



**TRANSPORT
FOR LONDON**

EVERY JOURNEY MATTERS

Towards a Zero Emission Transport System: City scale challenges

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Towards a Zero Emission Transport System

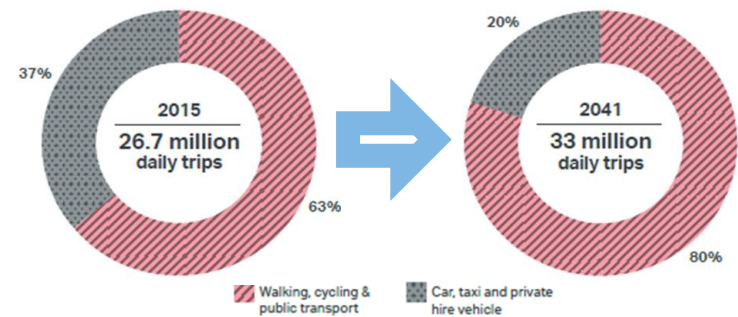


- Policy: London Mayor's Transport Strategy
- London's emissions challenge
- Electrification of road transport
- London's energy needs
- TfL's plans for electrification

Towards Zero Emissions

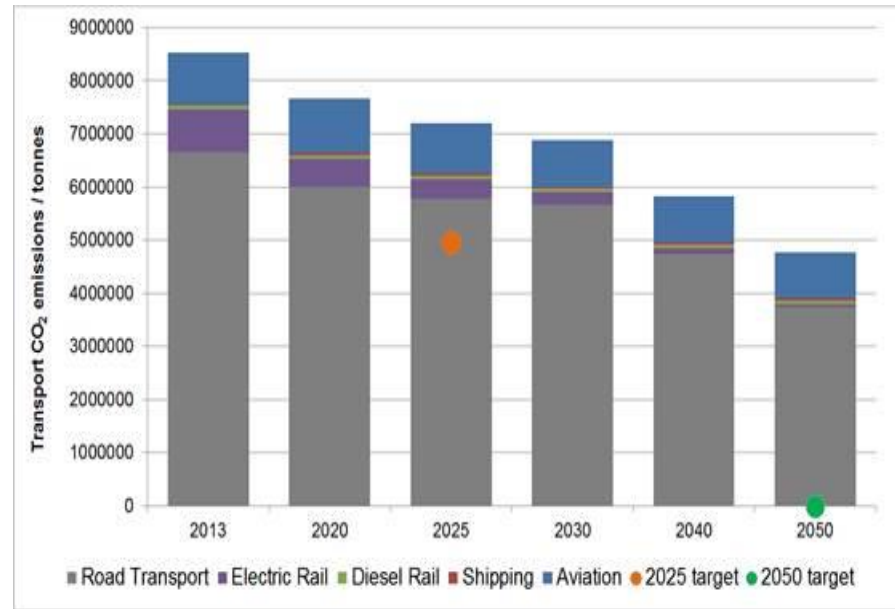


- Mayor's Transport Strategy: Healthy Streets & Active Travel
- Zero Carbon City: Zero emission transport network by 2050



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



Electrification of London's Road Transport

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



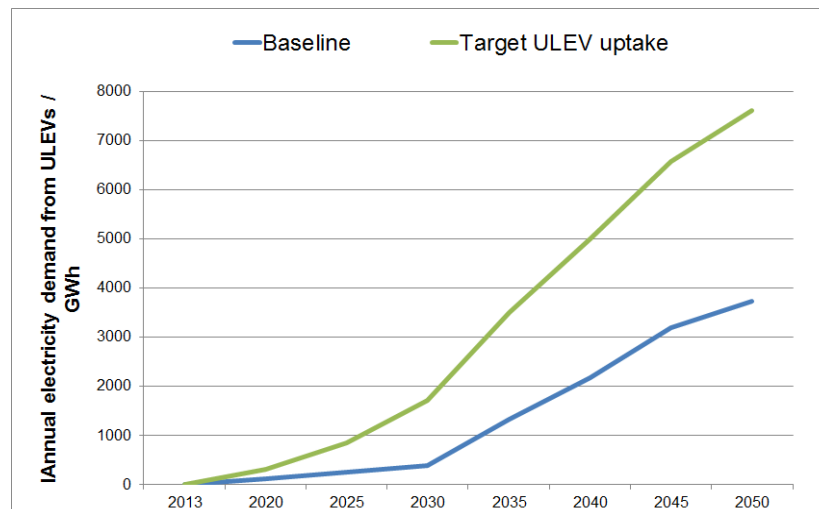
**Zero Emission
Capable (ZEC)
licencing
requirements from
2018 and 2020,
achieving a fully
ZEC fleet by 2033**



**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

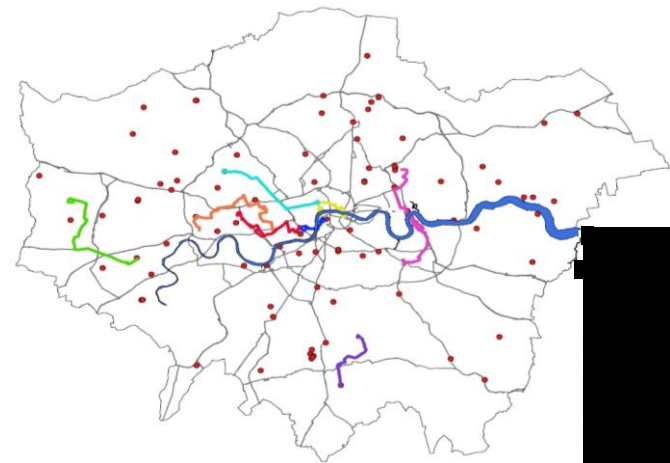


Mode of transport	Estimated ENERGY consumption p.a.	Max POWER consumption
London Underground	1.1 TWh	~ 250 MW
London Buses	750 GWh – 1 TWh	~ 250 MW
Other road transport	5-6 TWh	~ 1GW



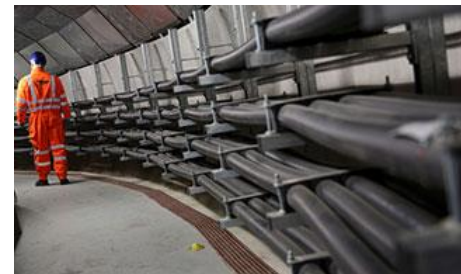
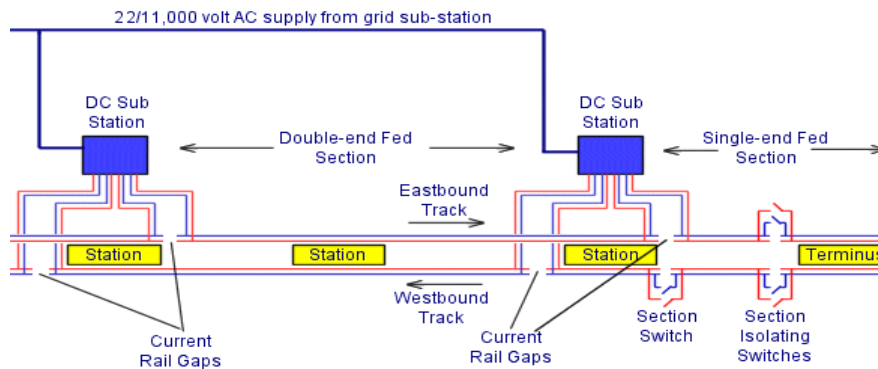
Strategy for Electrification Scale-up

- 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



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 & dynamic energy management



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