HC Fleet Affordability and Emissions Update 2025

There are a few key differences between 2019, 2024 and 2025, both regarding, the affordability of electric Hackney Carriages (HC) and regarding the Emissions benefit from the investment in such vehicles that should be considered in the context of this paper.

In summary, in 2018/19, over 50% of HC's licenced in Oxford had Euro 3 or lower standard engines, emitting up to 8.7tonnes of NOx pa. The Zero-Emission Capable Licensing Standards brought in, in 2019, required at the time a minimum of Euro 4 standard engines, with all HC's to be zero-emission capable by 2025, (now 2026). These standards have been very effective, reducing real world emissions from the HC trade by almost 60%. This is a significant achievement and shows the commitment by the trade to reducing emissions.

The Plug-in Taxi Grant was introduced in 2017 offering £7500 off the price of new E-Taxis. In quarter 1 of 2024, the grant was reduced to £6,000 and in April 2025 it was further reduced to a maximum of £4000.

As reported in 2024, the affordability of new electric HC vehicles has significantly worsened since 2019, with the cost for power and interest rates more than tripling from 2018/19 to 2023/24. In the last 12 months this has worsened, by the reduction of the Plug-in Taxi Grant (PiTG) from £7500 in 2017 to £4000 in April 2025.

Consideration for the Licensing decision should include finding the right balance to continue to deliver cleaner air, taking into account the overall emissions contribution that is made by Hackney trade, in the context of the service they provide and the current economic climate.

It should also be noted that this report is based on average data and comparators.

1. Financial Implications

In 2019, investment in a new electric LEVC eTX showed a small return on investment at 6 years (see GPLC Paper 23/01/2019, Emissions Standards, §21). GULO funding and low electricity pricing supported an electricity price of 18p/kWh for home and public charging. The business case for the trade at that time, based on a Feasibility study conducted by Cenex, was aligned with the Council's ambition to reduce emissions.

Today energy and cost of living crisis have had a significant impact on electricity cost (public charging is now 3 to 4 times higher) and borrowing costs (3 times higher). In 2025 the average cost of UK public rapid charging has increased by 7p/kWh to 76p/kWh.

Oxford City Council has worked to support the hackney trade by securing reduced charging at 46p/kWh for Taxi drivers at Blink Rapid charge points within the city until at least January 2026. Fastned at Redbridge also offer 0.52p/kWh using a £120 pa gold card subscription. Newish smart electric vehicle home charging tariffs, via Octopus and EON energy amongst others, offer exceptional rates for overnight charging (@8p/kWh).

A new electric London Taxi (LEVC e-TX) as in 2024, remains more expensive to own and run than a second-diesel London Taxi. However, a second-hand (assumed average £42.5k) electric London Taxi, if majority charged at home (average 21p/kWh), can be more economical than a second-hand diesel Euro 4. Costs of operation become less viable compared to diesel equivalents, if Hackney Cab Owners do not have access to home charging and rely on public charging as the main source of electricity.

Costs used in calculations by Cenex in 2018 are shown in the table below versus the costs in 2023/24, 2024/25 and % increases.

Table 1 - Fuel & Electricity Costs Comparator (2018 vs 2023/24 vs 2024/25)

Fuel	2018	2023/24	2024/25	% Increase 2018 to 2023/24	% Increase 2018 to 2024/25
Diesel p/l	121	145	143	20%	18%
Petrol p/l	119	135	135	13%	13%
Electricity Home Charging p/kWh	10.7	34	21	219%	97%
Electricity Public Rapid Charging p/kWh	18	69	76	283%	322%
Electricity Taxi Blink Rapid Charging p/kWh	18	69	46	283%	156%
Electricity Taxi Fastned Rapid Charging p/kWh	18	49	52	172%	189%

Table 2 – Costs of Ownership in 2025

	Option 1	Option 2	Option 3	Option 4
Vehicle	**New LEVC-TX Leased**	**New LEVC-TX Bought**	**2019 LEVC-TX Bought (home charge)**	**2013 Euro 4 Bought**
Net purchase price (after grants)		£ 68,342	£ 42,500	£ 3,000
Purchase/lease	Lease	Purchase	Purchase	Purchase
TCO 100% home charging	**£16,386**	**£13,130**	**£9,941**	**£10,708**
TCO pa 70% home, 30% fuel	**£17,015**	**£13,759**	**£10,570**	**£10,708**
TCO pa - Fully electric 100% electric - 70% home , 30% rapid	**£17,309**	**£14,053**	**£10,864**	**£10,708**
TCO pa Public charging only + 30% petrol	**£19,168**	**£15,912**	**£12,724**	**£10,708**
Cost per mile	£0.68	£0.55	£0.42	£0.43
NOx Emissions g/per mile	0.13	0.13	0.13	0.62
PM Emisisons g/per mile	0.008	0.008	0.008	0.096

A more detailed estimate of costs of ownership between an LEVC eTX and Diesel (Euro 4) TX4 is shown in Annex 1, including all assumptions.

2. Expanding ZEZ Implications & Charges

The original Emissions Pathway anticipated ZEZ cost implications for HCVs and PHVs fuelled conventionally:
Fees for ZEZ access (as of August 2025) will be £10 per day for Euro 4 Diesel Hackney cabs. Assuming 250 journeys into the ZEZ per annum, there is an additional £2.5k pa cost to running a Diesel TX4. This additional £2.5k, gives zero emission taxi's a competitive advantage over conventionally fuelled vehicles, hugely supporting the overall business case and supporting alignment with purchase of even a new electric hackney (assuming borrowing at 7%).

If ZEZ access becomes free for all HCs and PHs, then this advantage is lost, adding risk to the investment into an electric HC or PH vehicle, especially as HC operators face nearly twice the up-front cost for their accessible electric vehicles than PH operators do.

It should be noted that any expansion to the ZEZ will not happen until earliest autumn 2027 and currently ZEZ charges only apply to a few roads in the city centre, therefore this price differential has not currently been included in the calculations. If charges remain as currently set out then the business case for electrification will significantly improve.

3. Emissions

The difference between HCV fleet emissions in 2018/19 and 2023/24 and 2024/25 is shown in Annex 2 below. In 24/25 nearly 40% of the fleet are ULEV compliant, real world emissions from the HC fleet have reduced by almost 60%. The majority remainder of the fleet are operating Euro 4 Diesel Cabs (London Cab -TX4).

There are two different data sources for calculating emissions, both of which are summarised below:

1. EU Euro standard calculations show that NOx, HCNOx and PM have reduced by 76%, 75% and 76% respectively of original emissions. LEVC eTX are range extended vehicles and it is more cost effective for Operators to run on or top up petrol for longer journeys, if they cannot charge at home Public charging is 25% more expensive than using petrol via the range extender. Assumptions, therefore include 30% of mileage in these vehicles as petrol fuelled.
2. Real World data (used for calculations in 2018/19). The comparison between 2018/19 and today, shows NOx emissions have reduced to 59% of the original total. Note – we do not have accurate data for Real World petrol extended emissions, so an estimate for real world petrol emissions has been used.

The 2025 Air Quality Source Apportionment report for road transport emissions (based on 2022 data), provided more detail on the differences in emissions between Private Hire (PHV) and Hackney Cabs (HC). It's modelling includes the recent 69% electrification of bus fleet in Oxford, which has resulted in almost 30% reduction in bus emissions and thereby a rebalanced transport emissions sector.

Overall emissions from Taxis, in relation to all transport emissions, have increased in proportion to overall vehicle emissions by just over 1%, albeit Taxi emissions remain generally low, @2% on a city-wide basis. Private Hire vehicles contribute more emissions than HCV's and diesel taxi's (HCV and PHV) contribute more than petrol. The same report identified that in areas of higher taxi density, Hackney taxis have comparable NOx emissions to PHV and considerably lower particle emissions. Overall, Hackney NOx and PM emissions have reduced by over 59% and up to 74%.

Table 3 - Apportionment of Taxis as part of overall Transport emissions in Oxford (Report 2025, Data 2022) in key city locations.

	Hackney			Private Hire			Other Taxi		
	NOx %	**PM2.5 %**	**PM10 %**	**NOx %**	**PM2.5 %**	**PM10 %**	**NOx %**	**PM2.5 %**	**PM10 %**
St Clements/ The Plain	1.1	1	0.9	1.2	3	3.2	0.2	0.2	0.2
Headington	0.8	0.9	0.7	0.9	2.6	2.7	0.1	0.2	0.1
Botley road	1.0	0.9	0.8	1	2.8	3.0	0.2	0.1	0.2
Worcester Street	0.9	0.8	0.9	1.0	2.7	2.9	0.1	0.2	0.1

ANNEX1: Comparative Costs of Hackney Ownership.

	Option 1	Option 2	Option 3	Option 4
Vehicle	**New LEVC-TX Leased**	**New LEVC-TX Bought**	**2019 LEVC-TX Bought (home charge)**	**2013 Euro 4 Bought**
Net purchase price (after grants)		£ 68,342	£ 42,500	£ 3,000
Purchase/lease	Lease	Purchase	Purchase	Purchase
Running Costs (annual)				
Fuel/Charging 70% home, 30% fuel	£2,713	£2,713	£ 2,713	£4,898
Servicing & Maintenance	£620	£620	£920	£3,425
Insurance	£1,200	£1,200	£ 1,200	£1,200
Road Tax (annual)	£0	£0	£ -	£555
Congestion/ULEZ charges	£0			£0
Lease cost (annual)/Interest	**£12,482**	**£4,579**	**£2,848**	**£180**
Depreciation		**£4,647**	**£2,890**	**£450**
Total Cost	**£14,302**	**£11,046**	**£7,858**	**£10,708**
TCO 100% home charging	**£16,386**	**£13,130**	**£9,941**	**£10,708**
TCO pa 70% home, 30% fuel	**£17,015**	**£13,759**	**£10,570**	**£10,708**
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Cost per mile	£0.68	£0.55	£0.42	£0.43
NOx Emissions g/per mile	0.13	0.13	0.13	0.62
PM Emisisons g/per mile	0.008	0.008	0.008	0.096

Please note: The average Hackney cab mileage used for calculations is 25,000 miles per year.

ANNEX 2: Emissions Impact (2018 vs 2023/24 vs 2024/25)

https://dieselnet.com/standards/eu/ld.php

Average km Per Annum	Average km using fuel (if electric)
40000	12000

2018/19 Data for Hackney Cabs Licenced in Oxford

Age of Vehicle (First registration)	<2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Grand Total
Engine Type																
E0	19	1														20
E1	23	4	2													29
E3	6		5	1	3											15
E4						1	7	9	9	6	8					40
E5												3	2	3		8
Grand Total	48	5	7	1	3	1	7	9	9	6	8	3	2	3	0	112

g/ km per annum Standards classification Euro engines

NOx Commercial Vehicle	HCNOx	PM
1.8	2	0.25
1.5	1.7	0.25
0.78	0.86	0.1
0.39	0.46	0.06
0.28	0.35	0.05

Total kg/km per annum

NOx Commercial Vehicle	HCNOx	PM
1440	1600	200
1740	1972	290
468	516	60
624	736	96
90	112	16
4362	**4936**	**662**

Real World

Nox g/km	NOx Total Total per annum kg/km
2.7	2160
2.4	2784
1.5	900
1.3	2080
2.4	768
	8692 kg

2023/24 Data for Hackney Cabs Licenced in Oxford

Age of Vehicle (First registration)	2006	2007	2008	2009	2010	2011	2012	2014	2015	2018	2019	2020	2021	2022	2023	Grand Total
Engine Type																
Euro 4 - TX4 (Diesel)	1	10	11	22	12	13	3	1								73
Euro 6 (Diesel)								1	1							2
ULEV compliant - LEVC-TX - Euro 6 (petrol)										4	4	7	5	13	1	34
Grand Total	1	10	11	22	12	13	3	2	1	4	4	7	5	13	1	109
Emissions Reduction %																
																31%
100% ULEV COMPLIANT - EURO 6																
Emission Saved through 100% electrification																

g/ km per annum Standards classification Euro engines

NOx Commercial Vehicle	HCNOx	PM
0.39	0.46	0.06
0.125	0.215	0.005
0.082	0.082	0.005
0.082	0.082	0.005

Total kg/km per annum

NOx	HCNOx	PM
1138.80	1343.20	175.20
10.00	17.20	0.40
33.46	33.46	2.04
1182.3	**1393.9**	**177.6**
73%	**72%**	**73%**
107.256	**107.256**	**6.54**
1075	**1286.6**	**171.1**

Real World

NOx g/km	Total NOx kg/km per annum
1.30	3796.00
1.00	80.00
0.25	100.37
	3976.4
	54%
0.25	0
	3976.4

No real world data - this is estimated

% electrification

2024/25 Data for Hackney Cabs Licenced in Oxford

Age of Vehicle (First registration)	2007	2008	2009	2010	2011	2012	2014	2015	2018	2019	2020	2021	2022	2023	2024	Grand Total
Engine Type																
Euro 4 - TX4 (Diesel)	9	8	22	9	11	4	1									64
Euro 6 (Diesel)								1					1			2
ULEV compliant - LEVC-TX - Euro 6 (petrol)									4	6	7	6	13	4	2	42
Grand Total	9	8	22	9	11	4	1	1	4	6	7	6	14	4	2	108
Emissions Reduction % 2023 to 2024																
Emissions Reduction % 2018 to 2024																
																39%
100% ULEV COMPLIANT - EURO 6																
Emission Saved through 100% electrification																

g/ km per annum Standards classification Euro engines

NOx Commercial Vehicle	HCNOx	PM
0.39	0.46	0.06
0.125	0.215	0.005
0.082	0.082	0.005
0.082	0.082	0.005

Total kg/km per annum

NOx	HCNOx	PM
998.40	1177.60	153.60
10.00	17.20	0.40
41.33	41.33	2.52
1049.7	**1236.1**	**156.5**
11%	**11%**	**12%**
76%	**75%**	**76%**
107.256	**107.256**	**6.54**
942.472	**1128.87**	**149.98**

Real World

NOx g/km	Total NOx kg/km per annum
1.30	3328.00
1.00	80.00
0.25	123.98
	3532.0
	11%
	59%
0.25	0
	3532.0

No real world data - this is estimated

% electrification