

POLIS

CITIES AND REGIONS FOR TRANSPORT INNOVATION

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2018

22-23 November 2018, Manchester

Towards a Zero Emission Transport System: City scale challenges and Opportunities

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Towards a Zero Emission Transport System



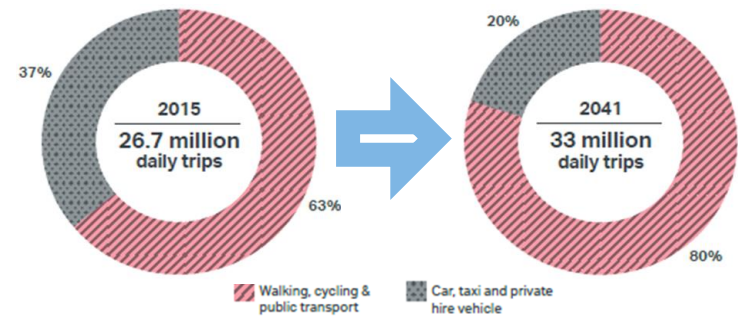
- Policy context
- London's emissions challenge
- Electrification of road transport
- London's energy needs
- TfL's plans for electrification



Towards Zero Emissions



- Mayor's Transport Strategy: Healthy Streets & Active Travel
- Zero Carbon City: Zero emission transport network by 2050



Public Perception

Future London > Clean Air

We must make the switch to electric cars to clean up the air in our city

Evening Standard leads the drive to get our city charged up so we can clean up the air we breathe

SIAN BAYLEY | 19 hours ago

News > UK > Home News

London sets modern pollution record after emissions trapped over city

Air quality in the capital was worse than in Beijing

Shehab Khan | @Shehabkhan | Saturday 28 January 2017 16:00 | 2 comments



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Future London

London could meet pollution targets by 2025, says deputy mayor for environment

Shirley Rodrigues, deputy mayor for environment and energy, says the ultra low emission zone will help meet targets

SIAN BAYLEY | 22 hours ago

The Observer
Air pollution

London air pollution is poisoning my son, says campaigner

Father asks why politicians are not acting on child health crisis caused by illegal toxin levels

Matthew Taylor

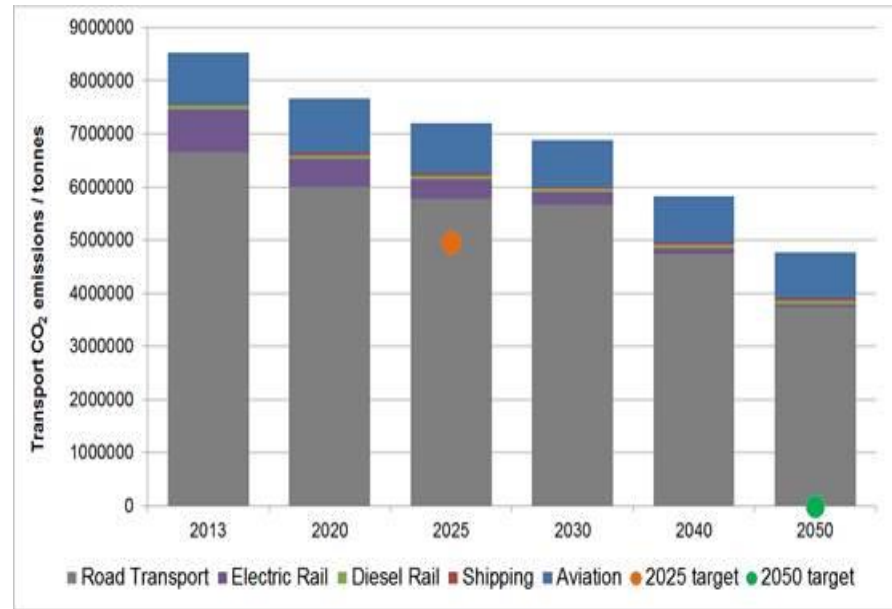
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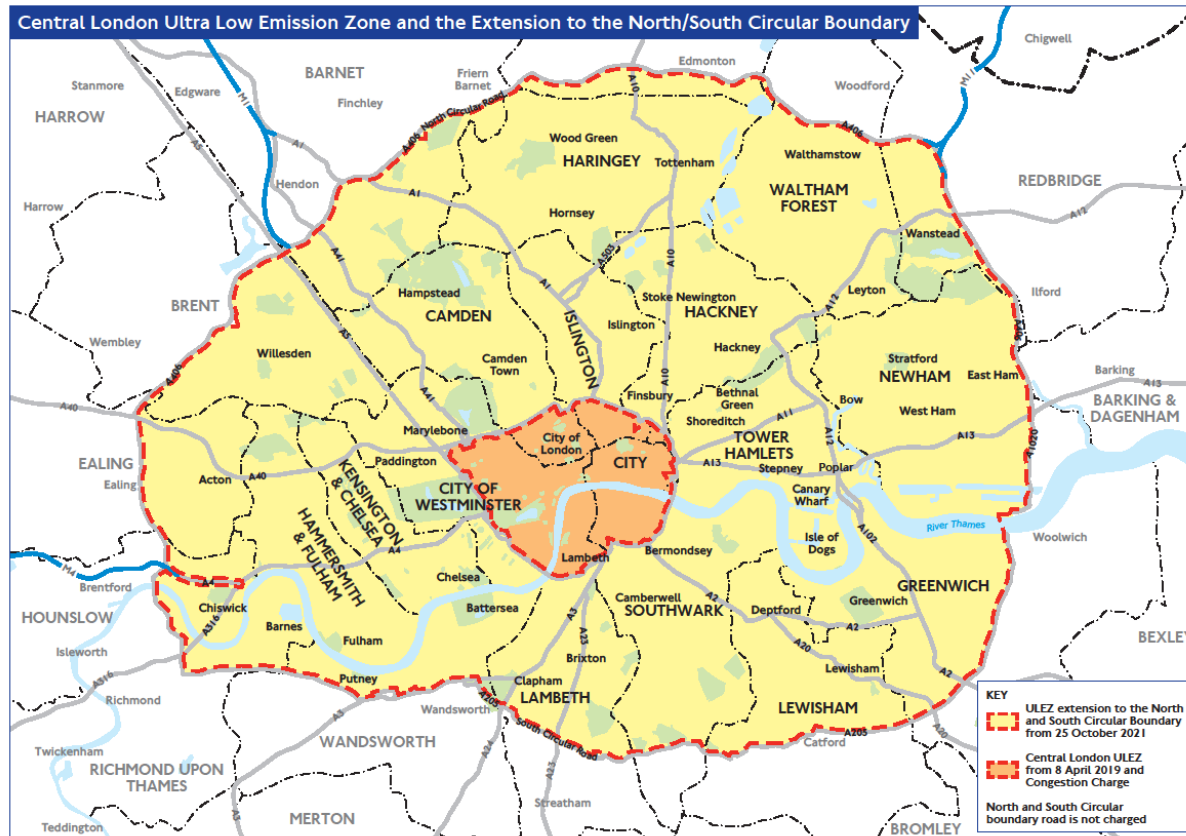
London's Emission Challenge

- Transport makes up 21% of London's CO₂ emissions. Clear action is required to reach zero carbon transport by 2050
- Not compliant with safe levels of NO₂ concentrations



- There is no safe level of Particulate Matter. London meets legal limits but does not meet WHO recommendations

Planned London Ultra-Low Emissions Zone



Electrification of London's Road Transport

- We are leading by example through the fleets we control
- Major expansion in rapid charging points underway



Zero Emission Capable (ZEC) licencing requirements from 2018 and 2020, achieving a fully ZEC fleet by 2033

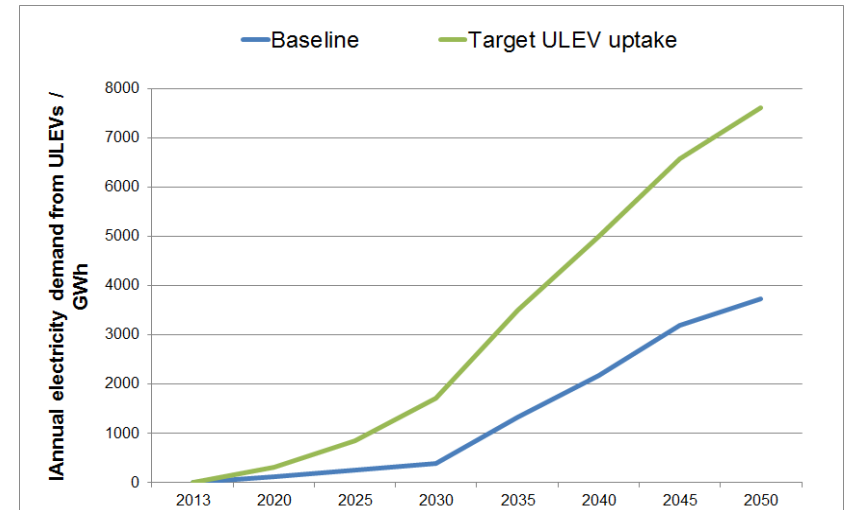


All single deck buses will be zero emission in the ULEZ in 2020; the whole fleet will be fully zero emission by 2037



Ultra Low Emission Vehicles' Energy Needs

- Moving to a zero emission vehicle fleet has implications for London's energy supply
- At higher levels of ULEV uptake, demand of 7-8 TWh p.a. is possible

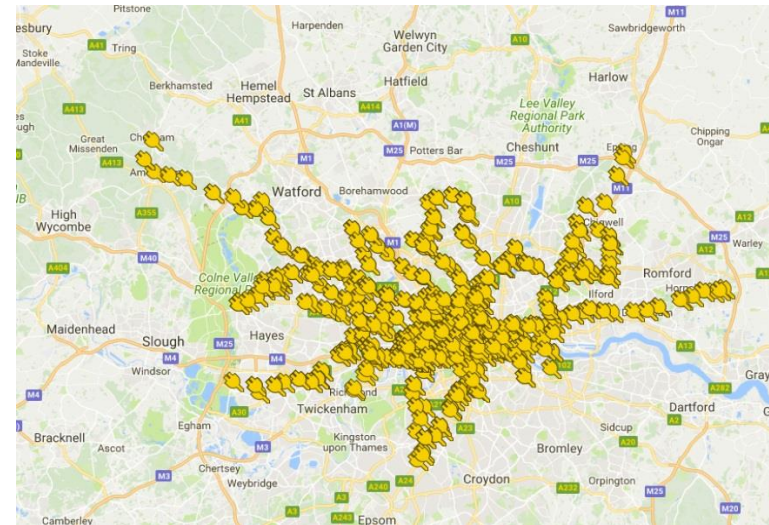


Mode of transport	Estimated ENERGY consumption p.a.	Max POWER consumption
London Underground	1.1 TWh	~ 250 MW
London Buses	750 GWh – 1 TWh	~ 250 MW
Taxis	~2 TWh	~ 500 MW
Other road transport	~3-4 TWh	~ 1GW



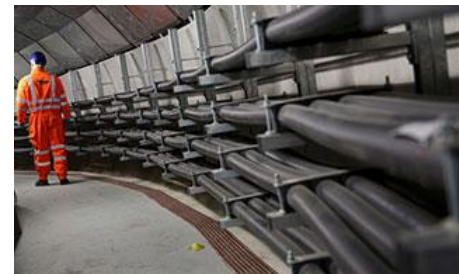
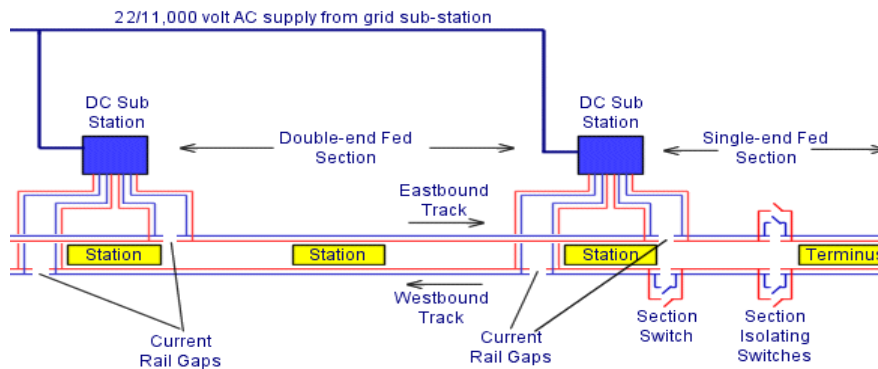
Strategy for Electrification Scale-up

- Strategy being developed to meet 2037 deadline; all new buses should be Zero Emission from 2025
- Vehicle technology is developing; currently monitoring the market
- Energy strategy looking at synergies, opportunities, technology and business models
- Consulting on expanded and enhanced emission control zones



Strategic Role of TfL

- Smart High Voltage network to support London's future energy needs
- Co-location of existing infrastructure with spatial demands for EV charging
- Integration of energy storage & smart energy management



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