



Lowering Emissions
from Commercial Vehicles

18th May 2016

Executive summary

Motivations, barriers and opportunities for LoCITY to influence operator uptake of Ultra-Low Emission Vehicles (ULEVs)

Background and objectives

London's growing population and economy is creating an increase in freight and fleet traffic. Unless action is taken, this will have a significant impact on the environment, the transport system and quality of life in London.

Transport for London (TfL) has developed a range of strategies to respond to these issues, including the Transport Emissions Roadmap (TERM) and the Ultra Low Emission Vehicle (ULEV) delivery plan. One of the key actions of the ULEV Delivery Plan is to increase the uptake of ULEVs in freight and fleet organisations to reduce emissions and improve air quality, and help expand the green economy – creating jobs.

LoCITY is a five year programme to address this action. LoCITY will work with freight and fleet operators, vehicle manufacturers and infrastructure providers to increase the availability and uptake of ULEVs operating in London. To inform the design and delivery of the programme, TfL commissioned research to better understand:

- Operator knowledge and awareness of viable alternative fuels for operational HGVs and vans for business purposes;
- How to influence and subsequently increase uptake of these types of vehicles.

Scope and approach

The research included a literature review of drivers and barriers to ULEV take up, and different operator approaches to purchasing vehicles. This review was followed by:

- Screening calls to identify operators of commercial vans and HGVs in central London.
- A survey of 200 of operators to explore their fleet profile, duty cycles, ULEV take up and specific drivers and barriers to future take up.
- Follow up in-depth interviews with 30 operators, focusing on vehicle purchasing approaches and how vehicle selection might be influenced.
- Interviews with 10 organisations with the potential to influence operators' vehicle selection process (including industry bodies, suppliers and leasing companies). This provided a holistic perspective of drivers and barriers to uptake of ULEVs and identified opportunities for LoCITY to accelerate this uptake.

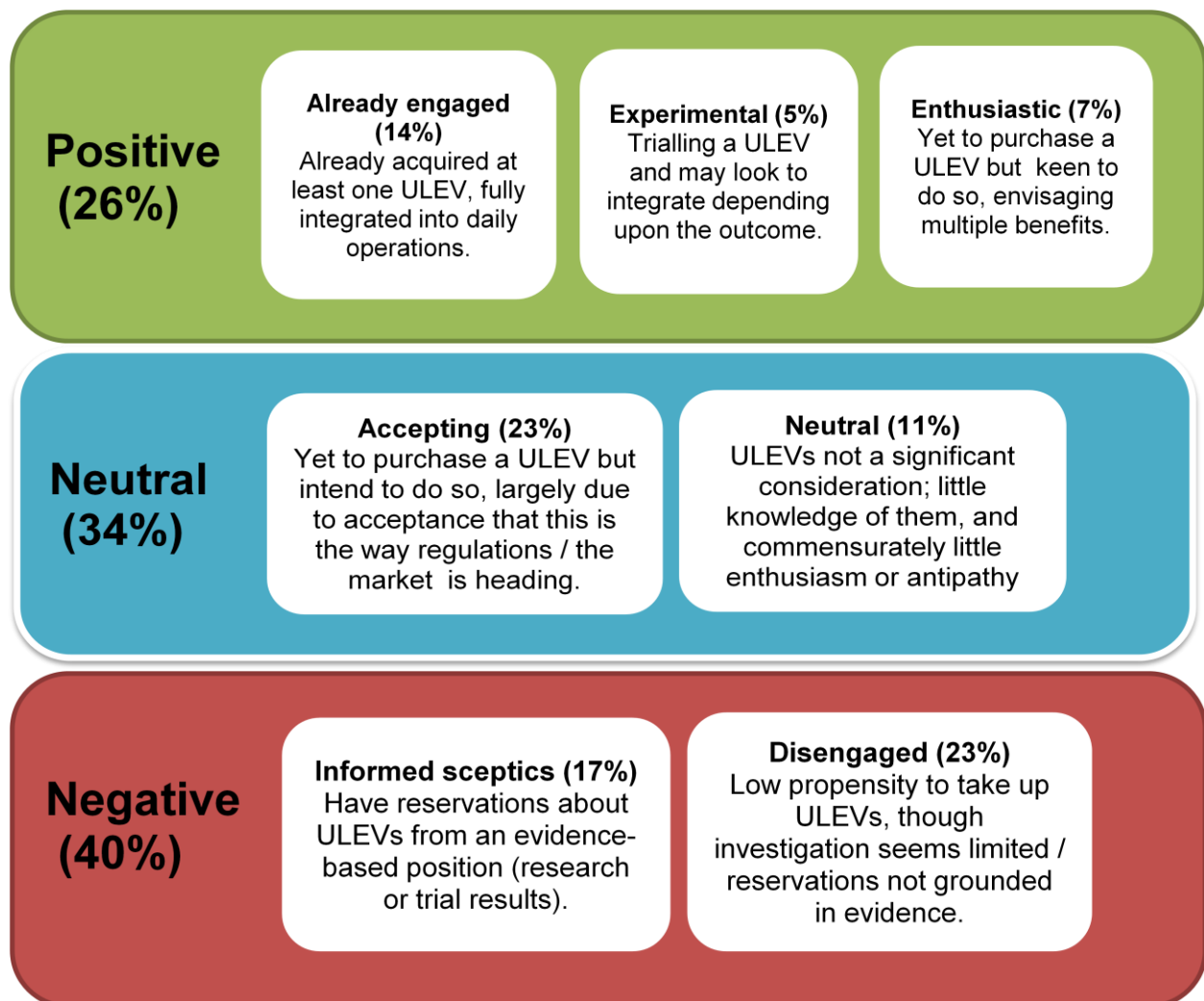
Surveyed operator profile

- 43% with less than ten commercial vans / HGVs, 53% with ten or more.
- 168 fleets operating 4,700 1.2–3.5 tonne vans.
- 101 fleets operating 6,500 3.5-7.5 tonne vehicles.
- 94 fleets operating 2,800 7.5-18 tonne vehicles.
- 115 fleets operating 15,900 18 tonne + vehicles.

Current engagement and segmentation

14% of operators surveyed operate at least one ULEV, with a further 33% planning to do so. The most common ULEVs operated were battery electric, plug-in hybrid electric, and compressed natural gas (CNG) vehicles.

Interviewees' responses enabled segmentation of fleet operators into seven groups.



- In addition to fleets already operating ULEVs, **around a third of operators are 'on the road' to take up** i.e. either trialling, enthusiastic to take up, or accepting that take up is inevitable.

- Smaller businesses are less likely to trial new technologies based on the high upfront capital required and competing priorities for time and finances.
- Around one third of operators have not investigated ULEVs to any significant degree, though their attitude towards them is varied. These operators are likely to ultimately encounter the same hurdles as the first group, but most will need additional information to understand the potential benefits of ULEVs for their organisation.
- Finally, around one fifth of operators have a negative impression of ULEVs – and a commensurately low propensity to invest - subsequent to investigating available options. It is likely to be challenging to persuade this set of operators to acquire ULEVs in the near term.

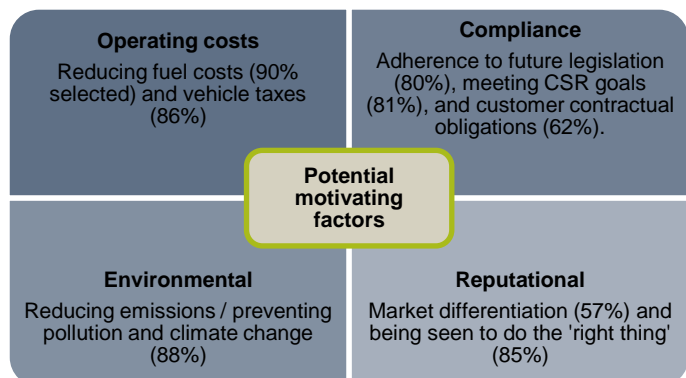
Opportunity for LoCITY

There is substantial potential demand for ULEVs that vehicle manufacturers and other suppliers are not currently meeting. LoCITY should work with all stakeholders to provide trusted, impartial information about ULEVs, particularly focusing on their environmental and financial benefits.

Motivations / drivers to take up

- Operating costs and sustainability considerations are the primary considerations for fleets which have already acquired ULEVs.
- Amongst those planning to acquire ULEVs, compliance was by far the most significant consideration (cited more than twice as much as any other motivating factor).

Demand from customers is not a strong motivating factor. A small number of operators – in particular those with public sector clients – reported growing interest in fleet sustainability. However, most operators reported that their customers were not interested in their vehicle choices, apart from ensuring that the chosen vehicle would meet the job requirements and minimise costs. Fleets also commented that they would usually meet specification requirements rather than emphasising their use of ULEVs.

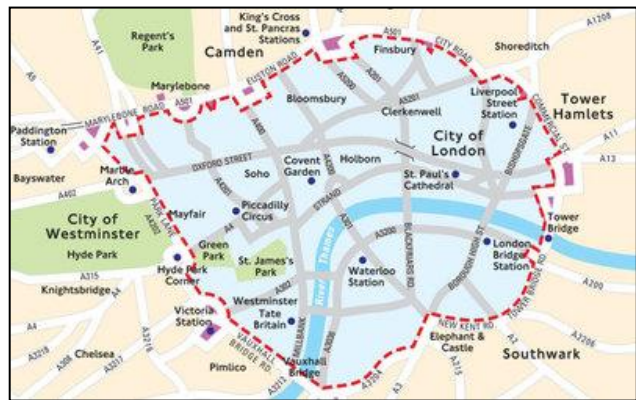


Opportunity for LoCITY

LoCITY should work with the public sector to improve procurement processes to stimulate accelerated uptake of low emission vehicles.

Awareness of the Ultra Low Emission Zone

The Ultra Low Emission Zone (ULEZ) is already a key consideration for fleet operators. The research found good awareness of the concept (65% of operators aware) and recognition of the effect it could have (63% of operators felt that it would have a ‘substantial impact upon their organisation’).



However, operators generally need more details about the policy, such as the financial charges associated with non-compliance and the geographical area it will cover, to fully understand how it will impact their operation and what action they should take.

Opportunity for LoCITY

LoCITY should support provision of detailed information about the ULEZ and help operators decide how to respond. LoCITY should consider developing an online calculator to compare the cost of a given trip in a non-compliant vehicle to that in a compliant vehicle, as well as how many trips it would take for a new vehicle to ‘pay for itself’.

Factors influencing vehicle acquisition processes

Getting started

- Nearly 80% of operators replace vehicles at regular intervals; typically between three and five years.

Who is involved?

- Vehicle procurement is usually initiated by the fleet manager or equivalent, although the need for procurement is sometimes tested with colleagues and senior decision makers.
- Most operators (57%) have multiple internal stakeholders involved in purchasing decisions.

Vehicle and supplier selection criteria

- Vehicle capabilities and cost have the greatest influence on purchasing considerations.
- Fleets can be categorised into three groups:
 - (1) Large, public sector fleets have a formalised tender process
 - (2) Large, private sector fleets tend to have fixed supplier agreements and renew existing orders
 - (3) Smaller fleets take a more ad hoc approach to selecting suppliers.
- Regardless of approach, loyalty to existing suppliers was cited as very strong.

External influences

- Key external influences cited tended to be statutory e.g. legislative requirements. Operators reported limited upselling / promotion of ULEVs by their suppliers / brokers.
- Trade bodies were felt to be an important influence by members, but it was noted that smaller organisations and fleets are less likely to be members.
- Some respondents mentioned interest in the success of competitor ULEV trials.
- Word of mouth between drivers of different organisations was sometimes seen as a powerful influence in broadening consideration of options.
- Trade or fleet-specific press were cited to a limited degree.

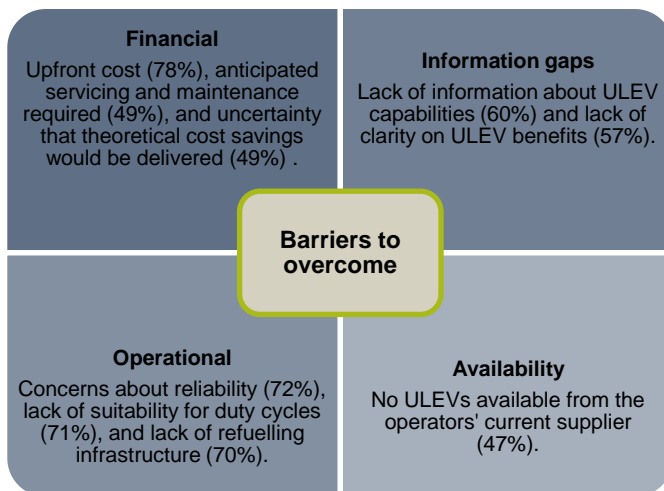
Opportunities for LoCITY

LoCITY can influence and improve fleet procurement processes by:

- Providing impartial, trusted information to operators to ensure that they are aware of available ULEVs and any gaps in knowledge are addressed.
- Working with leasing companies and vehicle manufacturers to help them engage with clients about ULEVs.

Commercial and technical barriers to take up

Operators identified up-front costs as the most significant barrier to (additional) uptake of ULEVs, followed by concerns about suitability and refuelling infrastructure. These barriers are well understood and have been covered in depth by previous research.



The identification of up-front cost as a major barrier suggests that financial support for vehicle acquisition will be key to uptake for many operators, regardless of motivations or the removal of other barriers. However, this barrier could also be addressed by providing accurate information about relative whole life costs of ULEVs and conventional alternatives.

Lack of refuelling infrastructure on usual routes was also cited as an operational barrier, suggesting fleets and infrastructure providers could work

together to identify suitable sites for installations. In general, the near-term viability of ULEVs increases where operators have localised routes, schedules with some flexibility around loads and timings for vehicles to undergo refuelling, and/or depots that vehicles return to in order to access charging infrastructure.

Opportunities for LoCITY

LoCITY can help overcome these barriers by:

- Providing clarity to operators about ULEV availability, including performance and operational capabilities.
- Facilitating greater collaboration between vehicle manufacturers, infrastructure suppliers and fleet operators.
- Providing information and tools to facilitate whole life cost-benefit analysis of ULEVs.
- Sharing information about current and planned locations of publicly accessible recharging and refuelling infrastructure. LoCITY could also consider establishing a forum for fleets to make their own (depot) recharging and refuelling capacity available to other fleets or incorporate them into wider infrastructure schemes.
- Signposting sources of funding for ULEV trials or acquisition, and advocate for further financial support for operators.