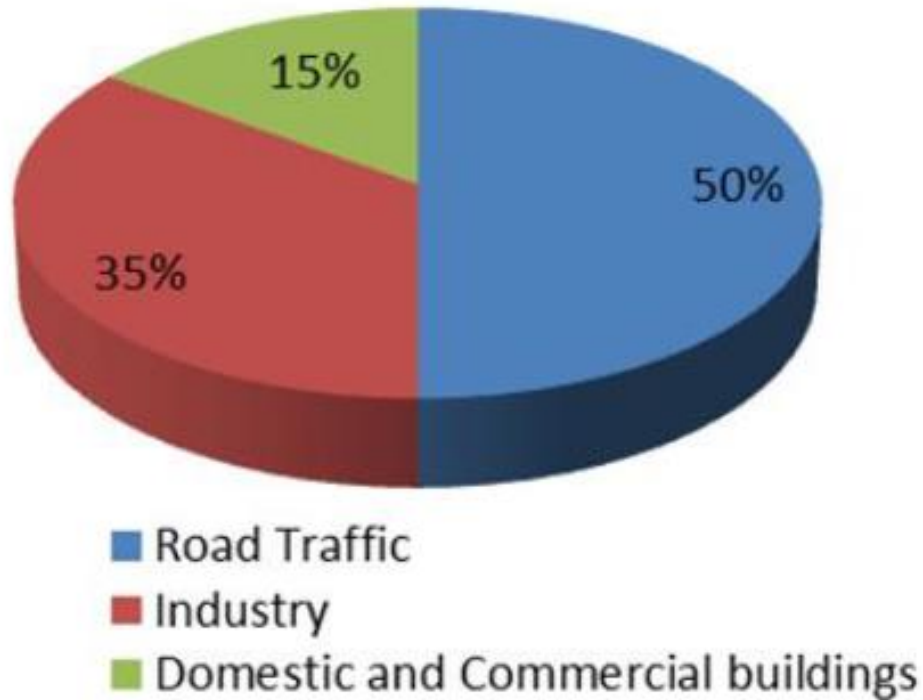
- Improve our air quality to legal compliance - as a minimum - in the *shortest possible time*
- Protect communities by tackling the most polluting vehicles on the city's roads
- Outline packages of support for drivers and businesses to upgrade and replace vehicles.

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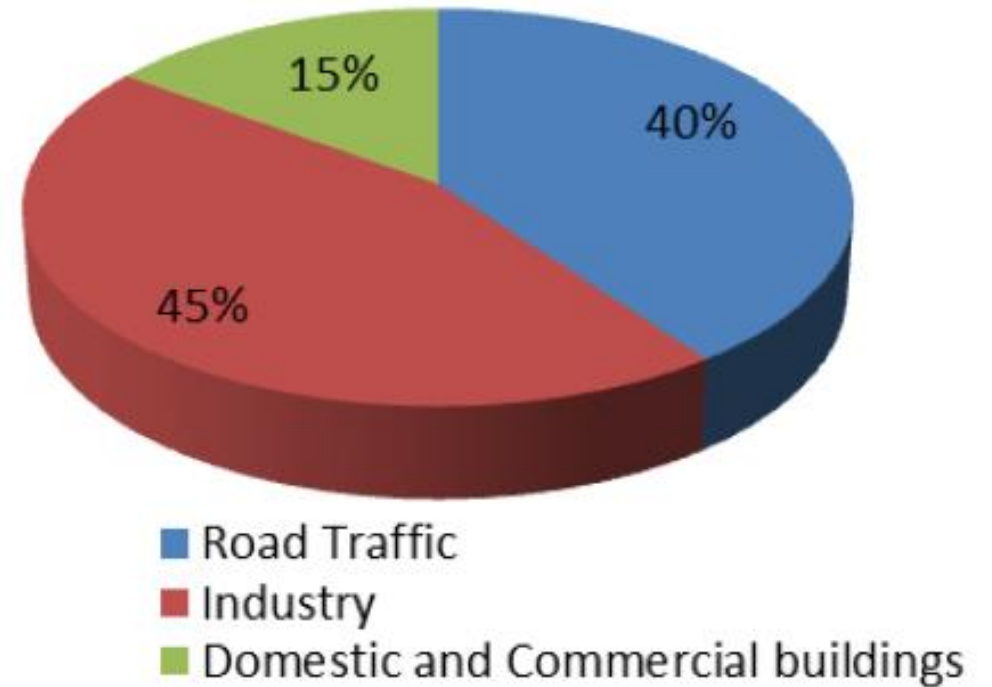
# **Four** key points about Sheffield's air quality challenge

# 1. Vehicles on our roads are responsible for half of the city's Nitrogen Oxide emissions (NO<sub>x</sub>)

Sources of NO<sub>x</sub> emissions in Sheffield



Sources of PM<sub>10</sub> emissions in Sheffield



## 2. The main vehicles which cause a disproportionate amount of dangerous NO<sub>x</sub> pollution are diesel-fuelled buses, taxis, HGVs and LGVs

- The significant majority of vehicles on our roads are cars.
- But buses, taxis, HGVs and LGVs cause disproportionately more NO<sub>x</sub> pollution
- And they crisscross the city with multiple trips
- So, if we want to make an impact quickly, we need to clean up the biggest polluters.

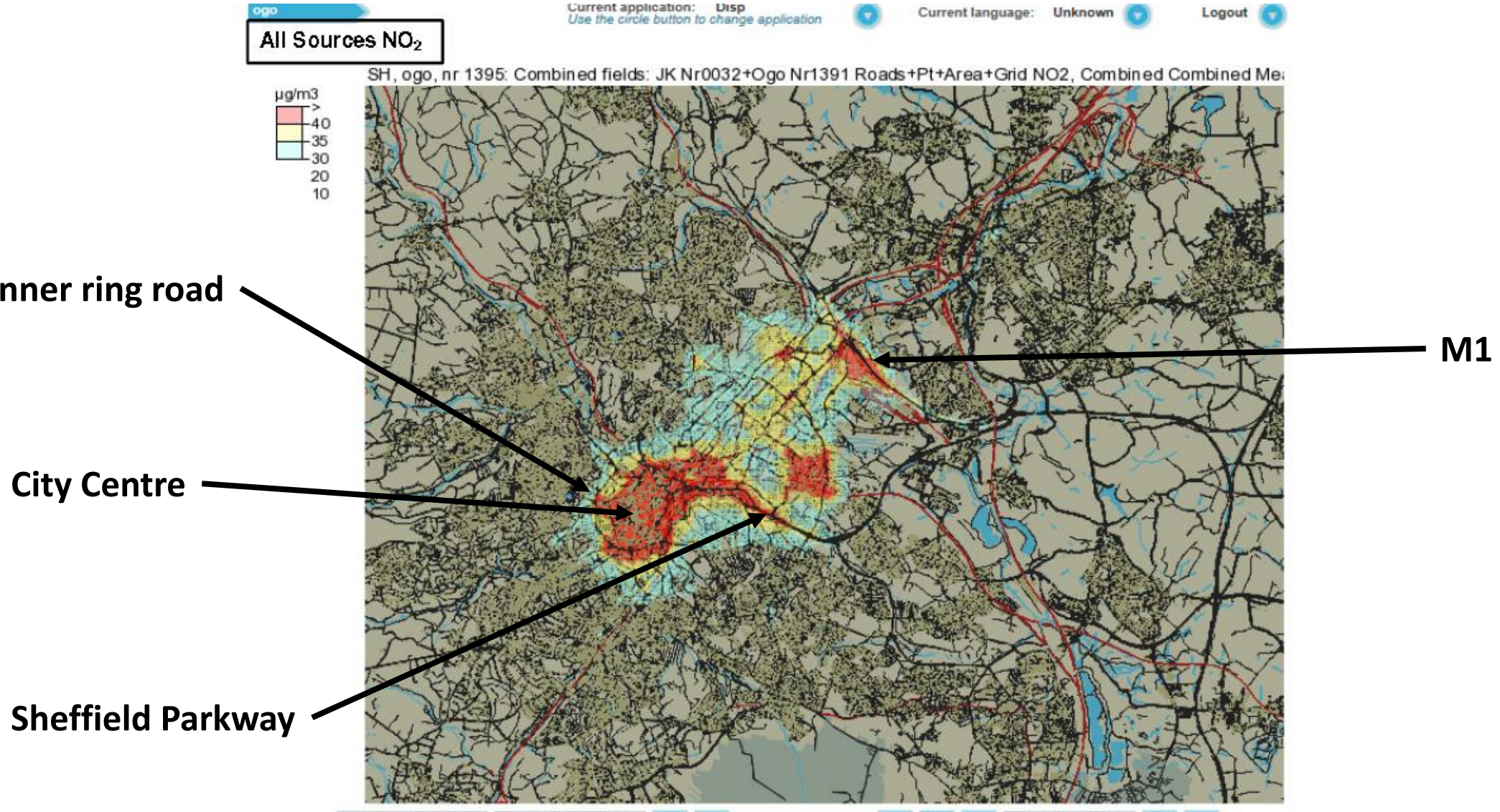
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Vehicle type	% of Fleet	% NO <sub>x</sub>
Private Car	81%	50%
LGV <3.5t	13%	26%
Taxi (Hackney & PHV)	3%	4%
Bus	1%	5%
OGV >3.5%	3%	15%



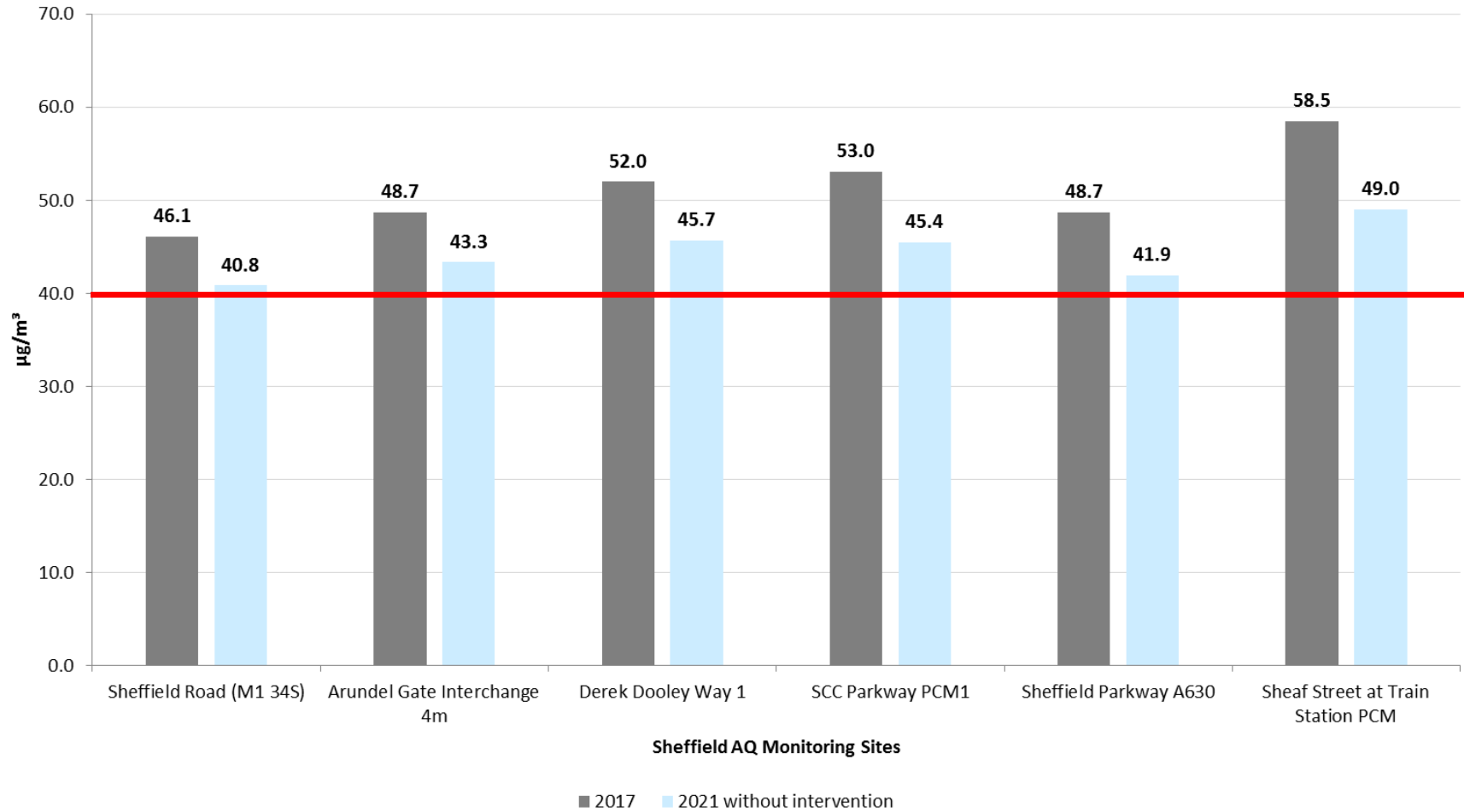
### 3. Our evidence shows that there is a significant concentration of illegal NO<sub>2</sub> within the city centre & Lower Don Valley

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# 4. There are some key parts of our road network where pollution breaches the legal limit

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Without action, the natural improvement/replacement of vehicles by 2021 won't be enough to get below the legal limit

# The solutions we need are:

- numerous
- short and long-term
- focused on a cleaner, healthier and sustainably connected city

# Sheffield's Clean Air Zone proposal

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improving air quality quickly

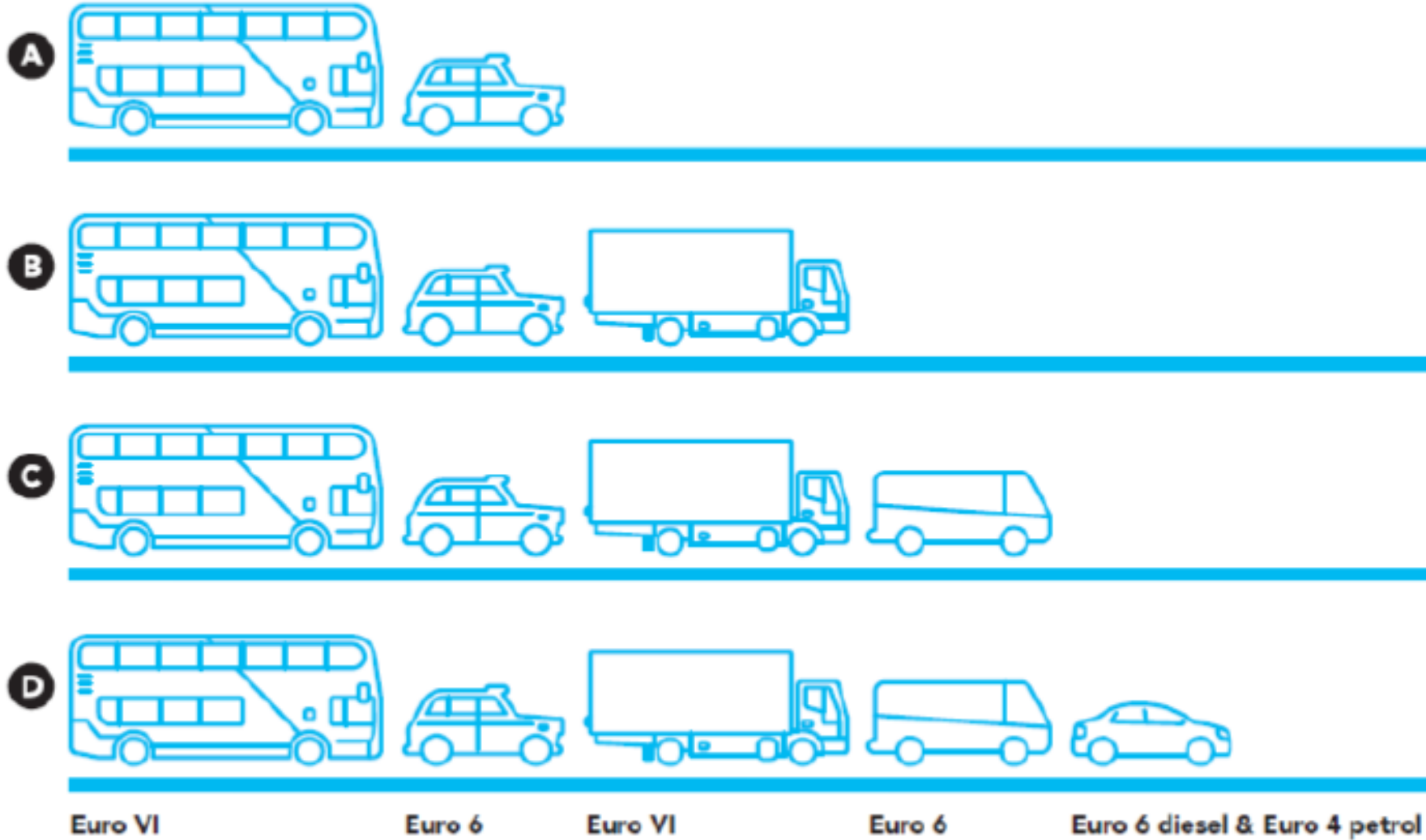
# Clean Air Zones – approach to improving air quality *quickly*

## Clean Air Zones (CAZs):

- Approach to tackle illegal air standards from Government's Plan
- Concentrate interventions to tackle the main sources of pollution
- Charge drivers of non-compliant vehicles for entering a specific area – ie. broadly - vehicles that are older than Euro 6 for diesel (~2016) or Euro 4 for petrol (~2006)
- Government's priority is *speed of delivery/impact* and their modelling suggests that charging is most likely to reduce emissions in the shortest possible time.

# There are four different standards of Clean Air Zone

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# A national challenge – other cities are taking similar measures

- Most councils are currently working on their plans ahead of a 31<sup>st</sup> December 2018 deadline.
- Page 31 Some cities have further developed proposals as they were mandated to explore CAZ options in late 2015.
- Interventions needed are driven by the scale of the air pollution challenge in each city.

<b>Bath and NE Somerset</b>	CAZ D
<b>Birmingham</b>	CAZ D
<b>Derby</b>	Not proposing a CAZ
<b>Leeds</b>	CAZ B+ (extra measures for taxis)
<b>Nottingham</b>	Not proposing a CAZ
<b>Southampton</b>	CAZ B

# Sheffield's CAZ – Sheffield's preferred option for a CAZ

## ‘C+’ charging CAZ within - but including - the inner ring road

- Daily charge for non-compliant buses, taxis (London-style and PHVs), HGVs and light goods vehicles (LGVs) to drive through the city.
- Intention is to:
  - Remove the most polluting vehicles from our road network
  - Encourage drivers to upgrade to cleaner vehicles *rather than pay the charge*
  - Support those affected with targeted investment using Government money (ie. funding to replace old, polluting vehicles with clean ones)
  - Implement a range of additional supportive measures (eg. taxi licensing, parking changes, extend bus lane timings etc).
- Charging on its own will not deliver air that is within the legal limits:
  - We will need ‘additional measures’ to upgrade and replace polluting vehicles



# Sheffield's CAZ – examples of additional measures (the '+’ bit) that we could be looking at



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- ~2,400 non-compliant vehicles
  - Need 90-100% change across the fleet

### Draft proposals

- ULEV / electric as a minimum standard
- Grant/loan funds to fund retrofit/replacement
- Sunset period to sign up to financial support



- ~450 buses on Sheffield's roads
- All buses entering the CAZ need to be Euro6 or better.
- 117 buses already being retrofitted

### Draft proposals

- Operators retrofitting buses
- Grant funding from Govt to support
- Bus priority on network



- HGVs are disproportionately high polluters
- ~9,000 HGVs that come in & out of the city likely to be non-compliant

### Draft proposals

- Work with logistics sector locally/nationally
- Likely market-led improvements
- Potential loan funds for retrofit/replace (local).



- Est. 7,000 LGV van *trips* through the CAZ area every day
- Implications for SMEs and self-employed
- Need persuading about alternative vehicles

### Draft proposals

- Targeted support (grant/loans) support for local SMEs and those who most need support
- Loan/trial of electric alternatives

# Sheffield's CAZ C+ – the additional measures in our proposals are critical

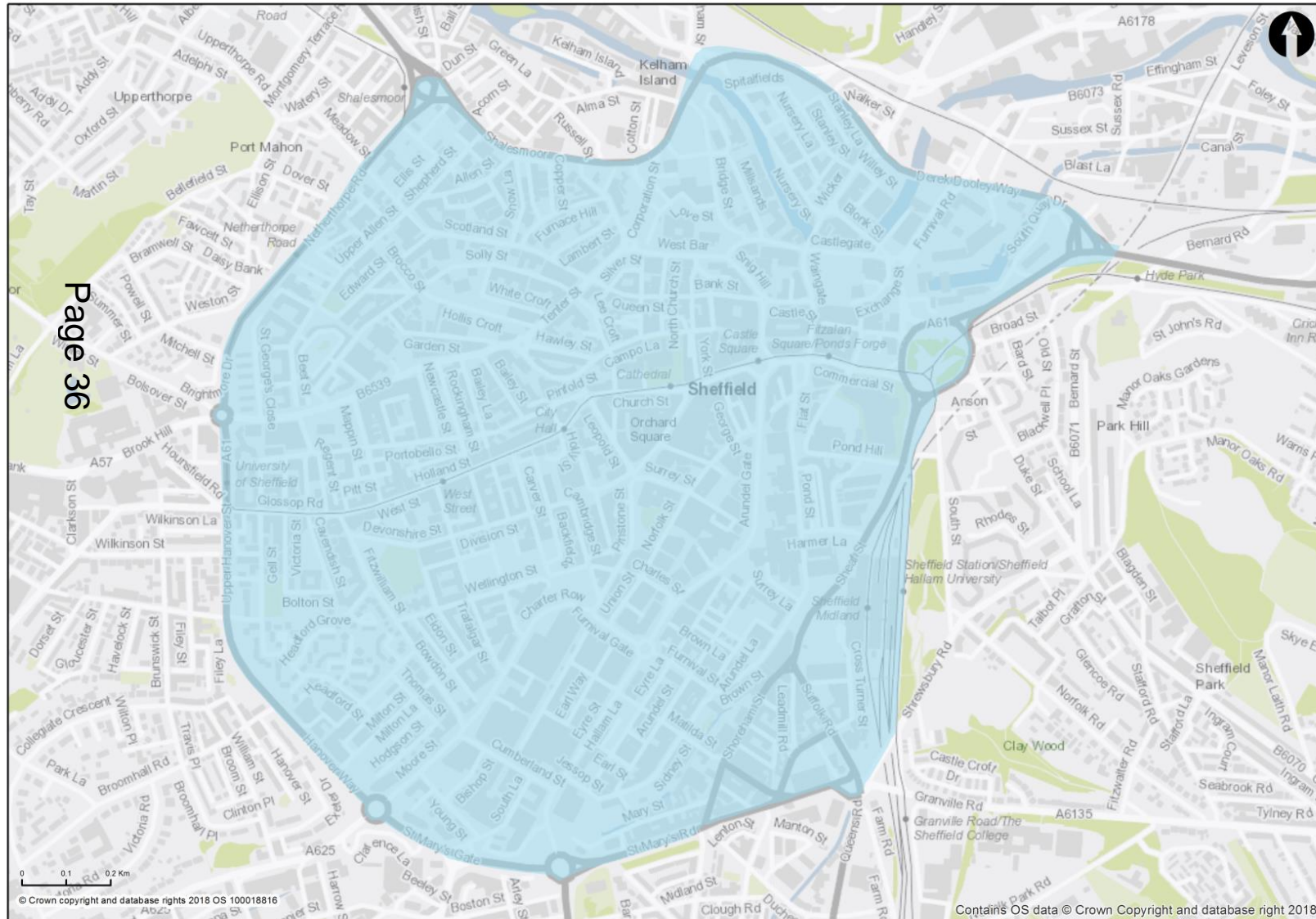


- **Intention is not to penalise companies/drivers – it is to remove the most polluting vehicles from our roads**
  - Paying the charge and still driving a polluting vehicle won't solve our air quality problem
  - The charge is encourage the upgrade and replacement of the most polluting vehicles with clean ones
  - Our support package proposals will target those with least capacity to change their vehicles – seeking Government investment for this (Implementation Fund; Clean Air Fund)
  - Will need behaviour change from wider population too
- **The only viable alternative is to charge non-compliant private cars (CAZ D)**
  - This would likely deliver significant air quality improvements beyond CAZ C
  - *But would mean private car drivers in non-compliant vehicles paying a charge to enter the city centre*
- **It is possible that the Government will reject our CAZ C+ preference and require a CAZ D**
  - We will formally review progress in Dec 2021
  - At that point, we be minded to implement a CAZ D if insufficient improvements have been made

# Sheffield's CAZ – modelled impact of a CAZ C and a CAZ D

Receptor Locations	2017 Base	2021 (Business as Usual)	2021 Cordon 2 CAZ C (JAQU)	2021 Cordon 2 CAZ D (JAQU)	2021 Cordon 3 CAZ C and RMBC Measures (Local)	2021 Cordon 3 CAZ C+ and RMBC Measures (Local)	2021 Cordon 3 CAZ D and RMBC Measures (Local)
<b>Sheffield Sites</b>							
Sheffield Road (M1 34S)	46.1	40.8	35.5	35.1	39.9	38.4	39.9
Arundel Gate Interchange 4m	48.7	43.3	39.3	39.0	31.4	35.2	28.8
Derek Dooley Way 1	52.0	45.7	37.2	38.6	39.7	37.6	34.4
SCC Parkway PCM1	53.0	45.4	37.6	35.9	42.0	38.8	36.1
Sheffield Parkway A630	48.7	41.9	34.7	33.2	40.8	37.9	38.0
Sheaf Street at Train Station PCM	58.5	49.0	43.8	42.8	39.1	39.2	33.2

# Sheffield's CAZ – the proposed geography of our CAZ



## Clean Air Zone

- Area bounded by the Inner Ring Road
- The Inner Ring Road itself is 'inside' the CAZ (to avoid significant 'displacement' of pollution)
- Also likely to generate AQ benefits on the main radial routes into the City Centre (including the Parkway)

# Sheffield's CAZ – what the signs will look like and how it will be enforced

- Clear signing at the point of entry and exit into and out of a charging CAZ
- Signs in advance of entry, to provide adequate information about potential charges applicable and to provide alternative routes to divert around it
- Enforcement using Automatic Number Plate Recognition (ANPR) cameras and associated back office technology
- Online payment system (national)

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# Sheffield's CAZ – likely daily charges for non-compliant vehicles

- Charge is likely to be payable by midnight of the following day.
- Any income from charges has to be reinvested in tackling air pollution.
- We will be responsible for enforcement of non-payment of charges.
- We intend to consult further on the charging structure as part of the statutory consultation in early 2019

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Vehicle type	Daily charge
<b>Buses, Coaches and HGVs</b>	<b>£50 a day</b>
<b>Taxis and Private Hire Vehicles</b>	<b>£10 a day</b>
<b>Vans / LGVs</b>	<b>£10 a day</b>

# Long-term – this has to be part of a long-term change to what we drive and how we move around

- Improving the health impact of how we get around is central to our Transport Strategy and our Health and Wellbeing Strategy
- Ambition for a significant shift in how we get around the city, enabling people to make better, more sustainable travel choices
- Includes:
  - **Mass transit** – develop plans for new, high speed and frequent mass transit routes (tram, tram-train), new park and ride on key gateways
  - **Active travel** – supporting and encouraging residents to walk and cycle on short trips (eg. the average trip length in Sheffield is 3¼ miles)
  - **Public transport** – increasing the priority of public transport in the city to speed up door-to-door journey times including buses and trams.
- Citywide campaign to encourage behaviour change

# Next steps – outline timescales for the CAZ

Pre-Christmas

- November Cabinet Paper with our CAZ C+ proposal.
- Communications and media to support Cabinet Paper
- Legal duty requires us to submit our outline business case

Jan-Mar 2019

**Development of Final Business Case**

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Jan/Feb –  
April/May  
2019

**Significant formal statutory consultation and engagement**

- Key stakeholders (taxi drivers, LGV owners, all Sheffield residents)
- Businesses and city partners

**High profile communications campaign**

- Drive response rates
- Encourage behaviour change

~Apr/May  
2019

Submission of Final Business Case to Government

June 2019  
onwards

Implementation of measures