













3 March 2020

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Surface Transport



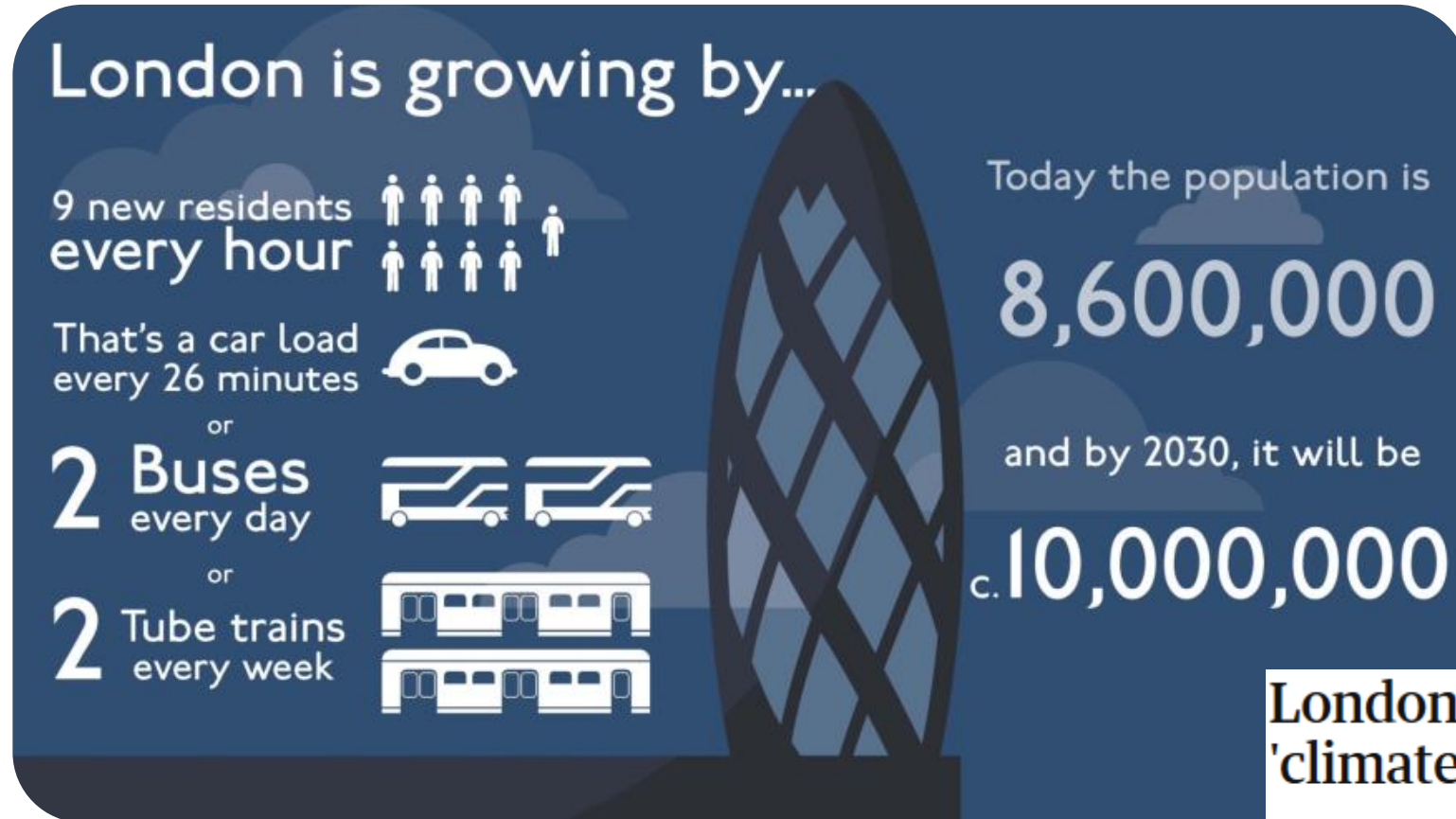
EVERY JOURNEY MATTERS

# Transport in London

<b>Roads (minus Taxi/PHV)</b>  3.7bn	<b>Buses</b>  2.3bn	<b>London Underground</b>  1.4bn	<b>Cycling</b>  244m
<b>Taxi and PHV</b>  162m	<b>London Overground</b>  189m	<b>DLR</b>  121m	<b>Tramlink</b>  29m
<b>Rivers</b>  10.6m	<b>Santander Cycles</b>  10.5m	<b>Emirates Air Line</b>  1.4m	<b>Dial-a-ride</b>  1.2m



# London is a growing city, and that growth brings unique challenges and opportunities...



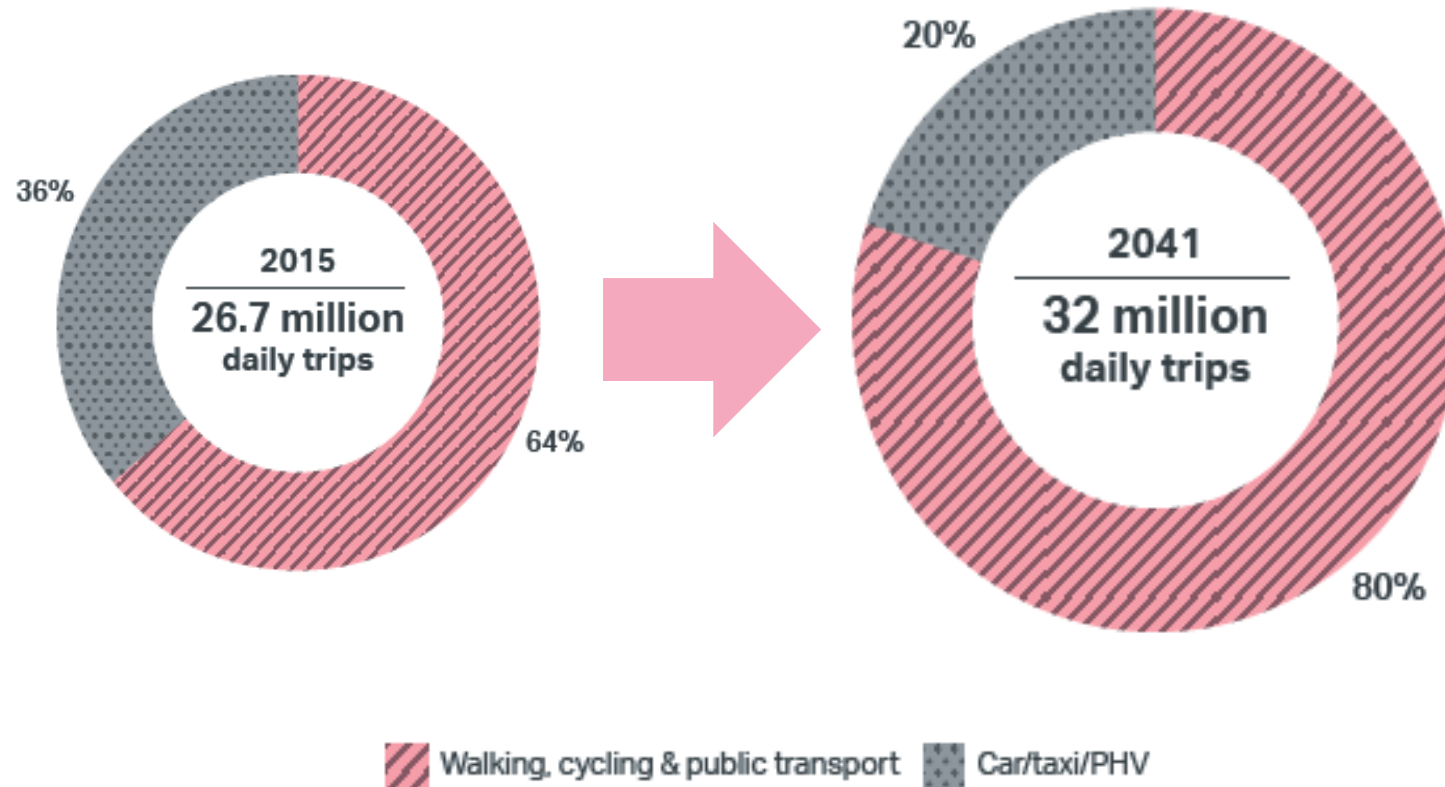
**London mayor unveils plan to tackle  
'climate emergency'**

**Exclusive: Sadiq Khan accuses government of dragging its feet and  
calls for investment to avert catastrophe**



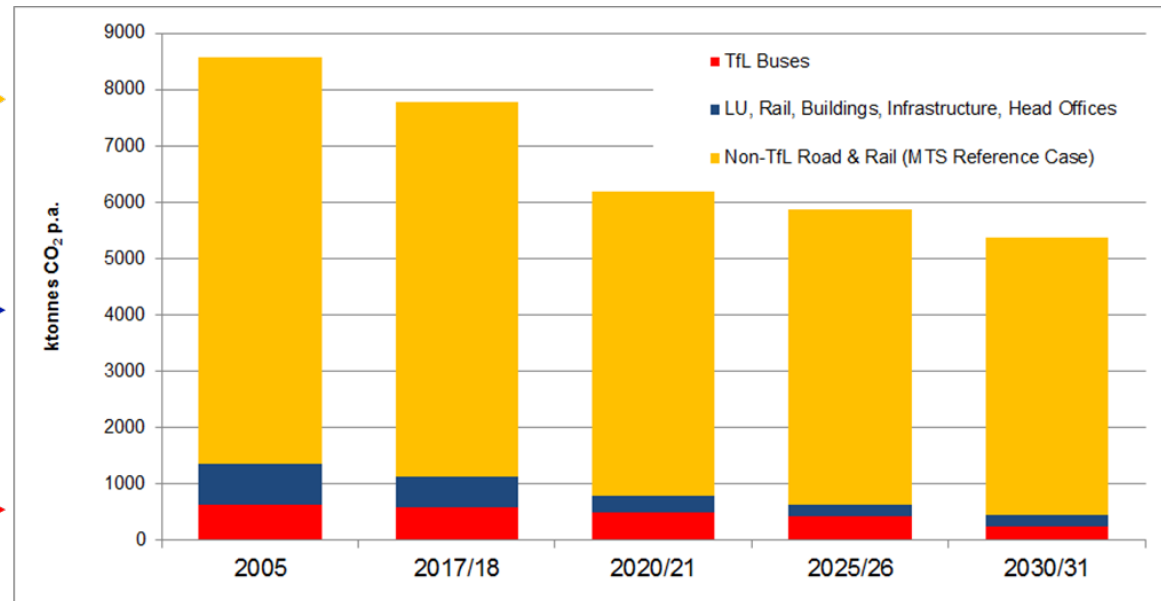
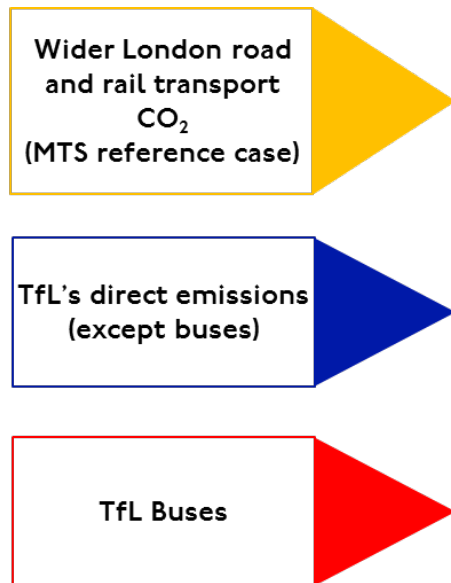


By 2041 the aim is for 80% of Londoners' trips to be on foot, by cycle or using public transport

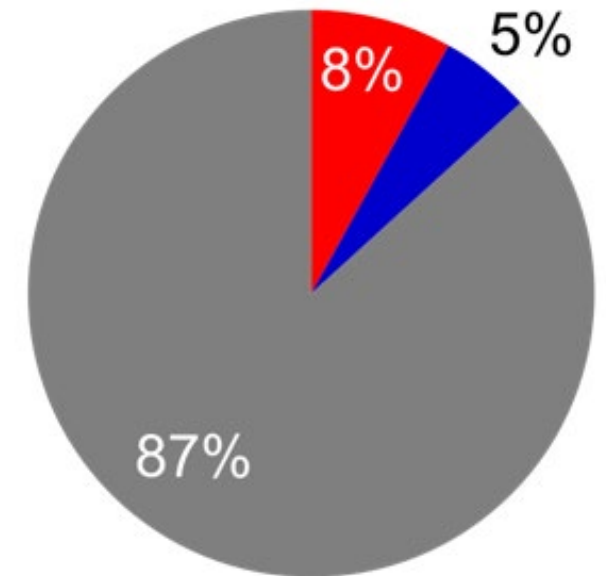


# Recognising and reducing transport carbon

## London transport baseline CO<sub>2</sub> emissions forecast



- TfL Buses
- LU, Rail, Buildings, Infrastructure, Head Offices
- Non-TfL Road & Rail



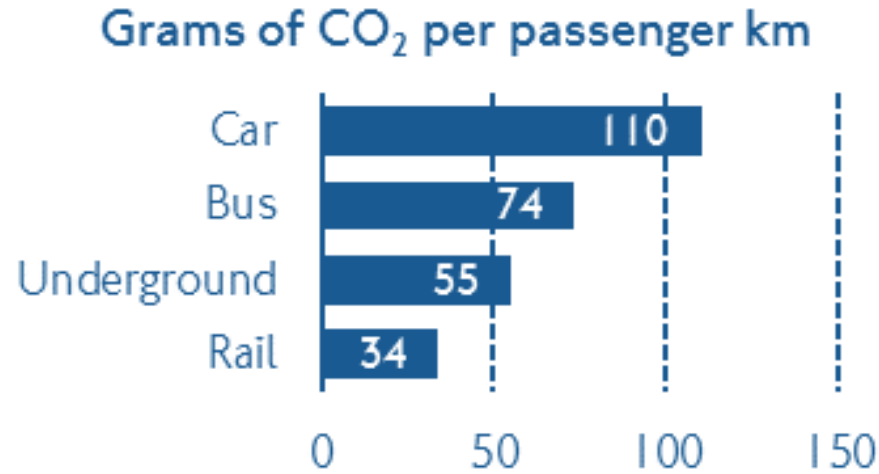
26% of all carbon emissions in London are from transport

TfL is responsible for 13% of London's transport carbon or just over 3% of all carbon emissions in London



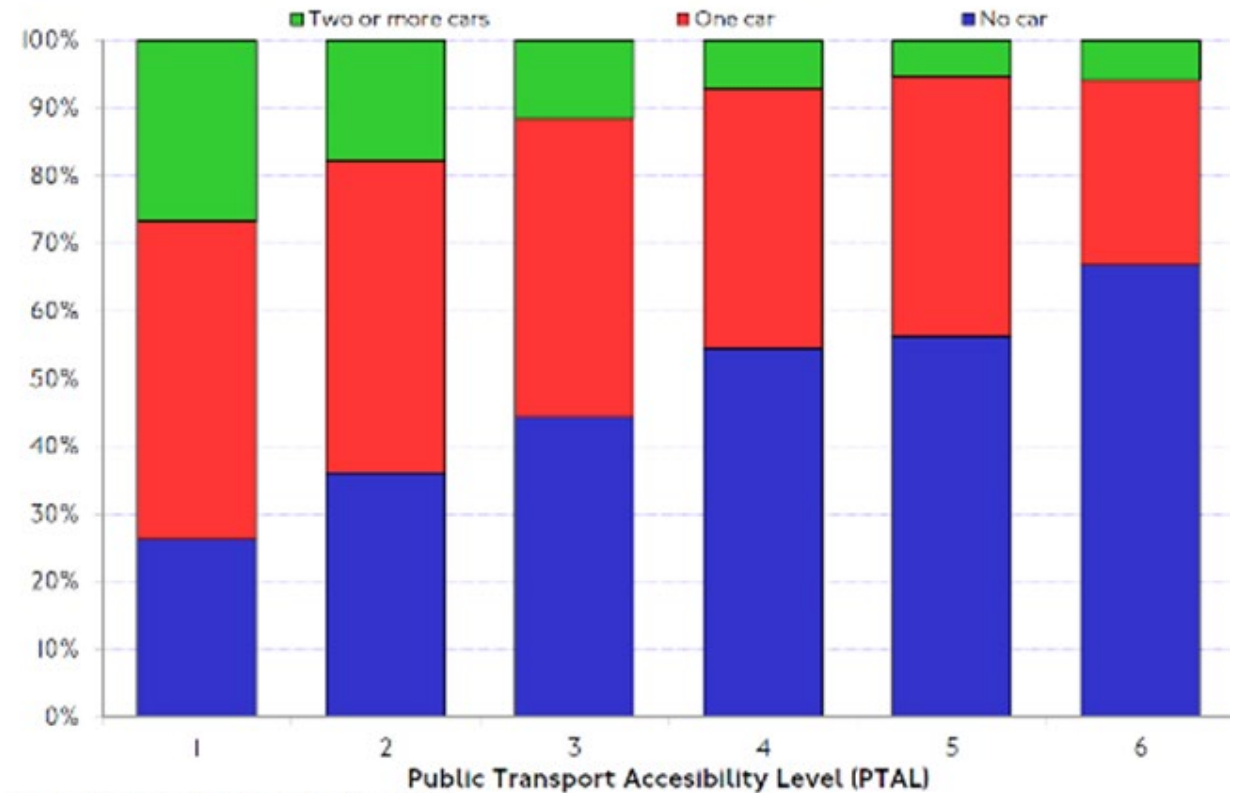
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The biggest impact we can have on carbon reduction is through mode shift – shifting vehicle kms to cleaner modes



11 per cent shift mode shift (52% to 63%)  
from private car to public transport since 2001

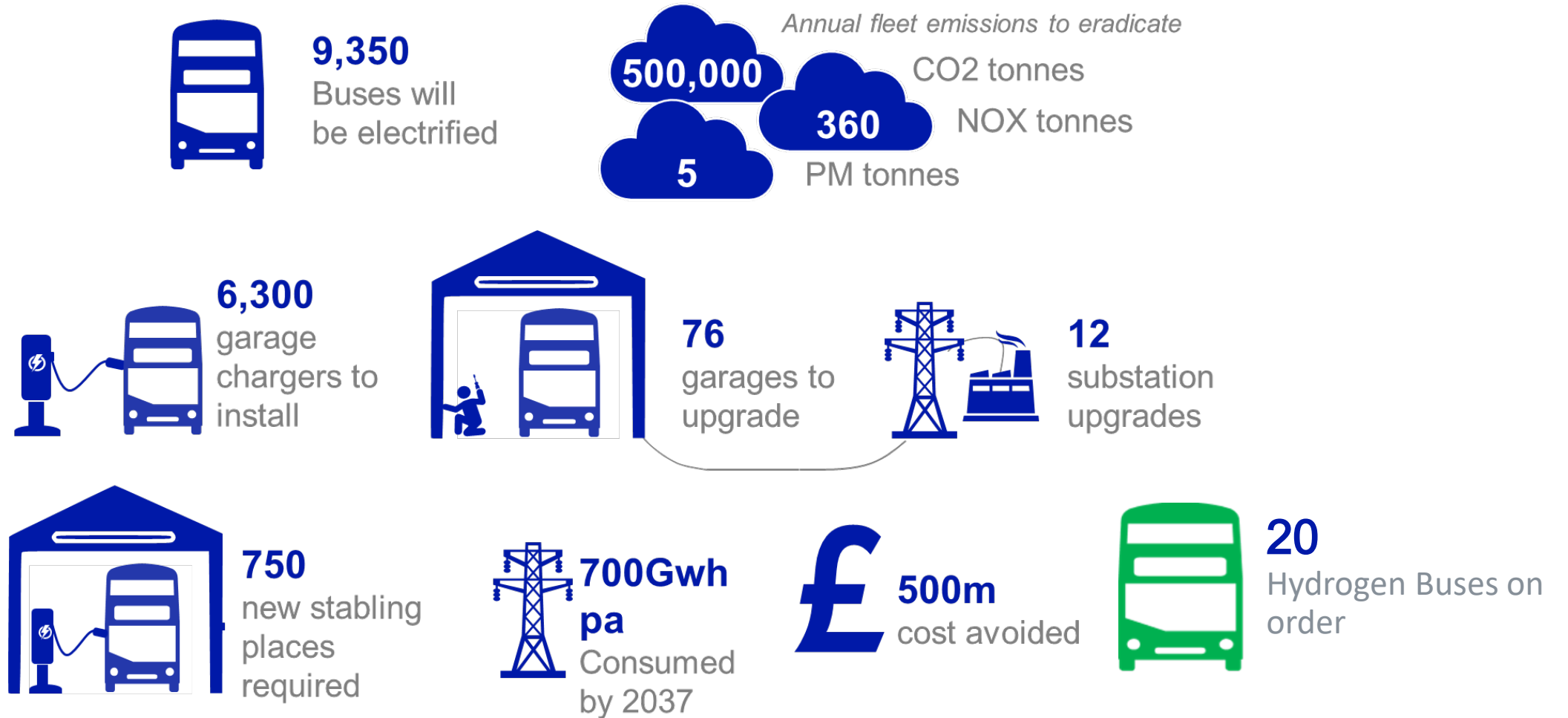
Figure 4.19 Proportion of households owning cars, by PTAL, LTDS 2016/17.



Source: Strategic Analysis, TfL City Planning.



# Decarbonising our own operations – the challenge of delivering a zero emission bus fleet



# Delivering a zero carbon railway by 2030



## Energy Efficiency

### Traction

Maximise regenerative braking  
Opportunity coasting

### Non-Traction

LED lighting  
Intelligent building management systems  
Behaviour change



## Generation

### Solar PV

Rooftop retrofit  
Opportunities on land and tracksides

### Waste Heat

Export low grade heat from London Underground vent shafts to heat networks



## Procurement

### Private Wire

Connect renewables to London Underground's private power network

### Renewable Power Purchase Agreements

Procurement of low carbon electricity through the grid





# Cleaner taxi and private hire vehicle fleets

- Circa 19,000 licensed taxis and over 96,000 private hire vehicles in London
- Since January 2018, all taxis licensed for the first time in London must be Zero-Emission capable
- More than 15% of the taxi fleet is now ZEC, with a fully electric model now available
- Taxi age limit for older diesel vehicles has been reduced from 15 to 12 years
- On 1st January 2020 the licensing requirements for PHV's changed –
  - PHVs under 18 months old must be ZEC and meet Euro 6 emissions standard when licensed for the first time.
  - PHVs over 18 months old must have a Euro 6 (petrol or diesel) engine when licensed for the first time.

## Dynamo Taxi



## LEVCTXe



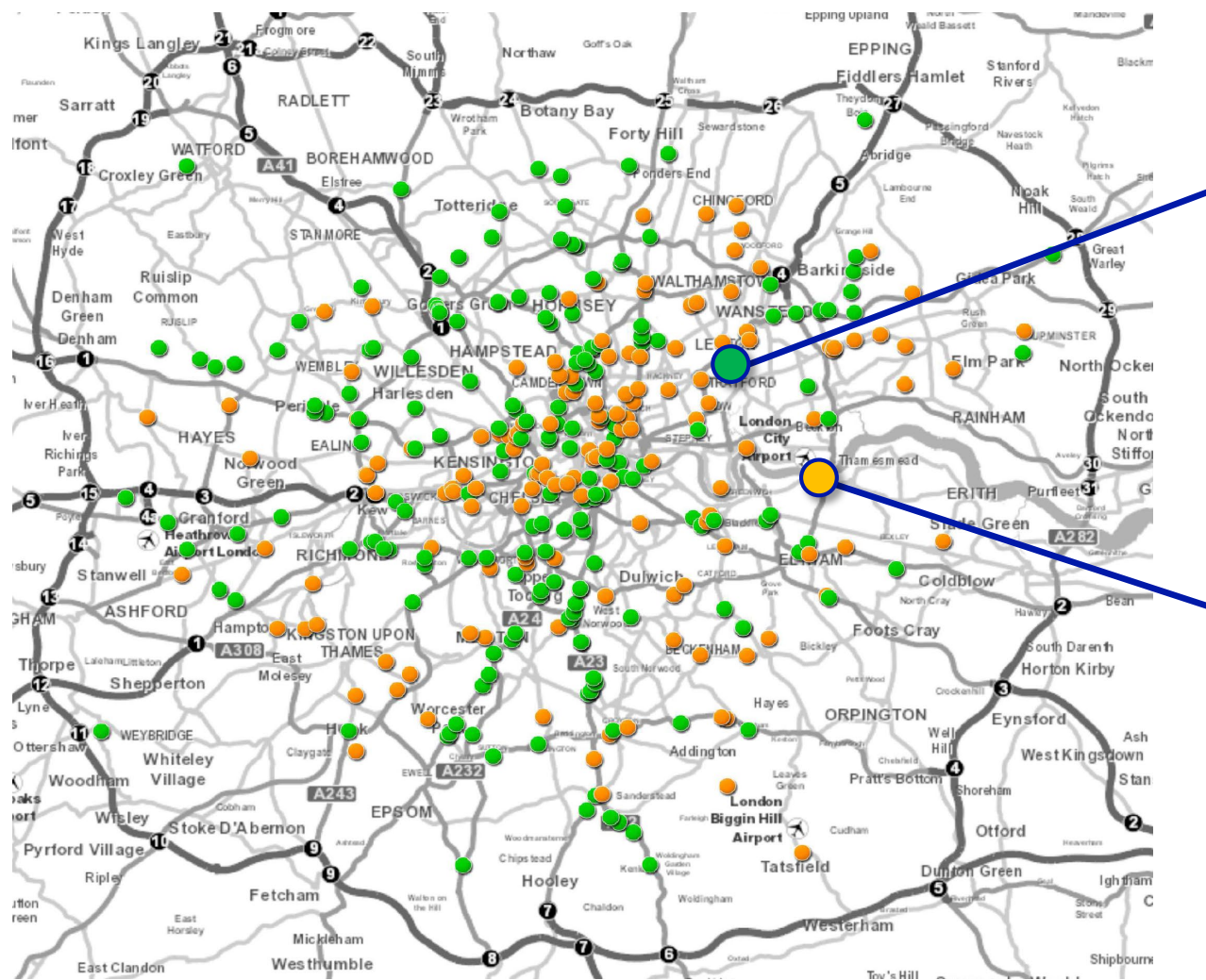
# Lowering freight emissions

- ULEZ, LEZ tightening and ULEZ expansion will all help drive cleaner freight operations
- Working with industry through LoCITY to increase the uptake and availability of low emission commercial vehicles
- Van scrappage scheme to support small businesses:
  - £7,000 to scrap an older vehicle
  - £2,500 additional funding for those switching to an electric van
- Future changes to include funding for retrofit for HGVs and non TfL buses and coaches

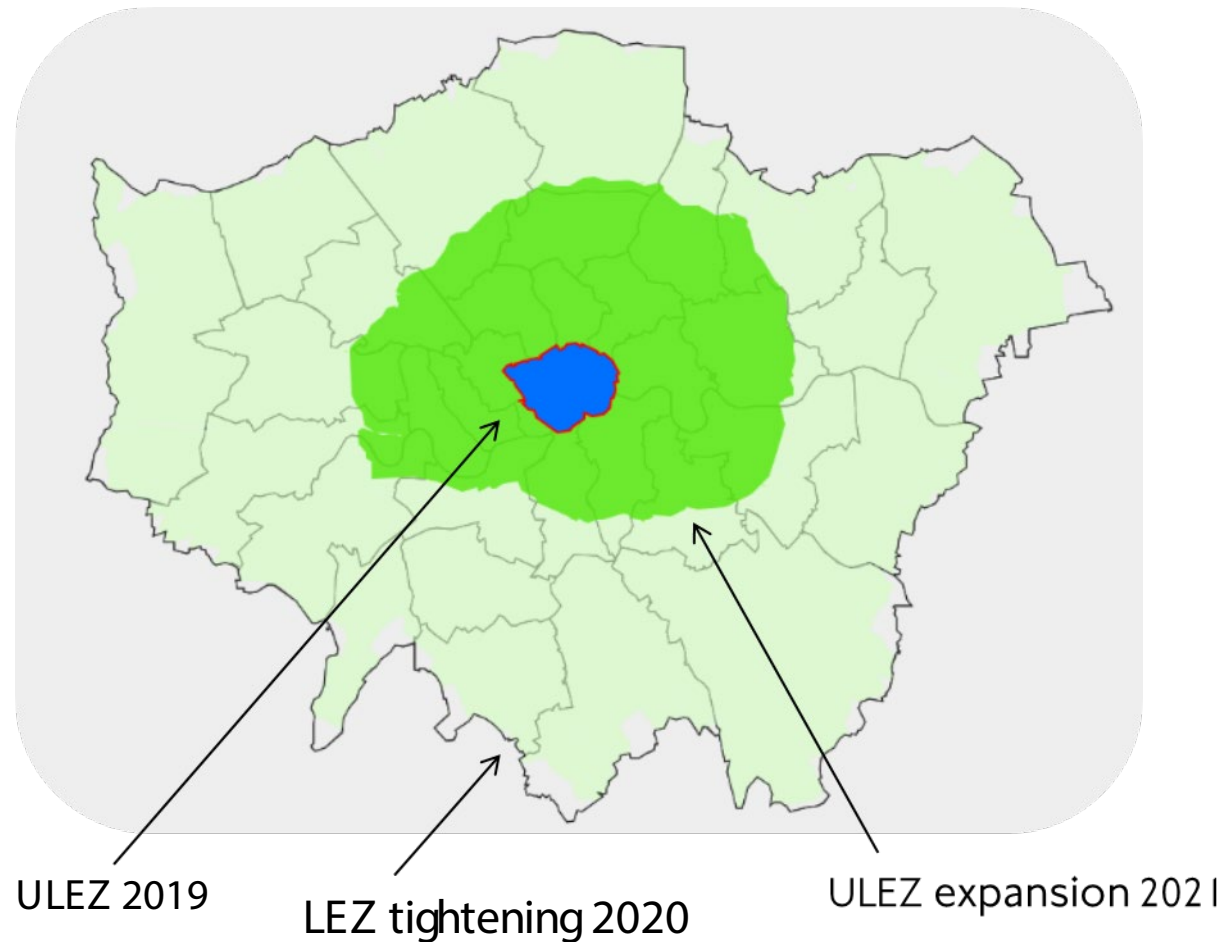




# Enabling electrification - growing London's EV charging infrastructure











# The role of regulation in raising emission standards



The Ultra Low Emission Zone was introduced in April 2019 and applies to all vehicles

- 30% reduction in toxic air pollutants
- 4% reduction in CO<sub>2</sub> emissions
- <9% reduction in traffic in the zone

Vehicle class	Min emission standard	Daily Charge
	Euro 3	£12.50
 	Euro 4 petrol or Euro 6 diesel	£12.50
 	Euro VI	£100
 	Euro IV PM	£200
	Euro 3 PM	£100

The Low Emission Zone standards for heavy vehicles will be tightened in October 2020





# What does the future look like?

2021

- **Expanded ULEZ**

2030

- **Zero Emission Rail Network**

2037

- **Fully electric bus fleet**

2041

- **80% mode share in sustainable transport**

2050

- **Zero Emission City**

