

THE FUTURE FOR AIR QUALITY IN LONDON

Rosalind O'Driscoll
Senior Policy and Program Officer

MAYOR OF LONDON

A dark, grainy photograph of an industrial factory. A tall, dark smokestack is the central focus, emitting a thick, dark plume of smoke that rises into the sky. The factory buildings are silhouetted against a hazy, grey background. The overall atmosphere is one of industrial activity and air pollution.

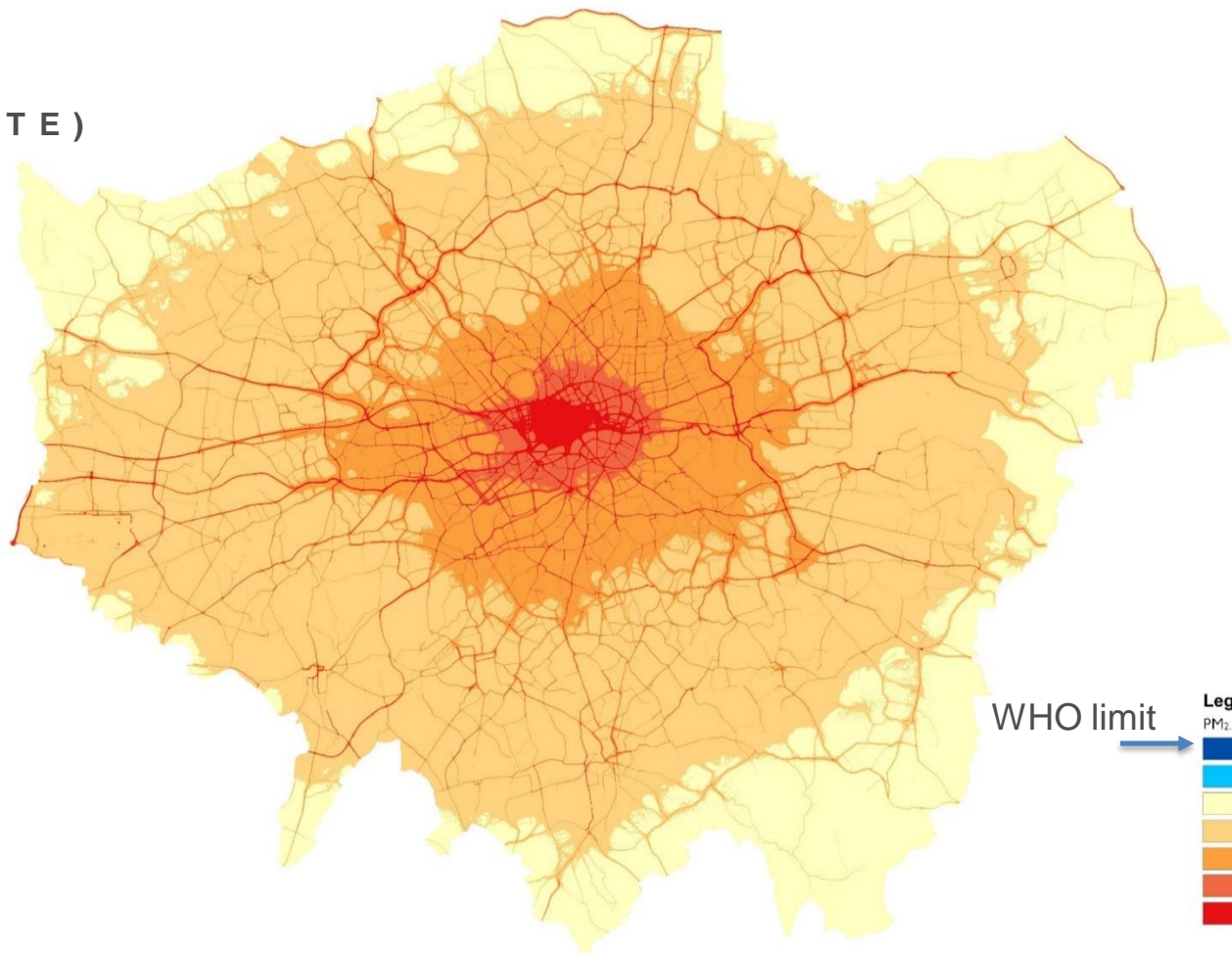
1952



TODAY

PM_{2.5}

(LAEI2013UPDATE)



WHO limit



- Legend**
PM_{2.5} (µg/m³)
- <10
 - 10 - 12.5
 - 12.5 - 15
 - 15 - 16
 - 16 - 17
 - 17 - 18
 - >18

NEW STRATEGIES



NEW STRATEGIES

MAYOR OF LONDON

London Environment Strategy:

- Focus on cross cutting policies
- Includes policies to ensure that reductions in climate change gas emissions, increased green space etc also benefit air quality

MAYOR OF LONDON

Mayor's Transport Strategy:

- Focus on transport policies
- Includes ambitious targets to improve Air Quality and reduce the need car use generally

Mayor's Transport Strategy

MARCH 2018

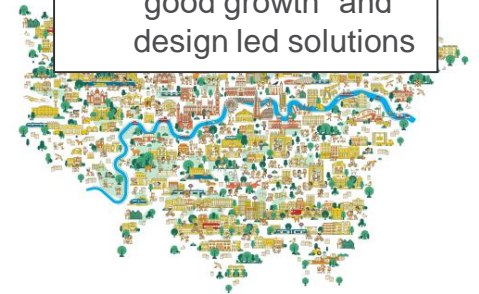
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The London Plan:

- Focus on the spatial policies needed to deliver London's ambitions.
- Key policies on "good growth" and design led solutions



OUR OBJECTIVES

- **Reducing exposure** of Londoners to harmful pollution across London – especially at priority locations like schools – and tackling health inequality;
- **Achieving legal compliance** with UK and EU limits as soon as possible, including by mobilising action from the London boroughs, government and other partners;
- Establishing and **achieving new, tighter air quality targets** for a cleaner London, meeting World Health Organisation (WHO) health-based guidelines by 2030 by transitioning to a zero emission London.

MONITORING AIR QUALITY

- London has one of the most comprehensive monitoring networks of any world city, funded primarily by local authorities.
- There are approximately 140 high-accuracy automatic monitoring sites across the city, monitoring NO_2 and/or PM_{10} .



MONITORING AIR QUALITY

- We will soon be trialling a new £750,000 sensor air quality monitoring system with C40 cities which will be used to analyse pollution in up to 1,000 hot spots across the city including near schools, hospitals, construction sites and busy roads.
- Around 100 sensors will be fitted to lampposts and buildings and sensitive locations, and two dedicated Google Street View cars will be driving across the city, mapping pollution in detail.



AIR QUALITY ALERTS

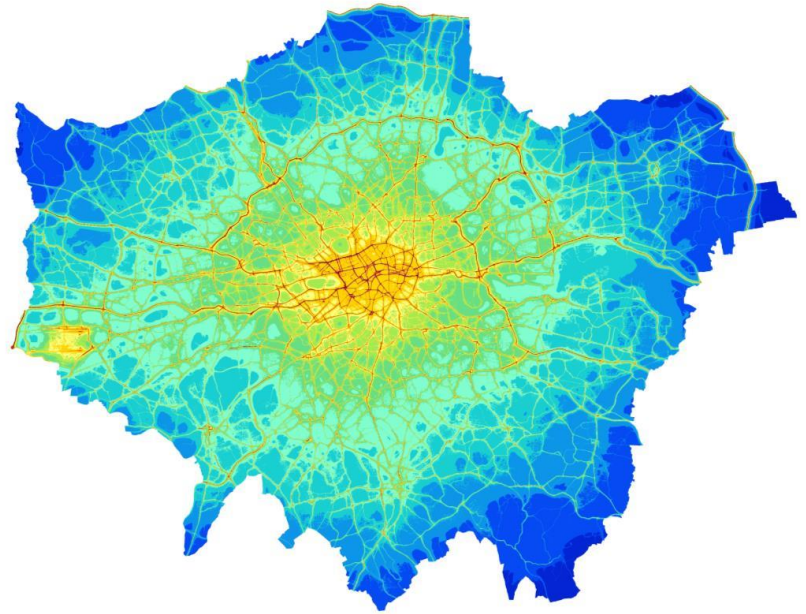


- During and on the day before high and very high air pollution days, air quality alerts will be displayed at:
 - **2,500 bus countdown signs** and river pier signs.
 - **140 road signs**, with instructions to switch engines off when stationary to reduce emissions.
 - The entrance of **all 270 London Underground stations**.



MODELLING AIR QUALITY

- Update to the London Atmospheric Emissions Inventory (LAEI), a full inventory of emissions, by source and by location
- Presented as excel spreadsheets, tables / maps.
- Strategic emissions and concentration modelling to inform policy, plans and proposals.



SCHOOL AUDITS

- We have identified that 360 primary schools located in areas exceeding legal pollution limits.
- The Mayor has completed 'air quality' audits at 50 schools that will identify new measures to protect pupils from toxic air.
- Grants are being made available to schools so they can take action.



HEALTHY STREETS

- Car dependency has contributed to an increase in poor public health across our city.
- By 2041, the Mayor aims for:
 - 80 per cent of Londoners' trips to be on foot, by cycle or by using public transport (from 64%);
 - London's total traffic to have reduced by 10-15%;
 - All deaths and serious injuries from road collisions to be eliminated.

10 Healthy Streets Indicators





Transport
for London

**Low
emission**



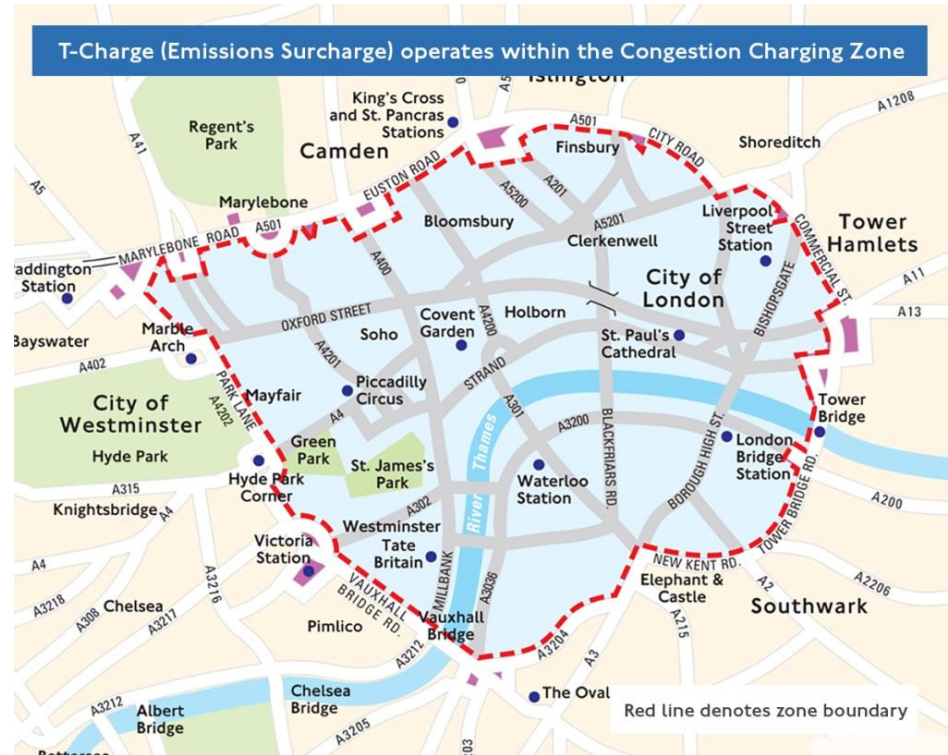
LOW EMISSION ZONE

- Started in 2008 to target oldest and most polluting HGVs, buses and coaches
- Covers the whole of Greater London (1,580 km²) operates 24/7, 365 days pa.
- Daily charge £100 – £200
- Compliance with current standards high at around 96 per cent for lorries, buses and coaches, and 98 per cent for vans and minibuses.
- Helped reduce PM emissions.



T-CHARGE

- A new T-charge started on 23 October 2017.
 - £10 charge during Congestion Charge hours for older polluting vehicles
 - On top of existing £11.50 Congestion Charge
 - For pre-Euro 4/VI – toughest standard of any world city.



LOW EMISSION BUS ZONES



The first LEBZ along Putney High Street has reduced the number of hours breaching legal limits by more than 90 per cent (vs 2016).



ULTRA LOW EMISSION ZONE



Central London ULEZ in 2019 (all vehicles)

   £12.50 per day

   £100 per day



London-wide ULEZ in 2020 (heavy vehicles)

   Up to £100 per day



Inner London ULEZ in 2021 (all vehicles)

   Up to £100 per day

   Up to £12.50 per day

ULEZ standards

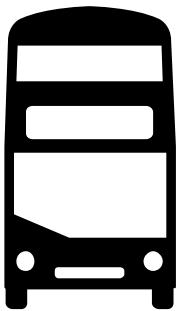
- Petrol: Euro 4
- Diesel: Euro 6
- Motorcycle and L-Cat: Euro 3



Exempt but new licensing requirements

IMPACT OF EXPANDING THE ULEZ

- Expanding the ULEZ will lead to approximately 100,000 people no longer living in areas exceeding legal limits.
- In outer London there will be a 28 per cent reduction in NO_x road transport emissions, and in inner London there will be around a 31 per cent reduction in NO_x road transport emissions in 2021.
- Over 3,000 primary school children in polluted areas of London and Luton will have their lung health monitored over a four-year period in a new international study led by Queen Mary University of London.



New double decks will be hybrid, hydrogen or electric from 2018; new single decks will be zero exhaust emission from 2020

Target: Zero emission bus fleet by 2037 *at the latest*

ZERO EMISSION VEHICLES

- New requirements for GLA fleets such as the Fire Brigade and Police force
- 'ULEV only' streets being brought in this year
- Zero Emission Zones to be introduced in town centres from 2020 and in central London from 2025





No more diesel taxis from 2018 and new taxis will need to be zero emission capable

Target: Zero emission capable taxi fleet by 2033 *at the latest*

EV INFRASTRUCTURE

On-street
residential
charging



Top-up
/destination
charging



Rapid
charging



Most important for
commercial
vehicles such as
PHVs and taxis –
target is 150 by
end 2018

LONDON NON-ROAD MOBILE MACHINERY LOW EMISSION ZONE FOR CONSTRUCTION SITES

Covers NRMM on construction sites between 37 and 560 kW

Now: Stage IIIB in the Central Activity Zone (CAZ) plus Canary Wharf area (yellow zones), Stage IIIA everywhere else

2020: Stage IV in CAZ plus Opportunity Areas (where we are planning the most construction), Stage IIIB everywhere else.

2025: Stage IV throughout London

2030: Stage V throughout London

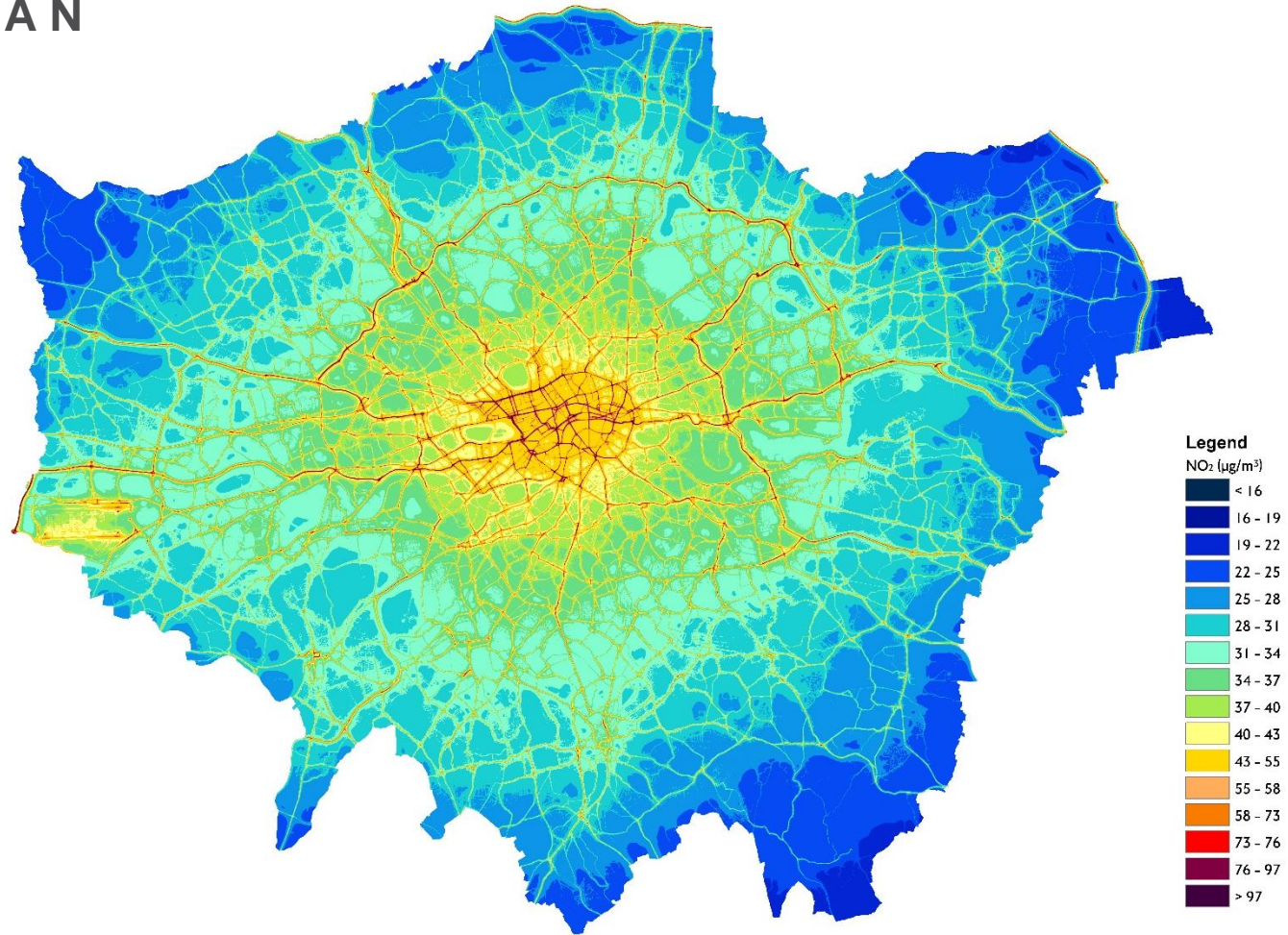
2040: zero emissions throughout London

We are also working with industry as they develop hybrid and zero emission technology as well as retrofit solution for existing machinery.



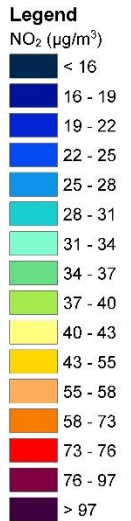
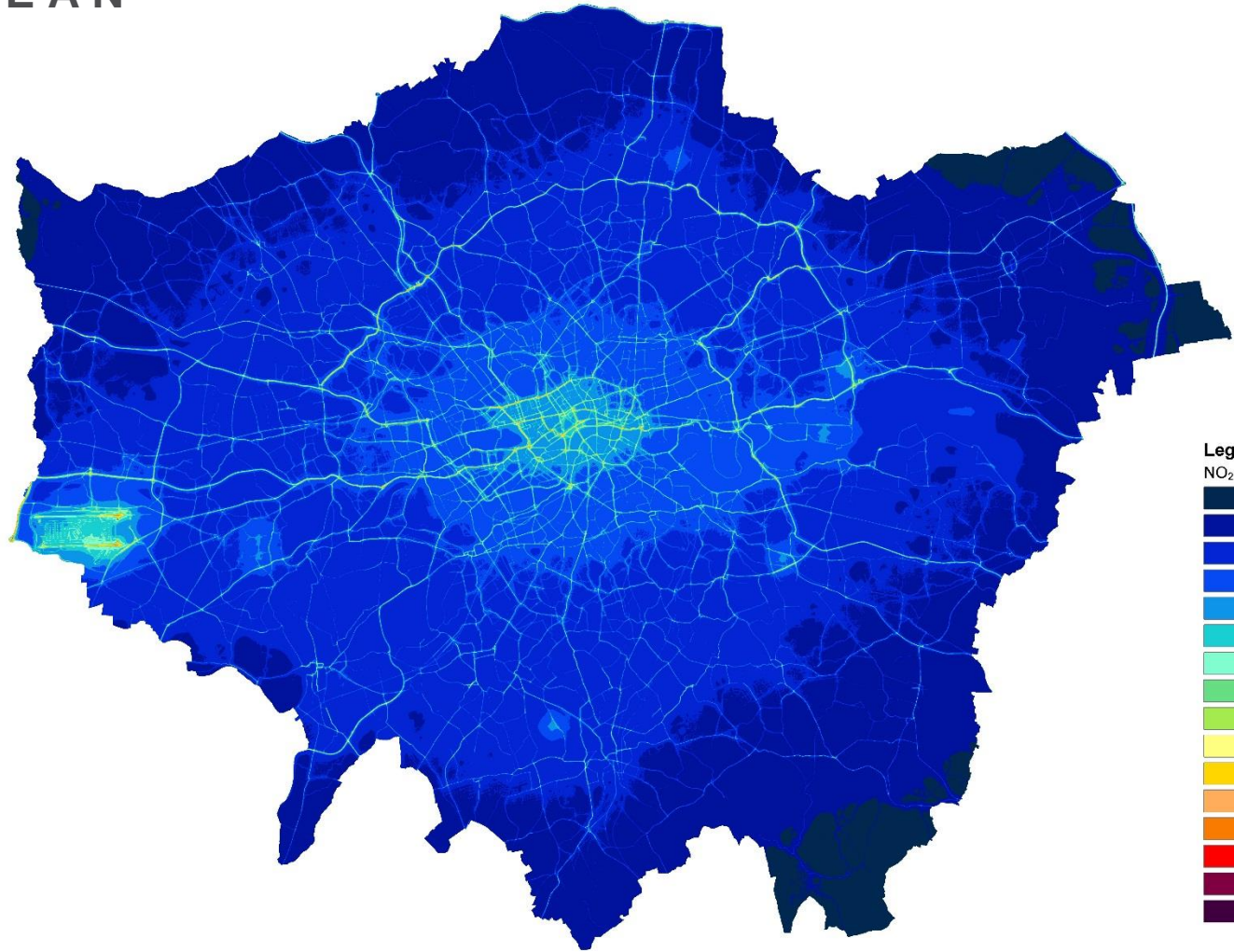
ANNUAL MEAN NO₂, 2013

LAEI 2013
UPDATE (2017)



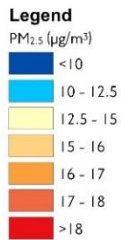
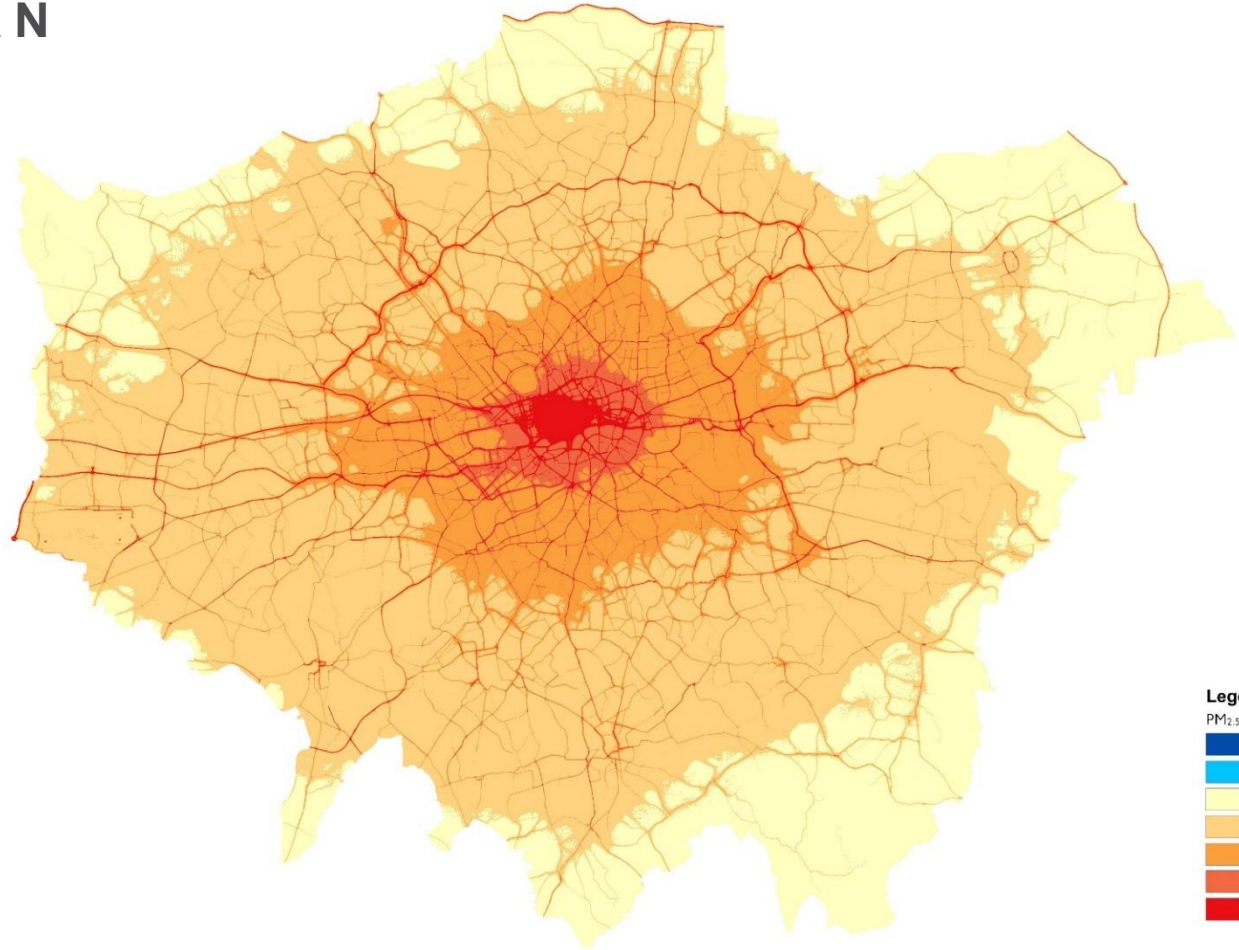
ANNUAL MEAN NO₂, 2025

LONDON
ENVIRONMENT
STRATEGY
(2018)



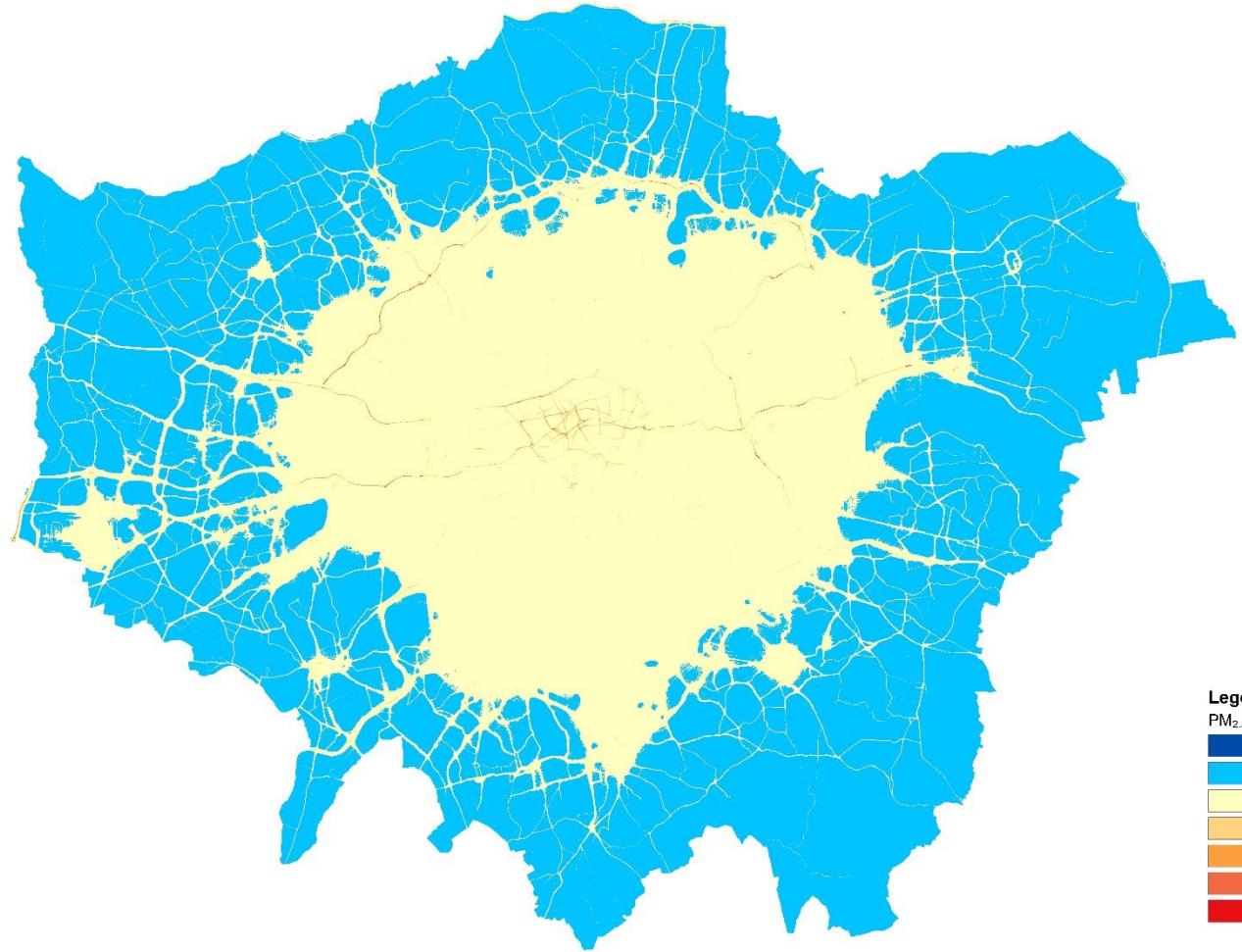
ANNUAL MEAN PM_{2.5}, 2013

LAEI 2013
UPDATE (2017)



ANNUAL MEAN PM_{2.5}, 2030

LONDON
ENVIRONMENT
STRATEGY
(2018)



OUR GOALS

- London to have the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities and;
- London to be a zero carbon city by 2050, with energy efficient buildings, clean transport and clean energy.
- Deliver policies that support phasing out fossil fuels, especially diesel, encourage the take up of zero emission vehicles and a mode shift towards sustainable travel.



@ldn_environment

www.london.gov.uk/environment-newsletter