

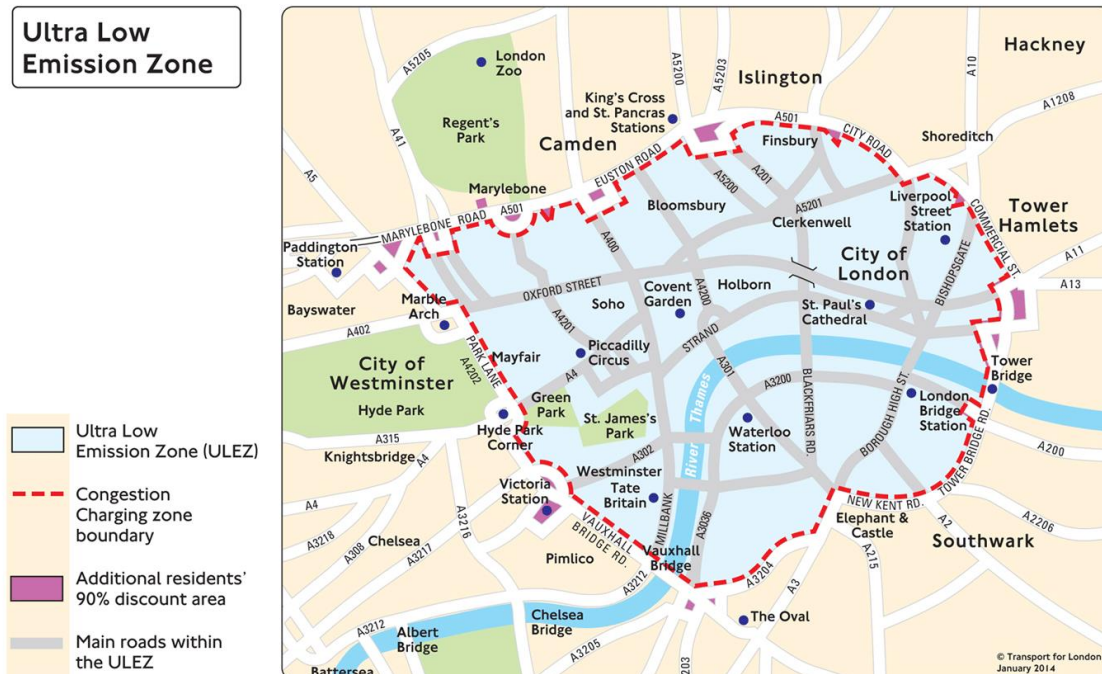
## Cleaner, greener buses in Brent

Road transport, including buses, contributes to climate change and poor air quality. Transport as a whole was responsible for 63% of nitrogen oxides (NO<sub>x</sub>) and 52% of particulate matter (PM<sub>10</sub>) emissions in Greater London in 2010. In addition, carbon dioxide (CO<sub>2</sub>) emissions from transport made up 21% of all CO<sub>2</sub> emissions in Greater London (of this, 71% are generated by road-based transport<sup>1</sup>), contributing to climate change, poor air quality and consequently impacting on public health. In an effort to tackle this, the Mayor is working to improve the bus fleet in London, including some of the bus routes that pass through Brent, as buses are a considerable source of harmful emissions. This will improve air quality in Brent and for London as a whole.

## Zero Emission and Ultra Low Emission buses

Transport for London (TfL) will introduce around 3,000 ultra low emission double decker buses in the Ultra Low Emission Zone (ULEZ)<sup>2</sup> in 2019 and ensure that over 250 single decker buses operating in this zone are zero emission by 2020.

The ULEZ itself will come into force in 2020 and will cover the same area as the Congestion Charging zone. It will be operational 24 hours a day, seven days a week. Vehicles that do not meet the ULEZ standards will be required to pay a daily charge to travel in the Zone.



Source: TfL, 2014

<sup>1</sup> All emission related statistics are taken from: Transport for London, (2014), *Transport Emissions Roadmap*

<sup>2</sup> <https://tfl.gov.uk/modes/driving/ultra-low-emission-zone>

Double decker buses operating in the ULEZ will be at least Euro VI hybrid vehicles by 2019<sup>3</sup>. The single decker bus fleet will be zero emission at the tailpipe and consist of a mix of hydrogen buses, which emit nothing but water into the air, and electric buses.

### What does this mean for Brent?

There are six routes that serve Brent that also travel into/from the ULEZ. These are:

- 6: Willesden bus garage – Aldwych
- 98: Willesden bus garage – Holborn
- 189: Brent Cross shopping centre – Oxford Circus
- N5: Edgware bus station – Trafalgar Square
- N18: Harrow Weald bus garage – Trafalgar Square
- N98: Stanmore station - Holborn



*Image from The Independent, Wednesday 16 March 2016: World's first electric double-decker bus launches in London*

Currently five double decker electric buses are being trialled on route 98. The remainder of the buses operating on the route at present are a mix of Euro VI hybrid and Euro III buses.

Unfortunately Brent will not benefit from any of the zero emission single decker buses that will operate in the ULEZ although all six routes listed above will be served by at least Euro VI hybrid vehicles in 2019. It is not yet known whether any of the other routes serving Brent will be ultra low or zero emission buses in the future.

### Low Emission Bus Zones

New Low Emission Bus Zones (LEBZs) will see the exclusive use of buses with top-of-the-range engines and exhaust systems that meet or exceed the highest (Euro VI) emissions standards. Euro VI diesel engines provide a significant improvement to older engines in particular with regards to the amount of NO<sub>x</sub> that is emitted. These engines will also emit less CO<sub>2</sub>, CO (carbon monoxide), PM and other local emissions.

Brent benefits from three of the proposed 12 LEBZs to be implemented by 2020:

- A5 – Cricklewood/Edgware Road (by Staples Corner) to Maida Vale (Elgin Avenue/Abercorn Place);
- Uxbridge Road – Southall/Hayes to Shepherd's Bush; and
- Chiswick High Road/Kensington High Street.

<sup>3</sup> <https://www.london.gov.uk/press-releases/mayoral/mayor-announces-10-new-low-emission-bus-zones>

The 12 LEBZs (Figure 1) have been selected based on the worst air quality hotspots outside central London and are in areas where buses would otherwise contribute considerably to road transport emissions. It is expected that there will be a collective reduction of over 80 per cent in NO<sub>x</sub> emissions for all LEBZs.

Not all buses that enter the LEBZ will be the cleanest buses as routes that travel along the low emission bus corridor for a very short distance or that cross over the corridor are not included.

### **What does this mean for Brent?**

There are 58 bus routes operating in Brent at present, seven of which are night buses. Ten of Brent's bus routes (17 per cent) will be using 'cleaner' buses as a result of implementing the LEBZs with one route (the 266 – Hammersmith bus station to Brent Cross shopping centre) operating along all three LEBZ corridors.

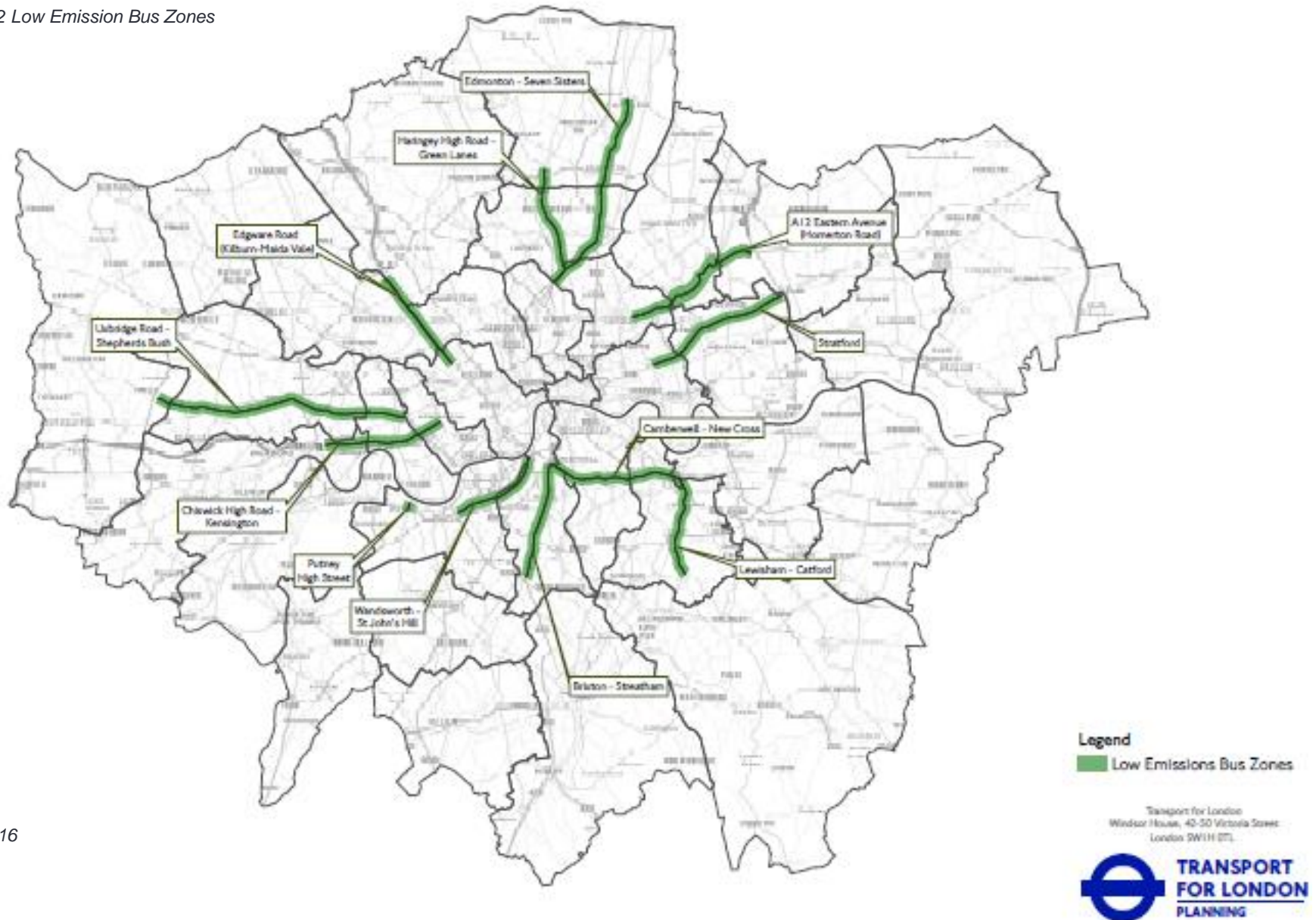
Brent will see the greatest benefits from the A5 corridor LEBZ as over half of its bus routes (ten out of the 18 bus routes) are eligible. Routes: 16, 32, 98, 189, 245, 266, 316, 332, N16 and N98 will have buses that meet or exceed Euro VI standards and route 98 already uses some low emission buses. The majority of these services are high frequency (five or more buses per hour or one bus every 12 minutes or less), and two are night buses.

In addition to these ten routes, there are three routes (6, N5 and N18) which will serve the ULEZ and consequently will also benefit from at least Euro VI hybrid vehicles. Route 328 which serves neither a LEBZ nor the ULEZ started a new contract last year with Euro VI hybrid buses. This brings the total number of routes that operate or will operate 'cleaner' low emission buses to 14, equivalent to nearly a quarter (24%) of Brent's routes.

Figure 2 highlights that benefits will be felt beyond simply the corridor boundaries themselves.

In the long term, TfL's intention is for all buses in London to be 'clean' buses by 2020 (either Euro VI emission standard, hybrid or zero emission), achieved through a phased approach based on contract renewal dates with bus operators.

Figure 1: The 12 Low Emission Bus Zones



Source: TfL, 2016

Figure 2

# Cleaner bus routes in Brent

