Greater Manchester's Outline Business Case to tackle Nitrogen Dioxide Exceedances at the Roadside

E2 Modelling Report

Approved

Warning: Printed copies of this document are uncontrolled

Version Status:	APPROVED	**Prepared by:**	Transport for Greater Manchester on behalf of the 10 Local Authorities of Greater Manchester
Authorised by: **Date:**	Simon Warburton 28th February 2019		

Version

Conventions

Cells with a red background are **labels or table headings**.
Cells with a yellow background contain **hard-coded input data**
Cells with a white background contain **model calculations**.
Cells with a green background contain reportable **model outputs**.
Cells with a white background are **textual annotations** that are neither headings nor data (e.g. description of a calculation)

Latest Agreed / Circulated Version

Version	Sign-Off Date	Model Responsible Owner	Senior Responsible Owner

Version Control

Version	Based On	Release Date	Lead Analyst	Description of Changes	Impact of Changes	Comments
0.1		26 Feb 2019				

Approved

Quality Assurance

This sheet should be used for recording planned and completed quality assurance activities, as well as any follow-up actions resulting from these. Checks conducted by the analysts delivering the work

Validation

Is the methodology appropriate?

Appropriateness of Model	**GREEN**	Based on this test, the approach seems appropriate for it's intended
	AMBER	There are some concerns about the appropriateness of the approach
	RED	There are major concerns about the appropriateness of the approach

"Validation" is testing whether the model is a suitable simplification of the real world. Ideally this should be quantitative, checking if the model would have predicted real world outcomes. At the very least, the model structure should be qualitatively validated by reviewing the structure and assumptions with business experts, and reviewing the technical approach with analytical experts.

ID	Model Version	Activity	Details of Activity	Reviewer	Date	Completed	Appropriateness of Model	Comments and Issues	Related Documentation	Detail of Follow-up Action	Follow-up Complete
A1											
A2											
A3											
A4											
A5											
A6											
A7											
A8											

Approved

ECONOMICS CASE - ASSUMPTIONS LOG

The purpose of this worksheet is to outline the key assumptions applied to the economic modelling, source of assumptions and JAQU comments
The assumptions are outlined by type of measure
To add assumptions, manually add rows under the relevant measure

Assumption Quality	GREEN	High Quality	Reliable assumption, well understood and/or documented; anything up to a validated & recent set of actual data.
	AMBER	Mid Quality	Some evidence to support the assumption; may vary from a source with poor methodology to a good source that is a few years old.
	RED	Low Quality	Little evidence to support the assumption; may vary from an opinion to a limited data source with poor methodology.

Assumption Impact	GREEN	Limited Impact	Marginal assumptions: their changes have no or limited impact on the outputs
	AMBER	Medium Impact	Assumptions with a relevant, even if not critical, impact on the outputs
	RED	Critical Impact	Core assumptions of the analysis; the output would be drastically affected by their change.

ID	Area	Assumption	Purpose	Progress	Quality RAG	Impact RAG	Source/Owner	Comments	Link
A1	Active Travel	10% of all trips switching into active travel are walking trips, and 90% are cycling trips	Calculating the health benefits of active travel	COMPLETED	RED	GREEN	Jacobs - Wendy Cheung	The HEAT tool is designed to assess pure cycle trips and walking trips separately. Therefore, the number of trips remoded to active travel had to be proportioned between the two model of travel.	
A2	Average price of compliant vehicles (new vehicles)	The average cost for petrol and diesel cars developed from online research	Cost of upgrade for non-compliant vehicle owners	COMPLETED	GREEN	AMBER	JAQU National data inputs for Local Economic Models.xlsm (available on Huddle) Online research (autotrader)		
A3	Behavioural Response	The proportion of vehicles to upgrade, pay charge, remode etc.	Determine the number of vehicles to upgrade, divert, cancel trips etc.	COMPLETED	GREEN	RED	Jacobs		
A4	Buses	The oldest vehicles (euro 3 and below) will be replaced rather than retrofitted.	Capital costs	COMPLETED	GREEN	RED	Clare Sheffield and Alec Curley		
A5	Buses	The average cost of retrofitting a bus is £20,000	Cost of retrofitting	COMPLETED	AMBER	AMBER	Jacobs	TfL Bus Retrofit Programme - £86m/5000 buses (Euro VI)	https://www.airqualitynews.com/2017/06/28/86-1-million-london-bus-retrofit-programme-announced/
A6	Buses	All buses will be 100% compliant by 2021.	Cost of scrappage	COMPLETED	RED	AMBER	Jacobs		
A7	Congestion Effect	The travel time savings and change in vehicle operating cost is identical between option 5(i) and option 5(ii)	Calculating the congestion effect impact	COMPLETED	RED	AMBER	Jacobs/TfGM	The traffic network modelling for option 5(i) and option 5(ii) is the same.	
A8	Daily charges	Cars/LGV/PHV & Cabs = £7.50 HGVs/buses/coaches = £100.00	Calculate the cost to non-compliant vehicles entering the CAZ cordons (and revenue)	COMPLETED	AMBER	RED	Jacobs		
A9	Euro/pound conversion (21/11/2018)	The Euro/pound conversion used is 1.12168. This is based on the conversion rate of 21/11/2018	Converting value of health benefits from euros to £GBP.	COMPLETED	GREEN	GREEN			
A10	Fuel switch	Assume diesel car owners may switch to petrol, but no petrol car owners will choose to switch to diesel	Cost of fuel switch for vehicle owners switching to different fuel type	COMPLETED	RED	GREEN	Jacobs	This assumption will certainly apply in option 5c	
A11	Fuel switch	Assume the vehicle km travelled for diesel vehicle owners do not change when switching to petrol	Cost of fuel switch for vehicle owners switching to different fuel type	COMPLETED	GREEN	AMBER	Jacobs - Paolo Medici		
A12	Fuel switch	Assume the vehicle km travelled per vehicle is constant throughout the appraisal period	Cost of fuel switch for vehicle owners switching to different fuel type	COMPLETED	AMBER	AMBER	Jacobs - Wendy Cheung		
A13	Fuel switch	The average fuel consumption (litre/km) for euro 6 is assumed the same for euro 6c and 6d.	Cost of fuel switch for vehicle owners switching to different fuel type	COMPLETED	AMBER	AMBER	Jacobs - Wendy Cheung	The average fuel consumption is unavailable for Euro 6c and 6ds.	
A14	General	Opening year of the CAZ is 2021, and last year of appraisal period is 2030	Appraisal Period	COMPLETED	GREEN	RED	Jacobs/TfGM		
A15	General	The value of all monetised impacts will be presented in 2018 values	Price Year	COMPLETED	GREEN	RED	JAQU's Option Appraisal Guidance		
A16	General	All values will be discounted to 2018 base year using a 3.5% discount factor per annum	Discounting	COMPLETED	GREEN	RED	JAQU's Option Appraisal Guidance		
A17	General	The annualisation factor is 253 days	Annualisation factor	COMPLETED	GREEN	AMBER			
A18	Health and Environmental Impact (appraisal period)	To estimate the health and environmental benefits over the appraisal period, the 2021 estimate will be adjusted according to the % of non-compliance across 2021-2030 relative to the opening year	Calculate the health and environmental benefits for the appraisal period	COMPLETED	GREEN	RED	Jacobs - Shamai Cohen		
A19	HGVs	Assume HGVs trips cannot be switched to either public transport, nor active travel.	Welfare loss of trips remoded	COMPLETED	GREEN	AMBER	Jacobs		
A20	Scrappage	50% of non-compliant vehicles euro 5 and below eligble for the Vehicle Renewal Fund will apply for funding	Loss of asset value	COMPLETED	RED	RED	Jacobs		
A21	Taxis	Taxis (hackney cabs) are assumed to be 100% compliant by 2021, meaning all non-compliant taxis we assume to upgrade only.	Calculating the impact of vehicle upgrade	COMPLETED	RED	RED	Clare Sheffield and Alec Curley		
A22	Transaction cost	Euro 6, 6c and 6d transaction cost is assumed to be the same as euro 5	Calculating the transaction associated with upgrading	COMPLETED	GREEN	GREEN	Jacobs - Paolo Medici		
A23	Transaction costs	Transaction costs based on JAQU-recommended transaction cost values	Transaction cost	COMPLETED	GREEN	GREEN	JAQU		National data inputs for Local Economic Models.xlsm
A24	Upgrade to compliant vehicles	The number of vehicles upgrading do no differ between option 4 and option 5(i)	Cost of upgrade for non-compliant vehicle owners	COMPLETED	RED	RED	Jacobs	There is no clear methodology to distinguish the difference in the number of LGVs and HGVs upgrading between option 4 and option 5(i). Although we do expect less LGVs and HGVs upgrading in option 4, we do not expect the difference to have a significant material impact on the results.	
A25	Upgrade to compliant vehicles	Car drivers who choose to replace a non-compliant vehicle with a compliant model would purchase compliant vehicles in the same proportions as compliant vehicles in the existing fleet mix.	Cost of upgrade for non-compliant vehicle owners	COMPLETED	RED	AMBER	Nigel Bellamy - http://my.hdle.it/64374863	If, for example, the proportions of compliant cars in the local fleet mix in 2021 (estimated from ANPR data) were as shown in Table C2, then we would assume that 37.5% of drivers who choose to acquire a compliant car would purchase a diesel Euro 6 car, 26.2% of drivers would acquire a Petrol Euro 6 car, 21.8% of drivers would acquire a Petrol Euro 5 car and 14.5% of drivers would acquire a Petrol Euro 4 car.	
A26	Vehicle Upgrade	If upgrade response is triggered then 25% of those upgrading will purchase a new vehicle and 75% will replace their non-compliant vehicle with a second-hand compliant vehicle.	Cost of upgrade for non-compliant vehicle owners	COMPLETED	AMBER	AMBER	JAQU-recommended assumption		
A27	Vehicle Upgrade	Total number of vehicles is assumed to be constant along the appraisal period 2021-2030	Fleet Forecast	COMPLETED	RED	AMBER	Jacobs - Wendy Cheung		
A28	Vehicle Upgrade	Vehicle upgrades is assumed to occur entirely in the first year of the activation of the scheme	Calculating the welfare loss of upgrading	COMPLETED	AMBER	AMBER	Jacobs - Paolo Medici		
A29	Vehicle Upgrade	The vehicles entering the CAZ most frequently will upgrade first	Converting the percentage of trips upgrading to the percentage of vehicle upgrading	COMPLETED	AMBER	AMBER	Jacobs - Wendy Cheung		
A30	Vehicle Upgrade	The market price is the minimum price at which owners would value their vehicle.	Calculating the welfare loss of upgrading	COMPLETED	AMBER	RED	Jacobs - Wendy Cheung	This is assumed on the basis that they would otherwise sell their vehicle in the baseline	
A31	Welfare Loss (trips canceleld and remoded)	There is no difference in the number of trips cancelled and remoded between option 5(i) and option 5(ii). Subsequently, this means the value of welfare loss attributed to trips cancelled/remoded is the same.	Calculating the welfare loss of trips cancelled/remoded	COMPLETED	RED	RED	Jacobs/TfGM	The traffic network modelling for option 5(i) and option 5(ii) is the same.	
A32									
A33									

Approved

Option 8

Yes
No

Area		2021	2023
Inner Ring Road	IRR		
M60	M60		
Satellite Towns	ST		
Greater Manchester	GM	CAZ B	CAZ C

	2021				2023			
	IRR	M60	ST	GM	IRR	M60	ST	GM
Car Petrol								
Car Diesel								
Taxi				CAZ B				CAZ C
PHV Petrol				CAZ B				CAZ C
PHV Diesel				CAZ B				CAZ C
LGV								CAZ C
HGV				CAZ B				CAZ C
Bus				CAZ B				CAZ C
Coach				CAZ B				CAZ C

Clean Air Fund

	Active
Clean Air Credit Scheme	No
Clean Taxi Fund	No
Clean Freight Fund	No
Clean Bus Technology Fu	No

Approved

Economic Parameters

This sheet contains values that might be expected to change under different scenarios, and which model users might be expected to change.

Standalone inputs and assumptions	Value	Source if relevant
Discount Year	2018	
Price Year	2018	
Appraisal Period - start year	2021	
Appraisal Period - duration (years)	10	JAQU guidance
Discount Rate	3.50%	Green Book
Annual increase in willingness to pay for health	2.00%	Defra damage costs guidance
Days in year	365	
Rule of Half	0.5	
Annualisation factor	253	TUBA guidance/WebTAG
Euro/pound conversion (21/11/2018)	1.12168	
Market price factor	1.19	

WebTAG Databook (base year = 2018)

DATABOOK MAY 2018

Source: https://www.gov.uk/government/publications/webtag-tag-data-book-may-2018

GDP deflator

Annual Parameters	
Year	GDP deflator (2018 = 100)
1990	55.22
1991	58.85
1992	60.64
1993	62.23
1994	62.98
1995	64.50
1996	67.14
1997	67.77
1998	68.55
1999	69.12
2000	70.53
2001	71.14
2002	72.72
2003	74.47
2004	76.34
2005	78.36
2006	80.74
2007	82.82
2008	85.17
2009	86.45
2010	87.81
2011	89.58
2012	90.97
2013	92.71
2014	94.30
2015	94.73
2016	96.60
2017	98.50
2018	100.00
2019	101.56
2020	103.23
2021	104.99
2022	106.90
2023	109.26
2024	111.66
2025	114.12
2026	116.63
2027	119.19
2028	121.82
2029	124.50
2030	127.23
2031	130.03
2032	132.89
2033	135.82
2034	138.81
2035	141.86
2036	144.98
2037	148.17
2038	151.43
2039	154.76
2040	158.17
2041	161.65
2042	165.20
2043	168.84
2044	172.55
2045	176.35
2046	180.23
2047	184.19
2048	188.24
2049	192.39
2050	196.62
2051	200.94
2052	205.36
2053	209.88
2054	214.50
2055	219.22
2056	224.04
2057	228.97
2058	234.01
2059	239.16
2060	244.42
2061	249.79
2062	255.29
2063	260.91
2064	266.65
2065	272.51
2066	278.51
2067	284.63
2068	290.90
2069	297.30
2070	303.84
2071	310.52
2072	317.35
2073	324.33
2074	331.47
2075	338.76
2076	346.21
2077	353.83
2078	361.62
2079	369.57
2080	377.70
2081	386.01
2082	394.50
2083	403.18
2084	412.05
2085	421.12
2086	430.38
2087	439.85
2088	449.53
2089	459.42
2090	469.52
2091	479.85
2092	490.41
2093	501.20
2094	512.23
2095	523.50
2096	535.01
2097	546.78
2098	558.81
2099	571.11
2100	583.67

Table A 1.3.7:	Fuel and Electricity Prices and Components (prices)											
	Resource Cost					Duty				VAT rate		
Year	Petrol	Diesel	Gas Oil	Electricity		Petrol	Diesel	Gas Oil	Electricity	Petrol	Diesel	Electricity
		Rail Diesel		Road	Rail		Rail Diesel					Road
	(p/litre)	(p/litre)	(p/litre)	(p/kWh)	(p/kWh)	(p/litre)	(p/litre)	(p/litre)	(p/kWh)	(%)	(%)	(%)
2010	47.62	49.57	45.36	13.48	7.74	65.13	65.13	12.52	0.00	17.5	17.5	5
2011	58.24	62.94	58.02	14.31	8.03	64.97	64.97	12.49	0.00	20	20	5
2012	59.48	65.05	59.88	14.88	8.78	63.70	63.70	12.25	0.00	20	20	5
2013	57.36	62.58	57.32	15.54	9.63	62.51	62.51	12.02	0.00	20	20	5
2014	50.62	55.49	50.07	15.70	9.77	61.45	61.45	11.81	0.00	20	20	5
2015	36.25	39.20	34.63	15.37	9.87	61.17	61.17	11.76	0.00	20	20	5
2016	33.66	34.40	30.65	15.18	9.63	60.01	60.01	11.54	0.00	20	20	5
2017	37.76	40.85	35.01	15.77	10.30	58.78	58.78	11.30	0.00	20	20	5
2018	36.98	39.95	34.10	17.33	10.78	59.36	59.36	11.41	0.00	20	20	5
2019	37.67	40.74	34.90	17.79	11.53	60.48	60.48	11.63	0.00	20	20	5
2020	38.36	41.54	35.70	18.09	11.88	61.34	61.34	11.79	0.00	20	20	5
2021	39.04	42.31	36.48	18.37	12.20	62.05	62.05	11.93	0.00	20	20	5
2022	40.71	44.21	38.38	18.05	12.20	62.84	62.84	12.08	0.00	20	20	5
2023	41.74	45.39	39.58	18.08	12.35	63.43	63.43	12.19	0.00	20	20	5
2024	42.77	46.57	40.78	18.23	12.63	64.04	64.04	12.31	0.00	20	20	5
2025	44.30	48.32	42.55	19.22	13.39	64.65	64.65	12.43	0.00	20	20	5
2026	45.34	49.51	43.76	19.42	13.45	65.27	65.27	12.55	0.00	20	20	5
2027	46.38	50.70	44.96	18.54	13.05	65.89	65.89	12.67	0.00	20	20	5
2028	47.42	51.89	46.17	18.90	13.00	66.53	66.53	12.79	0.00	20	20	5
2029	48.96	53.65	47.96	18.92	12.93	67.17	67.17	12.91	0.00	20	20	5
2030	50.00	54.85	49.17	18.48	13.06	67.83	67.83	13.04	0.00	20	20	5
2031	50.00	54.85	49.17	18.48	13.06	68.48	68.48	13.16	0.00	20	20	5
2032	50.00	54.85	49.17	18.48	13.06	69.14	69.14	13.29	0.00	20	20	5
2033	50.00	54.85	49.17	18.48	13.06	69.81	69.81	13.42	0.00	20	20	5
2034	50.00	54.85	49.17	18.48	13.06	70.47	70.47	13.55	0.00	20	20	5
2035	50.00	54.85	49.17	18.48	13.06	71.14	71.14	13.68	0.00	20	20	5
2036	50.00	54.85	49.17	18.48	13.06	71.82	71.82	13.81	0.00	20	20	5
2037	50.00	54.85	49.17	18.48	13.06	72.49	72.49	13.94	0.00	20	20	5
2038	50.00	54.85	49.17	18.48	13.06	73.13	73.13	14.06	0.00	20	20	5
2039	50.00	54.85	49.17	18.48	13.06	73.71	73.71	14.17	0.00	20	20	5
2040	50.00	54.85	49.17	18.48	13.06	74.28	74.28	14.28	0.00	20	20	5
2041	50.00	54.85	49.17	18.48	13.06	74.86	74.86	14.39	0.00	20	20	5
2042	50.00	54.85	49.17	18.48	13.06	75.45	75.45	14.50	0.00	20	20	5
2043	50.00	54.85	49.17	18.48	13.06	76.04	76.04	14.62	0.00	20	20	5
2044	50.00	54.85	49.17	18.48	13.06	76.64	76.64	14.73	0.00	20	20	5
2045	50.00	54.85	49.17	18.48	13.06	77.24	77.24	14.85	0.00	20	20	5
2046	50.00	54.85	49.17	18.48	13.06	77.84	77.84	14.96	0.00	20	20	5
2047	50.00	54.85	49.17	18.48	13.06	78.45	78.45	15.08	0.00	20	20	5
2048	50.00	54.85	49.17	18.48	13.06	79.06	79.06	15.20	0.00	20	20	5
2049	50.00	54.85	49.17	18.48	13.06	79.68	79.68	15.32	0.00	20	20	5
2050	50.00	54.85	49.17	18.48	13.06	80.31	80.31	15.44	0.00	20	20	5
2051	50.00	54.85	49.17	18.48	13.06	80.94	80.94	15.56	0.00	20	20	5
2052	50.00	54.85	49.17	18.48	13.06	81.57	81.57	15.68	0.00	20	20	5
2053	50.00	54.85	49.17	18.48	13.06	82.21	82.21	15.80	0.00	20	20	5
2054	50.00	54.85	49.17	18.48	13.06	82.85	82.85	15.93	0.00	20	20	5
2055	50.00	54.85	49.17	18.48	13.06	83.50	83.50	16.05	0.00	20	20	5
2056	50.00	54.85	49.17	18.48	13.06	84.15	84.15	16.18	0.00	20	20	5
2057	50.00	54.85	49.17	18.48	13.06	84.81	84.81	16.30	0.00	20	20	5
2058	50.00	54.85	49.17	18.48	13.06	85.48	85.48	16.43	0.00	20	20	5
2059	50.00	54.85	49.17	18.48	13.06	86.14	86.14	16.56	0.00	20	20	5
2060	50.00	54.85	49.17	18.48	13.06	86.82	86.82	16.69	0.00	20	20	5
2061	50.00	54.85	49.17	18.48	13.06	87.50	87.50	16.82	0.00	20	20	5
2062	50.00	54.85	49.17	18.48	13.06	88.18	88.18	16.95	0.00	20	20	5
2063	50.00	54.85	49.17	18.48	13.06	88.87	88.87	17.08	0.00	20	20	5
2064	50.00	54.85	49.17	18.48	13.06	89.57	89.57	17.22	0.00	20	20	5
2065	50.00	54.85	49.17	18.48	13.06	90.27	90.27	17.35	0.00	20	20	5
2066	50.00	54.85	49.17	18.48	13.06	90.98	90.98	17.49	0.00	20	20	5
2067	50.00	54.85	49.17	18.48	13.06	91.69	91.69	17.63	0.00	20	20	5
2068	50.00	54.85	49.17	18.48	13.06	92.41	92.41	17.76	0.00	20	20	5
2069	50.00	54.85	49.17	18.48	13.06	93.13	93.13	17.90	0.00	20	20	5
2070	50.00	54.85	49.17	18.48	13.06	93.86	93.86	18.04	0.00	20	20	5
2071	50.00	54.85	49.17	18.48	13.06	94.59	94.59	18.18	0.00	20	20	5
2072	50.00	54.85	49.17	18.48	13.06	95.33	95.33	18.33	0.00	20	20	5
2073	50.00	54.85	49.17	18.48	13.06	96.08	96.08	18.47	0.00	20	20	5
2074	50.00	54.85	49.17	18.48	13.06	96.83	96.83	18.61	0.00	20	20	5
2075	50.00	54.85	49.17	18.48	13.06	97.59	97.59	18.76	0.00	20	20	5
2076	50.00	54.85	49.17	18.48	13.06	98.36	98.36	18.91	0.00	20	20	5
2077	50.00	54.85	49.17	18.48	13.06	99.13	99.13	19.06	0.00	20	20	5
2078	50.00	54.85	49.17	18.48	13.06	99.90	99.90	19.20	0.00	20	20	5
2079	50.00	54.85	49.17	18.48	13.06	100.68	100.68	19.35	0.00	20	20	5
2080	50.00	54.85	49.17	18.48	13.06	101.47	101.47	19.51	0.00	20	20	5
2081	50.00	54.85	49.17	18.48	13.06	102.27	102.27	19.66	0.00	20	20	5
2082	50.00	54.85	49.17	18.48	13.06	103.07	103.07	19.81	0.00	20	20	5
2083	50.00	54.85	49.17	18.48	13.06	103.87	103.87	19.97	0.00	20	20	5
2084	50.00	54.85	49.17	18.48	13.06	104.69	104.69	20.12	0.00	20	20	5
2085	50.00	54.85	49.17	18.48	13.06	105.51	105.51	20.28	0.00	20	20	5
2086	50.00	54.85	49.17	18.48	13.06	106.33	106.33	20.44	0.00	20	20	5
2087	50.00	54.85	49.17	18.48	13.06	107.16	107.16	20.60	0.00	20	20	5
2088	50.00	54.85	49.17	18.48	13.06	108.00	108.00	20.76	0.00	20	20	5
2089	50.00	54.85	49.17	18.48	13.06	108.85	108.85	20.92	0.00	20	20	5
2090	50.00	54.85	49.17	18.48	13.06	109.70	109.70	21.09	0.00	20	20	5
2091	50.00	54.85	49.17	18.48	13.06	110.56	110.56	21.25	0.00	20	20	5
2092	50.00	54.85	49.17	18.48	13.06	111.42	111.42	21.42	0.00	20	20	5
2093	50.00	54.85	49.17	18.48	13.06	112.30	112.30	21.59	0.00	20	20	5
2094	50.00	54.85	49.17	18.48	13.06	113.18	113.18	21.76	0.00	20	20	5
2095	50.00	54.85	49.17	18.48	13.06	114.06	114.06	21.93	0.00	20	20	5
2096	50.00	54.85	49.17	18.48	13.06	114.95	114.95	22.10	0.00	20	20	5
2097	50.00	54.85	49.17	18.48	13.06	115.85	115.85	22.27	0.00	20	20	5
2098	50.00	54.85	49.17	18.48	13.06	116.76	116.76	22.45	0.00	20	20	5
2099	50.00	54.85	49.17	18.48	13.06	117.67	117.67	22.62	0.00	20	20	5
2100	50.00	54.85	49.17	18.48	13.06	118.60	118.60	22.80	0.00	20	20	5

Approved

Annual Parameters

Year	GDP deflator[1] (2010 = 100)
1990	62.89
1991	67.02
1992	69.06
1993	70.86
1994	71.72
1995	73.46
1996	76.46
1997	77.17
1998	78.06
1999	78.71
2000	80.32
2001	81.01
2002	82.82
2003	84.81
2004	86.94
2005	89.24
2006	91.94
2007	94.31
2008	96.99
2009	98.45
2010	100.00
2011	102.01
2012	103.60
2013	105.58
2014	107.39
2015	107.88
2016	110.01
2017	112.17
2018	113.88
2019	115.65
2020	117.56
2021	119.57
2022	121.74
2023	124.42
2024	127.16
2025	129.96
2026	132.82
2027	135.74
2028	138.73
2029	141.78
2030	144.90
2031	148.08
2032	151.34
2033	154.67
2034	158.07
2035	161.55
2036	165.11
2037	168.74
2038	172.45
2039	176.24
2040	180.12
2041	184.08
2042	188.13
2043	192.27
2044	196.50
2045	200.83
2046	205.24
2047	209.76
2048	214.37
2049	219.09
2050	223.91
2051	228.84
2052	233.87
2053	239.02
2054	244.28
2055	249.65
2056	255.14
2057	260.75
2058	266.49
2059	272.35
2060	278.35
2061	284.47
2062	290.73
2063	297.12
2064	303.66
2065	310.34
2066	317.17
2067	324.15
2068	331.28
2069	338.57
2070	346.01
2071	353.63
2072	361.41
2073	369.36
2074	377.48
2075	385.79
2076	394.27
2077	402.95
2078	411.81
2079	420.87
2080	430.13
2081	439.60
2082	449.27
2083	459.15
2084	469.25
2085	479.58
2086	490.13
2087	500.91
2088	511.93
2089	523.19
2090	534.70
2091	546.47
2092	558.49
2093	570.77
2094	583.33
2095	596.16
2096	609.28
2097	622.68
2098	636.38
2099	650.38
2100	664.69

Approved

Indexation

				2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1																		
2	**General Index**	Unit	Source															
3	GDP	%	Webtag A5.3.1	97	98	100	102	103	105	107	109	112	114	117	119	122	124	127
4	Inflation	%					1.56%	1.65%	1.71%	1.82%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%	2.20%
5	Discount Rate	%	Webtag A1.1			0.00%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
6																		
7																		
8	**2018 price**																	
9	Deflation	[calc]				1	0.98	0.97	0.95	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.80	0.79
10	GDP deflator	[calc]	Webtag A1.1			100	102	103	105	107	109	112	114	117	119	122	124	127
11	Discounting Factor	[calc]				1	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66
12																		
13	**2021 price**																	
14	Deflation	[calc]							1	0.982	0.961	0.940	0.920	0.900	0.881	0.862	0.843	0.825
15	GDP deflator	[calc]	Webtag A1.1						100	102	104	106	109	111	114	116	119	121
16	Discounting Factor	[calc]							1	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73
17																		
18	**2010 prices**																	
19	**Inflation**																	
20	Deflation	[calc]																
21	GDP deflator	[calc]	Webtag A1.1	110	112	114	116	118	120	122	124	127	130	133	136	139	142	145
22	Discounting Factor	[calc]		0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50

Approved

JAQU Assumptions

Depreciation Assumptions

	Year																																			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Car	37%	18%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
LGV	37%	18%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
HGV	35%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
Bus	35%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
Coach	35%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%

Source: JAQU (National data inputs for Local Economic Models.xlsm)

Euro standards implementation

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	1992	1996	2000	2005	2009	2014	2018	2020
Car Diesel	1992	1996	2000	2005	2009	2014	2018	2020
PHV Petrol	1992	1996	2000	2005	2009	2014	2018	2020
PHV Diesel	1992	1996	2000	2005	2009	2014	2018	2020
Taxi Petrol	1992	1996	2000	2005	2009	2014	2018	2020
Taxi Diesel	1992	1996	2000	2005	2009	2014	2018	2020
LGV petrol	1994	1998	2000	2005	2009	2014	2018	2020
LGV diesel	1994	1998	2000	2005	2009	2014	2018	2020
HGV Rigid	1992	1996	2000	2005	2008	2013	2018	2020
HGV Artic	1992	1996	2000	2005	2008	2013	2018	2020
Buses	1992	1996	2000	2005	2008	2013	2018	2020
Coach	1992	1996	2000	2005	2008	2013	2018	2020
Taxi Electric						2013	2018	2020
PHV Electric						2013	2018	2020

Source: JAQU

Approved

Financial Case Input

Source: Financial summary for economic "finance to economics 181205"&"finance to economics 181205 v2", received 05/12/18 (Timothy Kooyers, Jacobs)

Costs

Nominal Prices	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Implementation Cost	**- 256,827,722**	- 29,341,774	- 137,031,574	- 50,015,159	- 34,503,490	- 1,312,225	- 1,154,692	- 1,079,032	- 1,050,572	- 1,064,844	- 274,360		
Operating Cost	**- 173,886,679**	- 842,958	- 1,012,339	- 21,295,246	- 22,202,893	- 23,431,050	- 22,061,893	- 20,613,316	- 20,146,971	- 19,360,599	- 18,626,628	- 4,292,786	

Adjusted for VAT and GDP deflator to base year 2018

2018 prices (market price)	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Implementation Cost	**- 293,634,541**	- 34,381,938	- 157,969,450	- 56,687,836	- 38,407,198	- 1,429,246	- 1,230,592	- 1,125,203	- 1,071,943	- 1,063,117	- 268,019	-	-
Operating Cost	**- 183,719,408**	- 987,756	- 1,167,021	- 24,136,311	- 24,714,917	- 25,520,575	- 23,512,054	- 21,495,362	- 20,556,813	- 19,329,201	- 18,196,106	- 4,103,293	-

Revenue

Nominal Prices	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue	**261,529,253**			47,941,718	39,079,807	56,027,602	42,415,961	28,804,320	23,679,567	15,479,962	8,100,317		

Real 2018 prices	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue	**281,633,161**	-	-	54,337,771	43,501,276	61,024,008	45,204,025	30,036,860	24,161,270	15,454,857	7,913,093	-	-

Incentive Funds

The incentive funds (excluding staff costs) is applied to offset the consumer welfare loss experienced when upgrading vehicles early.

Nominal Prices	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Clean Incentive Funds	**- 56,981,375**	- 2,688,030	- 13,832,346	- 19,932,939	- 20,528,060	-	-	-	-	-	-		
Clean Taxi Fund	**- 26,799,789**	- 2,572,247	- 12,229,956	- 9,863,545	- 2,134,040	-	-	-	-	-	-		
Clean Bus Fund	**- 28,153,929**	- 6,837,277	- 14,073,588	- 7,243,064	-	-	-	-	-	-	-		

2018 prices (market price)	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Clean Incentive Funds	**- 64,538,486**	- 3,149,765	- 15,945,873	- 22,592,254	- 22,850,594	-	-	-	-	-	-	-	-
Clean Taxi Fund	**- 30,667,694**	- 3,014,093	- 14,098,645	- 11,179,471	- 2,375,485	-	-	-	-	-	-	-	-
Clean Bus Fund	**- 32,445,105**	- 8,011,745	- 16,223,976	- 8,209,383	-	-	-	-	-	-	-	-	-

2018 prices (market price) (+ve benefit)	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Clean Incentive Funds	**64,538,486**	3,149,765	15,945,873	22,592,254	22,850,594	-	-	-	-	-	-	-	-
Clean Taxi Fund	**30,667,694**	3,014,093	14,098,645	11,179,471	2,375,485	-	-	-	-	-	-	-	-
Clean Bus Fund	**32,445,105**	8,011,745	16,223,976	8,209,383	-	-	-	-	-	-	-	-	-
Total	**127,651,285**	14,175,603	46,268,494	41,981,109	25,226,079	-	-	-	-	-	-	-	-

Approved

TUBA Output

Source: \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\0_Project Works\TUBA

Option 8 2010 prices, discounted, £000s

£s, discounted, 2010 prices	Price Year	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Time benefit	2010	78,975,000	9,197,000	8,794,000	8,423,000	8,074,000	7,748,000	7,602,000	7,466,000	7,340,000	7,222,000	7,109,000
Fuel VOC benefit	2010	5,249,000	585,000	575,000	563,000	552,000	544,000	523,000	504,000	483,000	468,000	452,000
Non-fuel VOC benefit	2010	37,130,000	3,238,000	3,489,000	3,721,000	3,932,000	4,125,000	3,986,000	3,850,000	3,720,000	3,595,000	3,474,000
	2010 prices, undiscounted, £000s											
Time benefit	2010	134,183,317	13,427,341	13,288,338	13,173,202	13,069,340	12,980,603	13,181,762	13,399,048	13,633,971	13,884,305	14,145,409
Fuel VOC benefit	2010	8,916,037	854,082	868,864	880,507	893,519	911,390	906,875	904,516	897,167	899,731	899,385
Non-fuel VOC benefit	2010	63,649,450	4,727,382	5,272,119	5,819,481	6,364,707	6,910,814	6,911,668	6,909,501	6,909,860	6,911,392	6,912,527
Inflation adjustment	2018 prices, undiscounted, £000s		1.196	1.217	1.244	1.272	1.300	1.328	1.357	1.387	1.418	1.449
Time benefit	2018	176,901,682	16,054,697	16,177,871	16,390,528	16,619,048	16,869,346	17,507,646	18,187,756	18,913,784	19,684,804	20,496,201
Fuel VOC benefit	2018	11,750,845	1,021,202	1,057,798	1,095,556	1,136,204	1,184,425	1,204,485	1,227,783	1,244,599	1,275,615	1,303,177
Non-fuel VOC benefit	2018	84,345,597	5,652,398	6,418,534	7,240,788	8,093,398	8,981,163	9,179,884	9,378,899	9,585,733	9,798,791	10,016,008

Approved

Additional Measures Input and Assumptions

Clean Air Credits Scheme for cars

Maximum financial incentive offered (£):	3000
Percentage of average car price	24%

Source: Alec Curley, 22/10/2018

Clean Freight Fund scheme for vans, HGVs, minibuses and coaches

Maximum financial incentive offered - Van	3,189
Maximum financial incentive offered - HGV	15,721

Assumption: assume the public sector will subsidise the same percentage of the vehicle value as the percentage of the car subsidy

Clean Taxi Fund

Maximum financial incentive offered (£)	7,500

Source: https://tfl.gov.uk/info-for/taxis-and-private-hire/emissions-standards-for-taxis

Clean Bus Technology Fund

Maximum financial incentive offered - upgrade	38,285
Maximum financial incentive offered - retrofit	4,786

Fuel Switch

Assumed VKMs per vehicle per year		source:
Petrol Car	10,460	DfT, 2017 - https://www.gov.uk/government/statistical-data-sets/nts09-vehicle-mileage-and-occupancy
Diesel Car	16,254	DfT, 2017 - https://www.gov.uk/government/statistical-data-sets/nts09-vehicle-mileage-and-occupancy
Alternative Car	10,460	assumed equal to petrol car
Petrol PHV	40,233	taxi survey 2016 https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/
Diesel PHV	40,233	taxi survey 2016 https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/
Alternative PHV	40,233	taxi survey 2016 https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/
Petrol Taxi	40,233	taxi survey 2016 https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/
Diesel Taxi	40,233	taxi survey 2016 https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/
Alternative Taxi	40,233	taxi survey 2016 https://www.insuretaxi.com/2016/08/taxi-driver-survey-2016/
Petrol LGV	20,617	DfT, 2017 - https://www.telegraph.co.uk/connect/small-business/operations-and-logistics/renault/how-many-miles-do-vans-clock-up/
Diesel LGV	20,617	DfT, 2017 - https://www.telegraph.co.uk/connect/small-business/operations-and-logistics/renault/how-many-miles-do-vans-clock-up/
Alternative LGV	20,617	DfT, 2017 - https://www.telegraph.co.uk/connect/small-business/operations-and-logistics/renault/how-many-miles-do-vans-clock-up/
OGV1 (rigid)	28,000	DfT, 2017 road freight statistics table 0112
OGV2 (artic)	77,000	DfT, 2017 road freight statistics table 0113

Table TSGB0303 (ENV0103)

Average new car fuel consumption, Great Britain: 2000 to 2016[1,2]

litres per 100 km/miles per gallon

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Petrol cars	litres per 100km	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.2	7.0	6.5	6.3	6.1	5.8	5.6	5.5	5.4	5.4
	miles per gallon	35.3	35.8	36.2	36.8	37.0	37.5	38.3	39.0	40.5	43.4	44.6	46.3	48.3	50.1	51.1	52.0	52.2
Diesel cars	litres per 100km	6.3	6.2	6.1	6.2	6.2	6.2	6.3	6.2	5.9	5.7	5.5	5.2	5.0	4.9	4.7	4.6	4.5
	miles per gallon	44.6	45.5	46.0	45.5	45.7	45.4	45.1	45.7	47.7	49.4	51.8	54.4	56.2	58.0	59.9	61.6	62.2

1. These figures are registration weighted (weighted to account for the relative sales of different models of cars).
2. These figures are obtained under consistent, carefully controlled laboratory conditions and do not refect external factors such as cold starts, differing driving conditions, different loads carried, etc.

Source: DVLA database
Society of Motor Manufacturers and Traders (SMMT)
Defra/DECC's Greenhouse Gas Conversion Factors
Last updated: November 2017
Next update: December 2018
Telephone: 020 7944 6068
E-mail: environment.stats@dft.gsi.gov.uk

Active travel

Cumulative Active travel impact

Type	2021
Walking	1,940,000
Cycling	24,200,000
Total	26,140,000

\\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\0_Project Works\Economic model\Active travel

Approved

Frequency Data

Source: \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\0_Project Works\Supporting calculations\GM Vehicle Data.xlsx

Below presents the projected ANPR data for the inner ring road for 2021, projected from the base year 2021 raw data

Pre-Euro

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Diesel	Car	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Electric	Car	Electric	Non-compliant	0	0	0	2	0	0	0	**2**
Car Other	Car	Other	Non-compliant	5	4	3	0	0	0	0	**12**
Car Petrol	Car	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
HGV Diesel	HGV	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Diesel	PHV	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Van Diesel	Van	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
	Grand Total			**5**	**4**	**3**	**2**	**0**	**0**	**0**	**14**

Euro 1

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Diesel	Car	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Electric	Car	Electric	Non-compliant	1	1	0	0	0	0	0	**2**
Car Other	Car	Other	Non-compliant	14	7	2	0	0	0	1	**24**
Car Petrol	Car	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
HGV Diesel	HGV	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Diesel	PHV	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Petrol	PHV	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
Van Diesel	Van	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
	Grand Total			**15**	**8**	**2**	**0**	**0**	**0**	**1**	**26**

Euro 2

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Diesel	Car	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Electric	Car	Electric	Non-compliant	2	1	1	0	1	0	0	**5**
Car Other	Car	Other	Non-compliant	17	4	3	1	2	1	0	**28**
Car Petrol	Car	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
Hackney Diesel	Hackney	Diesel	Non-compliant	8	6	0	2	4	0	3	**23**
HGV Diesel	HGV	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Other	PHV	Other	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Diesel	PHV	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Petrol	PHV	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
Van Diesel	Van	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
	Grand Total			**27**	**11**	**4**	**3**	**7**	**1**	**3**	**56**

Approved

Euro 3

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Non-compliant	25	12	9	11	11	2	1	**71**
Car Diesel	Car	Diesel	Non-compliant	1384	469	258	166	152	80	35	**2546**
Car Electric	Car	Electric	Non-compliant	4	2	1	2	2	2	0	**13**
Car Other	Car	Other	Non-compliant	197	59	42	22	28	11	2	**361**
Car Petrol	Car	Petrol	Non-compliant	4933	1750	954	663	624	324	138	**9387**
Hackney Other	Hackney	Other	Non-compliant	14	1	0	0	0	0	0	**15**
Hackney Diesel	Hackney	Diesel	Non-compliant	79	33	28	28	21	27	43	**259**
HGV Diesel	HGV	Diesel	Non-compliant	228	74	42	26	20	5	1	**395**
PHV Other	PHV	Other	Non-compliant	15	2	0	0	0	0	0	**17**
PHV Diesel	PHV	Diesel	Non-compliant	15	10	11	5	3	3	2	**48**
PHV Other	PHV	Other	Non-compliant	4	4	1	1	0	1	0	**10**
PHV Petrol	PHV	Petrol	Non-compliant	6	4	2	1	0	2	0	**16**
Van Diesel	Van	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
	Grand Total			**6904**	**2420**	**1348**	**924**	**862**	**457**	**222**	**13137**

Euro 4

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Non-compliant	17	9	7	6	10	11	11	**71**
Car Diesel	Car	Diesel	Non-compliant	12058	4350	2279	1591	1454	803	374	**22910**
Car Electric	Car	Electric	Non-compliant	3	2	0	0	2	0	0	**7**
Car Other	Car	Other	Non-compliant	644	233	123	75	84	46	31	**1236**
Car Petrol	Car	Petrol	Compliant	35557	12955	7080	5085	4859	2333	966	**68836**
Hackney Diesel	Hackney	Diesel	Non-compliant	186	83	82	72	79	149	335	**986**
Hackney Other	Hackney	Other	Non-compliant	0	1	0	0	0	0	0	**1**
Hackney Petrol	Hackney	Petrol	Compliant	1	0	0	0	0	0	0	**1**
HGV Diesel	HGV	Diesel	Non-compliant	467	137	78	56	42	10	2	**791**
PHV Diesel	PHV	Diesel	Non-compliant	87	64	59	54	54	54	59	**429**
PHV Other	PHV	Other	Non-compliant	19	16	13	5	5	8	7	**73**
PHV Petrol	PHV	Petrol	Compliant	27	24	15	13	13	13	10	**115**
Van Diesel	Van	Diesel	Non-compliant	5810	2201	1266	799	669	297	97	**11139**
	Grand Total			**54877**	**20074**	**11002**	**7756**	**7270**	**3724**	**1892**	**106595**

Euro 5

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Non-compliant	229	94	48	72	91	133	143	**810**
Car Diesel	Car	Diesel	Non-compliant	39115	14131	7444	5158	4677	2241	1056	**73822**
Car Electric	Car	Electric	Non-compliant	143	57	31	21	16	11	6	**285**
Car Other	Car	Other	Non-compliant	1732	605	346	211	180	98	51	**3223**
Car Petrol	Car	Petrol	Compliant	54986	19999	10628	7956	7839	3599	1375	**106382**
Hackney Diesel	Hackney	Diesel	Non-compliant	69	31	28	36	36	80	192	**472**
Hackney Other	Hackney	Other	Non-compliant	0	0	0	0	0	0	0	**0**
Hackney Petrol	Hackney	Petrol	Compliant	0	2	1	0	1	0	0	**4**
HGV Diesel	HGV	Diesel	Non-compliant	2687	832	406	282	227	74	38	**4546**
PHV Diesel	PHV	Diesel	Non-compliant	150	152	138	164	206	244	329	**1384**
PHV Electric	PHV	Electric	Non-compliant	0	1	0	0	0	0	0	**1**
PHV Other	PHV	Other	Non-compliant	12	13	16	13	21	21	19	**113**
PHV Petrol	PHV	Petrol	Compliant	14	16	27	32	26	25	37	**177**
Van Diesel	Van	Diesel	Non-compliant	9382	3826	2309	1615	1419	576	180	**19308**
	Grand Total			**108519**	**39758**	**21423**	**15559**	**14740**	**7101**	**3426**	**210526**

Approved

Euro 6

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Compliant	401	157	131	70	161	196	314	**1430**
Car Diesel	Car	Diesel	Compliant	29424	12844	7773	5616	4691	2263	1029	**63640**
Car Electric	Car	Electric	Compliant	9077	4715	2711	1768	2593	707	354	**21926**
Car Other	Car	Other	Compliant	630	333	188	137	140	60	23	**1511**
Car Petrol	Car	Petrol	Compliant	23871	10524	6340	4529	4758	2233	936	**53191**
Hackney Diesel	Hackney	Diesel	Compliant	3	1	2	3	7	7	17	**40**
HGV Diesel	HGV	Diesel	Compliant	7987	2745	1266	869	721	291	154	**14032**
PHV Diesel	PHV	Diesel	Compliant	67	94	111	122	178	205	416	**1193**
PHV Other	PHV	Other	Compliant	4	4	5	8	9	8	20	**56**
PHV Petrol	PHV	Petrol	Compliant	0	89	0	0	0	0	0	**89**
Van Diesel	Van	Diesel	Compliant	4321	2550	1730	1380	1240	510	150	**11882**
	Grand Total			**75784**	**34056**	**20256**	**14501**	**14498**	**6481**	**3413**	**168989**

Euro 6c

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Car Diesel	Car	Diesel	Compliant	40017	17467	10571	7637	6379	3078	1400	**86550**
Car Electric	Car	Electric	Compliant	0	0	0	0	0	0	0	**0**
Car Other	Car	Other	Compliant	0	0	0	0	0	0	0	**0**
Car Petrol	Car	Petrol	Compliant	32296	14238	8577	6127	6437	3022	1267	**71964**
PHV Diesel	PHV	Diesel	Compliant	91	128	151	166	241	279	566	**1622**
PHV Other	PHV	Other	Compliant	5	5	7	10	12	10	27	**76**
PHV Petrol	PHV	Petrol	Compliant	0	120	0	0	0	0	0	**120**
	Grand Total			**72409**	**31959**	**19305**	**13940**	**13070**	**6389**	**3260**	**160332**

Euro 6d

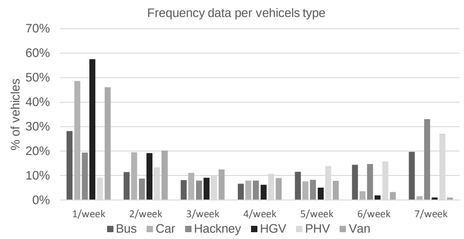
	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Car Diesel	Car	Diesel	Compliant	2354	1027	622	449	375	181	82	**5091**
Car Electric	Car	Electric	Compliant	0	0	0	0	0	0	0	**0**
Car Other	Car	Other	Compliant	0	0	0	0	0	0	0	**0**
Car Petrol	Car	Petrol	Compliant	0	0	0	0	0	0	0	**0**
PHV Diesel	PHV	Diesel	Compliant	5	8	9	10	14	16	33	**95**
PHV Other	PHV	Other	Compliant	0	0	0	0	0	0	0	**0**
PHV Petrol	PHV	Petrol	Compliant	0	0	0	0	0	0	0	**0**
	Grand Total			**2359**	**1035**	**631**	**459**	**389**	**197**	**116**	**5187**

Approved

	Veh Type	Fuel	Compliance	1	2	3	4	5	6	7	Grand Total
Bus Diesel	Bus	Diesel	Compliant	401	157	131	70	161	196	314	**1430**
Bus Diesel	Bus	Diesel	Non-compliant	271	115	64	88	112	146	156	**953**
Car Diesel	Car	Diesel	Compliant	124353	50289	28947	20618	17729	8646	3977	**254558**
Car Diesel	Car	Diesel	Non-compliant	0	0	0	0	0	0	0	**0**
Car Electric	Car	Electric	Compliant	9230	4778	2744	1793	2614	720	360	**22240**
Car Electric	Car	Electric	Non-compliant	0	0	0	0	0	0	0	**0**
Car Other	Car	Other	Compliant	3239	1245	707	446	434	216	108	**6395**
Car Other	Car	Other	Non-compliant	0	0	0	0	0	0	0	**0**
Car Petrol	Car	Petrol	Compliant	151644	59466	33579	24360	24518	11511	4682	**309760**
Car Petrol	Car	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
Hackney Diesel	Hackney	Diesel	Compliant	3	1	2	3	7	7	17	**40**
Hackney Diesel	Hackney	Diesel	Non-compliant	342	153	138	138	140	256	573	**1740**
Hackney Other	Hackney	Other	Non-compliant	0	0	0	0	0	0	0	**0**
Hackney Petrol	Hackney	Petrol	Compliant	1	2	1	0	1	0	0	**5**
HGV Diesel	HGV	Diesel	Compliant	7987	2745	1266	869	721	291	154	**14032**
HGV Diesel	HGV	Diesel	Non-compliant	3382	1042	526	363	289	88	41	**5732**
PHV Diesel	PHV	Diesel	Compliant	162	230	271	298	433	501	1015	**2910**
PHV Diesel	PHV	Diesel	Non-compliant	252	225	208	223	263	301	390	**1861**
PHV Electric	PHV	Electric	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Other	PHV	Other	Compliant	55	39	40	35	46	47	73	**335**
PHV Other	PHV	Other	Non-compliant	0	0	0	0	0	0	0	**0**
PHV Petrol	PHV	Petrol	Compliant	47	253	45	46	39	40	47	**516**
PHV Petrol	PHV	Petrol	Non-compliant	0	0	0	0	0	0	0	**0**
Van Diesel	Van	Diesel	Compliant	4321	2550	1730	1380	1240	510	150	**11882**
Van Diesel	Van	Diesel	Non-compliant	15192	6027	3575	2414	2088	874	277	**30447**
Grand Total				**320881**	**129319**	**73973**	**53144**	**50837**	**24349**	**12332**	**664835**

	1	2	3	4	5	6	7	Grand Total
Bus	673	272	195	158	274	342	470	2383
Car	288466	115778	65977	47217	45296	21094	9127	592953
Hackney	346	156	141	141	148	263	590	1785
HGV	11369	3787	1792	1233	1010	379	195	19764
PHV	516	747	563	602	781	888	1524	5622
Van	19512	8578	5305	3794	3328	1384	427	42328

	1/week	2/week	3/week	4/week	5/week	6/week	7/week	Grand Total
Bus	28%	11%	8%	7%	11%	14%	20%	100%
Car	49%	20%	11%	8%	8%	4%	2%	100%
Hackney	19%	9%	8%	8%	8%	15%	33%	100%
HGV	58%	19%	9%	6%	5%	2%	1%	100%
PHV	9%	13%	10%	11%	14%	16%	27%	100%
Van	46%	20%	13%	9%	8%	3%	1%	100%



No. of Vehicles by euro standards and vehicle type

	Car Petrol	Car Diesel	Car Electric	Car Other	Hackney Petrol	Hackney Diese	Hackney Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	Van Petrol	Van Diesel	Van Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	12					-				0			0			0	
1	-	-	2	24				-	-				0			0			0	
2	-	-	5	28		23		-	-		0		0			0			0	
3	9,387	2,546	13	361		259	15	16	48		17		0			395			71	
4	68,836	22,910	7	1236	1	986	1	115	429		72.82		11139			791			71	
5	106,382	73,822	285	3223	4	472	0	177	1,384	1	112.54		19308			4546			810	
6	53,191	63,640	21926	1511		40		89	1,193		56.27		11882			14032			1430	
6c	71,964	86,550	0	0				120	1,622		76.13									
6d	-	5,091	0	0				-	95		0									
Sub-total	**309,760**	**254,558**	**22,240**	**6,395**	**5**	**1,780**	**16**	**516**	**4,771**	**1**	**335**	**-**	**42,328**	**-**	**-**	**19,764**	**-**	**-**	**2,383**	**-**
Total	**Car Total**			**592,953**	**Taxi Total**		**1801**	**PHV Total**			**5623**	**LGV Total**		**42328.2**	**HGV Total**		**19764**	**Bus Total**		**2383**

Proportion of Vehicles by vehicle type

	Car Petrol	Car Diesel	Car Electric	Car Other	Hackney Petrol	Hackney Diese	Hackney Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	Van Petrol	Van Diesel	Van Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%	0%	0%	0%					0%				0%			0%			0%	
1	0%	0%	0%	0%				0%	0%				0%			0%			0%	
2	0%	0%	0%	0%		1%		0%	0%		0%		0%			0%			0%	
3	2%	0%	0%	0%		14%	1%	0%	1%		0%		0%			2%			3%	
4	12%	4%	0%	0%	0%	55%	0%	2%	8%		1%		26%			4%			3%	
5	18%	12%	0%	1%	0%	26%	0%	3%	25%	0%	2%		46%			23%			34%	
6	9%	11%	4%	0%		2%		2%	21%		1%		28%			71%			60%	
6c	12%	15%	0%	0%				2%	29%		1%									
6d	0%	1%	0%	0%				0%	2%		0%									
Sub-total	**52%**	**43%**	**4%**	**1%**	**0%**	**99%**	**1%**	**9%**	**85%**	**0%**	**6%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**100%**	**Taxi Total**		**100%**	**PHV Total**			**100%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Approved

Expansion Factors

AADT/AAWT Road Traffic Annualisation Factors (Air Quality - 24 hour Period)						
Hour to Period Factors						
	Motorways			Other Roads		
	AM Peak Hour to AM Peak Period	Inter-Peak Hour to Off-Peak Period	PM Peak Hour to PM Peak Period	AM Peak Hour to AM Peak Period	Inter-Peak Hour to Off-Peak Period	PM Peak Hour to PM Peak Period
Cars/Motorcycles	2.871	9.944	2.862	2.693	9.649	2.807
LGVS	3.117	9.944	3.116	3.125	9.649	3.071
Rigid HGVS	3.055	9.944	3.1	3.04	9.649	3.472
Articulated HGVS	3.167	9.944	3.044	3.018	9.649	3.049
Buses	3.648	9.944	3.15	2.941	9.649	3.098

Source:
\\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\0_Project Works\Data and Downloads\2019-01-28 From Adam James

Notes:
AM peak period = 0700-1000
PM peak period = 1600-1900
Off-peak period = 0000-0700 + 1000-1600 + 1900-2400

The off-peak period to weekend factors convert weekday off-peak period flows to all day Saturday/Sunday/Bank Holiday flows. (Bank holiday flows are assumed to be similar to Sunday flows).

Approved

Behavioural Response Analysis

Behavioural Response (trips)

Response	Car	Taxis	PHVs	LGVs	HGVs	Buses/Coaches
Pay Charge	0.00%	0.00%	30.20%	9.60%	9.40%	0%
Change Mode	0.00%	0.00%	0.00%	7.50%	0.00%	0%
Cancel Trip	0.00%	0.00%	0.00%	7.50%	4.20%	0%
Upgrade Vehicle	0.00%	100.00%	69.80%	75.40%	86.50%	100%

Source: Behavioural Response (Adam James-Jon Addy, Jacobs)

Car Response to charging

Charge Level	£3.00	£3.50	£4.00	£4.50	£5.00	£5.50	£6.00	£6.50	£7.00	£7.50	£8.00	£8.50	£9.00	£9.50	£10.00	£10.50	£11.00	£11.50	£12.00	£12.50
Pay Charge	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Change Mode	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cancel Trip	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Upgrade Vehicle	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Private Hire taxi response to charging

Charge Level	£3.00	£3.50	£4.00	£4.50	£5.00	£5.50	£6.00	£6.50	£7.00	£7.50	£8.00	£8.50	£9.00	£9.50	£10.00	£10.50	£11.00	£11.50	£12.00	£12.50
Pay Charge	53.70%	51.30%	48.70%	46.10%	43.50%	40.80%	38.10%	35.40%	32.80%	30.20%	27.60%	25.20%	22.80%	20.50%	18.40%	16.40%	14.50%	12.80%	11.20%	9.80%
Change Mode	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cancel Trip	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Upgrade Vehicle	46.30%	48.80%	51.30%	53.90%	56.50%	59.20%	61.90%	64.60%	67.20%	69.80%	72.40%	74.80%	77.20%	79.50%	81.60%	83.60%	85.50%	87.20%	88.80%	90.20%

LGV response to charging:

Charge Level	£3.00	£3.50	£4.00	£4.50	£5.00	£5.50	£6.00	£6.50	£7.00	£7.50	£8.00	£8.50	£9.00	£9.50	£10.00	£10.50	£11.00	£11.50	£12.00	£12.50
Pay Charge	24.50%	22.50%	20.60%	18.80%	17.00%	15.30%	13.70%	12.30%	10.90%	9.60%	8.50%	7.40%	6.50%	5.60%	4.90%	4.20%	3.60%	3.10%	2.60%	2.20%
Change Mode	4.40%	4.80%	5.10%	5.50%	5.90%	6.20%	6.60%	6.90%	7.20%	7.50%	7.80%	8.10%	8.30%	8.50%	8.60%	8.80%	8.90%	9.00%	9.00%	9.00%
Cancel Trip	5.10%	5.50%	5.80%	6.10%	6.40%	6.60%	6.90%	7.10%	7.30%	7.50%	7.60%	7.70%	7.80%	7.80%	7.80%	7.80%	7.70%	7.60%	7.50%	7.40%
Upgrade Vehicle	66.00%	67.20%	68.50%	69.60%	70.70%	71.80%	72.80%	73.70%	74.60%	75.40%	76.10%	76.80%	77.50%	78.10%	78.70%	79.20%	79.80%	80.30%	80.80%	81.30%

HGV response to charging

Response	HGV	
Pay Charge	9.4%	
Change Mode	0.0%	Avoid
Cancel Trip	4.2%	
Upgrade Vehicle	86.5%	

Hackney cab response to charging

Upgrade Vehicle	100%

Buses/Coaches

Upgrade	100%

Approved

Modelled Two-Way Cordon Crossing Flows (PCUs per Hour)

Do Minimum

AM Peak Hour

Vehicle Type	MCC	%	IRR	%	M60	%	Ashton	%	Bolton	%	Bury	%	Oldham	%	Rochdale	%	Stockport	%	Wigan	%	Total Cordon Crossings
Compliant Car	21,430	57.9%	29,802	59.6%	56,184	58.1%	5,885	56.4%	7,942	56.7%	9,308	59.7%	3,907	54.0%	6,410	56.5%	2,876	57.2%	4,401	51.1%	96,912
Non-Compliant Car	5,974	16.1%	8,308	16.6%	15,662	16.2%	1,640	15.7%	2,214	15.8%	2,595	16.6%	1,089	15.1%	1,787	15.7%	802	15.9%	1,227	14.2%	27,015
All Car	**27,404**	**74.0%**	**38,110**	**76.3%**	**71,846**	**74.4%**	**7,525**	**72.1%**	**10,155**	**72.6%**	**11,903**	**76.3%**	**4,996**	**69.1%**	**8,197**	**72.2%**	**3,678**	**73.2%**	**5,628**	**65.3%**	123,927
Compliant LGV	2,493	6.7%	3,036	6.1%	7,104	7.4%	869	8.3%	1,062	7.6%	986	6.3%	506	7.0%	946	8.3%	313	6.2%	819	9.5%	12,606
Non-Compliant LGV	1,820	4.9%	2,217	4.4%	5,187	5.4%	635	6.1%	776	5.5%	720	4.6%	370	5.1%	690	6.1%	228	4.5%	598	6.9%	9,203
All LGV	**4,313**	**11.7%**	**5,253**	**10.5%**	**12,291**	**12.7%**	**1,504**	**14.4%**	**1,838**	**13.1%**	**1,706**	**10.9%**	**876**	**12.1%**	**1,636**	**14.4%**	**541**	**10.8%**	**1,417**	**16.4%**	21,809
Compliant OGV	1,245	3.4%	1,547	3.1%	4,151	4.3%	467	4.5%	443	3.2%	478	3.1%	203	2.8%	475	4.2%	141	2.8%	323	3.7%	6,680
Non-Compliant OGV	506	1.4%	629	1.3%	1,687	1.7%	190	1.8%	180	1.3%	194	1.2%	82	1.1%	193	1.7%	57	1.1%	131	1.5%	2,715
All OGV	**1,751**	**4.7%**	**2,175**	**4.4%**	**5,838**	**6.0%**	**656**	**6.3%**	**623**	**4.4%**	**672**	**4.3%**	**285**	**3.9%**	**668**	**5.9%**	**198**	**3.9%**	**454**	**5.3%**	9,395
Compliant Taxi	1,187	3.2%	1,634	3.3%	3,005	3.1%	313	3.0%	429	3.1%	519	3.3%	209	2.9%	338	3.0%	147	2.9%	235	2.7%	5,196
Non-Compliant Taxi	858	2.3%	1,182	2.4%	2,173	2.2%	226	2.2%	310	2.2%	376	2.4%	151	2.1%	245	2.2%	106	2.1%	170	2.0%	3,758
All Taxi	**2,045**	**5.5%**	**2,815**	**5.6%**	**5,178**	**5.4%**	**540**	**5.2%**	**740**	**5.3%**	**895**	**5.7%**	**360**	**5.0%**	**583**	**5.1%**	**253**	**5.0%**	**405**	**4.7%**	8,954
Bus	1,498	4.0%	1,615	3.2%	1,472	1.5%	209	2.0%	641	4.6%	417	2.7%	718	9.9%	262	2.3%	357	7.1%	713	8.3%	4,789
Total	**37,011**	**100.0%**	**49,969**	**100.0%**	**96,626**	**100.0%**	**10,434**	**100.0%**	**13,997**	**100.0%**	**15,593**	**100.0%**	**7,234**	**100.0%**	**11,347**	**100.0%**	**5,026**	**100.0%**	**8,617**	**100.0%**	168,874

Inter-Peak Hour

Vehicle Type	MCC	%	IRR	%	M60	%	Ashton	%	Bolton	%	Bury	%	Oldham	%	Rochdale	%	Stockport	%	Wigan	%	Total Cordon Crossings
Compliant Car	14,996	51.5%	20,399	53.8%	40,083	53.5%	5,354	52.6%	7,143	55.4%	8,377	58.2%	3,137	51.9%	7,198	56.1%	2,312	53.0%	4,205	52.4%	77,808
Non-Compliant Car	4,180	14.4%	5,686	15.0%	11,172	14.9%	1,492	14.7%	1,991	15.5%	2,335	16.2%	874	14.5%	2,006	15.6%	644	14.8%	1,172	14.6%	21,688
All Car	**19,175**	**65.9%**	**26,084**	**68.8%**	**51,256**	**68.4%**	**6,846**	**67.3%**	**9,134**	**70.9%**	**10,712**	**74.5%**	**4,011**	**66.4%**	**9,204**	**71.8%**	**2,956**	**67.8%**	**5,377**	**67.0%**	99,496
Compliant LGV	2,857	9.8%	3,494	9.2%	6,922	9.2%	1,034	10.2%	1,087	8.4%	1,048	7.3%	467	7.7%	1,123	8.8%	332	7.6%	675	8.4%	12,688
Non-Compliant LGV	2,086	7.2%	2,551	6.7%	5,054	6.7%	755	7.4%	794	6.2%	765	5.3%	341	5.6%	820	6.4%	242	5.6%	493	6.1%	9,264
All LGV	**4,944**	**17.0%**	**6,044**	**15.9%**	**11,975**	**16.0%**	**1,789**	**17.6%**	**1,881**	**14.6%**	**1,813**	**12.6%**	**807**	**13.4%**	**1,943**	**15.1%**	**574**	**13.2%**	**1,168**	**14.6%**	21,951
Compliant OGV	1,562	5.4%	1,740	4.6%	4,764	6.4%	637	6.3%	482	3.7%	484	3.4%	176	2.9%	557	4.3%	203	4.6%	305	3.8%	7,608
Non-Compliant OGV	635	2.2%	707	1.9%	1,936	2.6%	259	2.5%	196	1.5%	197	1.4%	71	1.2%	226	1.8%	82	1.9%	124	1.5%	3,092
All OGV	**2,196**	**7.5%**	**2,447**	**6.5%**	**6,700**	**8.9%**	**896**	**8.8%**	**679**	**5.3%**	**680**	**4.7%**	**247**	**4.1%**	**784**	**6.1%**	**285**	**6.5%**	**430**	**5.4%**	10,700
Compliant Taxi	807	2.8%	1,103	2.9%	2,143	2.9%	283	2.8%	370	2.9%	469	3.3%	172	2.8%	389	3.0%	125	2.9%	224	2.8%	4,174
Non-Compliant Taxi	583	2.0%	797	2.1%	1,549	2.1%	204	2.0%	267	2.1%	339	2.4%	124	2.1%	281	2.2%	90	2.1%	162	2.0%	3,017
All Taxi	**1,390**	**4.8%**	**1,900**	**5.0%**	**3,692**	**4.9%**	**487**	**4.8%**	**637**	**4.9%**	**808**	**5.6%**	**297**	**4.9%**	**670**	**5.2%**	**215**	**4.9%**	**386**	**4.8%**	7,191
Bus	1,400	4.8%	1,455	3.8%	1,295	1.7%	160	1.6%	552	4.3%	371	2.6%	679	11.2%	227	1.8%	332	7.6%	663	8.3%	4,279
Total	**29,105**	**100.0%**	**37,931**	**100.0%**	**74,918**	**100.0%**	**10,178**	**100.0%**	**12,883**	**100.0%**	**14,384**	**100.0%**	**6,041**	**100.0%**	**12,828**	**100.0%**	**4,362**	**100.0%**	**8,023**	**100.0%**	143,617

PM-Peak

Vehicle Type	MCC	%	IRR	%	M60	%	Ashton	%	Bolton	%	Bury	%	Oldham	%	Rochdale	%	Stockport	%	Wigan	%	Total Cordon Crossings
Compliant Car	22,758	62.9%	32,212	63.9%	62,943	63.0%	6,916	62.6%	9,054	62.3%	11,042	63.0%	4,458	60.4%	7,039	61.8%	2,096	58.1%	5,488	57.9%	109,035
Non-Compliant Car	6,344	17.5%	8,979	17.8%	17,546	17.6%	1,928	17.4%	2,523	17.4%	3,078	17.6%	1,243	16.8%	1,962	17.2%	584	16.2%	1,530	16.1%	30,394
All Car	**29,102**	**80.5%**	**41,191**	**81.7%**	**80,488**	**80.5%**	**8,844**	**80.1%**	**11,577**	**79.7%**	**14,120**	**80.5%**	**5,700**	**77.2%**	**9,002**	**79.0%**	**2,680**	**74.3%**	**7,018**	**74.0%**	139,429
Compliant LGV	1,697	4.7%	2,325	4.6%	5,592	5.6%	647	5.9%	783	5.4%	1,019	5.8%	355	4.8%	692	6.1%	210	5.8%	614	6.5%	9,913
Non-Compliant LGV	1,239	3.4%	1,698	3.4%	4,083	4.1%	473	4.3%	572	3.9%	744	4.2%	259	3.5%	505	4.4%	153	4.3%	448	4.7%	7,237
All LGV	**2,935**	**8.1%**	**4,023**	**8.0%**	**9,674**	**9.7%**	**1,120**	**10.1%**	**1,355**	**9.3%**	**1,762**	**10.1%**	**615**	**8.3%**	**1,198**	**10.5%**	**364**	**10.1%**	**1,063**	**11.2%**	17,150
Compliant OGV	439	1.2%	544	1.1%	1,985	2.0%	167	1.5%	212	1.5%	172	1.0%	52	0.7%	245	2.1%	42	1.2%	223	2.4%	3,098
Non-Compliant OGV	179	0.5%	221	0.4%	807	0.8%	68	0.6%	86	0.6%	70	0.4%	21	0.3%	99	0.9%	17	0.5%	91	1.0%	1,259
All OGV	**618**	**1.7%**	**765**	**1.5%**	**2,792**	**2.8%**	**235**	**2.1%**	**298**	**2.0%**	**242**	**1.4%**	**74**	**1.0%**	**344**	**3.0%**	**59**	**1.6%**	**314**	**3.3%**	4,357
Compliant Taxi	1,257	3.5%	1,772	3.5%	3,374	3.4%	397	3.6%	489	3.4%	618	3.5%	245	3.3%	374	3.3%	105	2.9%	301	3.2%	5,902
Non-Compliant Taxi	909	2.5%	1,281	2.5%	2,439	2.4%	287	2.6%	353	2.4%	447	2.6%	177	2.4%	270	2.4%	76	2.1%	217	2.3%	4,267
All Taxi	**2,166**	**6.0%**	**3,053**	**6.1%**	**5,813**	**5.8%**	**683**	**6.2%**	**842**	**5.8%**	**1,066**	**6.1%**	**421**	**5.7%**	**644**	**5.7%**	**181**	**5.0%**	**518**	**5.5%**	10,169
Bus	**1,336**	**3.7%**	**1,400**	**2.8%**	**1,156**	**1.2%**	**165**	**1.5%**	**458**	**3.2%**	**342**	**2.0%**	**575**	**7.8%**	**202**	**1.8%**	**323**	**9.0%**	**567**	**6.0%**	3,788
Total	**36,156**	**100.0%**	**50,432**	**100.0%**	**99,924**	**100.0%**	**11,048**	**100.0%**	**14,530**	**100.0%**	**17,532**	**100.0%**	**7,385**	**100.0%**	**11,389**	**100.0%**	**3,606**	**100.0%**	**9,479**	**100.0%**	174,892

Do Something

AM Peak Hour

Vehicle Type	MCC	%	IRR	%	M60	%	Ashton	%	Bolton	%	Bury	%	Oldham	%	Rochdale	%	Stockport	%	Wigan	%	Total Cordon Crossings
Compliant Car	24,007	66.6%	32,484	67.1%	59,389	63.6%	6,325	61.2%	8,402	61.7%	9,888	64.7%	4,003	57.8%	6,759	60.8%	3,007	61.8%	4,646	55.0%	102,419
Non-Compliant Car	2,948	8.2%	4,843	10.0%	11,007	11.8%	1,232	11.9%	1,651	12.1%	1,981	13.0%	800	11.5%	1,361	12.2%	596	12.2%	931	11.0%	19,559
All Car	**26,955**	**74.8%**	**37,326**	**77.1%**	**70,395**	**75.4%**	**7,557**	**73.1%**	**10,053**	**73.8%**	**11,869**	**77.6%**	**4,803**	**69.3%**	**8,120**	**73.0%**	**3,602**	**74.0%**	**5,577**	**66.0%**	121,976
Compliant LGV	3,022	8.4%	3,481	7.2%	7,716	8.3%	962	9.3%	1,135	8.3%	1,058	6.9%	541	7.8%	1,034	9.3%	332	6.8%	881	10.4%	13,659
Non-Compliant LGV	1,187	3.3%	1,636	3.4%	4,349	4.7%	552	5.3%	647	4.7%	627	4.1%	318	4.6%	612	5.5%	196	4.0%	522	6.2%	7,823
All LGV	**4,209**	**11.7%**	**5,116**	**10.6%**	**12,064**	**12.9%**	**1,514**	**14.7%**	**1,781**	**13.1%**	**1,685**	**11.0%**	**859**	**12.4%**	**1,647**	**14.8%**	**529**	**10.9%**	**1,403**	**16.6%**	21,482
Compliant OGV	1,667	4.6%	2,067	4.3%	5,552	5.9%	595	5.8%	562	4.1%	622	4.1%	268	3.9%	618	5.6%	189	3.9%	414	4.9%	8,820
Non-Compliant OGV	51	0.1%	62	0.1%	167	0.2%	50	0.5%	42	0.3%	26	0.2%	7	0.1%	21	0.2%	5	0.1%	31	0.4%	349
All OGV	**1,719**	**4.8%**	**2,128**	**4.4%**	**5,719**	**6.1%**	**645**	**6.2%**	**604**	**4.4%**	**648**	**4.2%**	**275**	**4.0%**	**639**	**5.7%**	**194**	**4.0%**	**445**	**5.3%**	9,169
Compliant Taxi	1,495	4.1%	1,990	4.1%	3,295	3.5%	357	3.5%	465	3.4%	580	3.8%	242	3.5%	402	3.6%	161	3.3%	268	3.2%	5,770
Non-Compliant Taxi	154	0.4%	215	0.4%	466	0.5%	51	0.5%	82	0.6%	87	0.6%	30	0.4%	53	0.5%	23	0.5%	38	0.4%	830
All Taxi	**1,649**	**4.6%**	**2,205**	**4.6%**	**3,762**	**4.0%**	**408**	**3.9%**	**547**	**4.0%**	**667**	**4.4%**	**272**	**3.9%**	**454**	**4.1%**	**184**	**3.8%**	**306**	**3.6%**	6,600
Bus	1,509	4.2%	1,625	3.4%	1,479	1.6%	209	2.0%	642	4.7%	419	2.7%	720	10.4%	263	2.4%	358	7.4%	715	8.5%	4,805
Total	**36,040**	**100.0%**	**48,401**	**100.0%**	**93,419**	**100.0%**	**10,333**	**100.0%**	**13,628**	**100.0%**	**15,288**	**100.0%**	**6,929**	**100.0%**	**11,122**	**100.0%**	**4,867**	**100.0%**	**8,446**	**100.0%**	164,032

Inter-Peak Hour

Vehicle Type	MCC	%	IRR	%	M60	%	Ashton	%	Bolton	%	Bury	%	Oldham	%	Rochdale	%	Stockport	%	Wigan	%	Total Cordon Crossings
Compliant Car	16,294	58.6%	21,851	60.1%	42,081	58.3%	5,687	56.8%	7,558	60.1%	8,858	62.9%	3,311	55.8%	7,621	60.4%	2,445	57.4%	4,438	56.4%	81,999
Non-Compliant Car	2,059	7.4%	3,346	9.2%	7,898	10.9%	1,142	11.4%	1,504	12.0%	1,780	12.6%	664	11.2%	1,540	12.2%	482	11.3%	898	11.4%	15,908
All Car	**18,353**	**66.0%**	**25,197**	**69.3%**	**49,979**	**69.2%**	**6,829**	**68.2%**	**9,062**	**72.0%**	**10,638**	**75.5%**	**3,975**	**67.0%**	**9,161**	**72.6%**	**2,928**	**68.7%**	**5,336**	**67.8%**	97,908
Compliant LGV	3,523	12.7%	4,086	11.2%	7,609	10.5%	1,119	11.2%	1,166	9.3%	1,136	8.1%	507	8.5%	1,208	9.6%	356	8.4%	726	9.2%	13,827
Non-Compliant LGV	1,210	4.4%	1,700	4.7%	4,060	5.6%	657	6.6%	673	5.4%	663	4.7%	291	4.9%	715	5.7%	206	4.8%	432	5.5%	7,697
All LGV	**4,733**	**17.0%**	**5,785**	**15.9%**	**11,670**	**16.2%**	**1,776**	**17.7%**	**1,839**	**14.6%**	**1,799**	**12.8%**	**798**	**13.5%**	**1,923**	**15.2%**	**562**	**13.2%**	**1,158**	**14.7%**	21,525
Compliant OGV	2,076	7.5%	2,296	6.3%	6,359	8.8%	818	8.2%	604	4.8%	637	4.5%	234	3.9%	738	5.8%	278	6.5%	399	5.1%	10,067
Non-Compliant OGV	67	0.2%	73	0.2%	192	0.3%	52	0.5%	39	0.3%	24	0.2%	6	0.1%	26	0.2%	7	0.2%	17	0.2%	363
All OGV	**2,144**	**7.7%**	**2,369**	**6.5%**	**6,551**	**9.1%**	**870**	**8.7%**	**642**	**5.1%**	**660**	**4.7%**	**240**	**4.1%**	**763**	**6.1%**	**285**	**6.7%**	**416**	**5.3%**	10,427
Compliant Taxi	1,067	3.8%	1,405	3.9%	2,368	3.3%	332	3.3%	428	3.4%	556	3.9%	221	3.7%	485	3.8%	134	3.1%	270	3.4%	4,794
Non-Compliant Taxi	92	0.3%	128	0.4%	323	0.4%	45	0.4%	58	0.5%	65	0.5%	19	0.3%	52	0.4%	19	0.5%	30	0.4%	611
All Taxi	**1,159**	**4.2%**	**1,534**	**4.2%**	**2,691**	**3.7%**	**377**	**3.8%**	**486**	**3.9%**	**621**	**4.4%**	**240**	**4.0%**	**537**	**4.3%**	**153**	**3.6%**	**300**	**3.8%**	5,405
Bus	1,403	5.0%	1,457	4.0%	1,296	1.8%	160	1.6%	553	4.4%	371	2.6%	679	11.4%	227	1.8%	332	7.8%	664	8.4%	4,282
Total	**27,792**	**100.0%**	**36,342**	**100.0%**	**72,186**	**100.0%**	**10,012**	**100.0%**	**12,583**	**100.0%**	**14,089**	**100.0%**	**5,934**	**100.0%**	**12,612**	**100.0%**	**4,260**	**100.0%**	**7,874**	**100.0%**	139,550

PM-Peak

Vehicle Type	MCC	%	IRR	%	M60	%	Ashton	%	Bolton	%	Bury	%	Oldham	%	Rochdale	%	Stockport	%	Wigan	%	Total Cordon Crossings
Compliant Car	25,410	72.9%	35,151	72.1%	66,724	68.9%	7,446	68.2%	9,589	68.0%	11,691	68.0%	4,744	65.4%	7,426	66.6%	2,176	62.7%	5,813	62.4%	115,609
Non-Compliant Car	2,742	7.9%	4,949	10.1%	12,324	12.7%	1,424	13.0%	1,880	13.3%	2,341	13.6%	937	12.9%	1,494	13.4%	426	12.3%	1,171	12.6%	21,997
All Car	**28,152**	**80.7%**	**40,099**	**82.2%**	**79,048**	**81.7%**	**8,870**	**81.2%**	**11,469**	**81.3%**	**14,032**	**81.6%**	**5,680**	**78.3%**	**8,921**	**80.0%**	**2,602**	**74.9%**	**6,984**	**75.0%**	137,606
Compliant LGV	2,080	6.0%	2,663	5.5%	6,082	6.3%	701	6.4%	797	5.7%	1,104	6.4%	365	5.0%	744	6.7%	226	6.5%	656	7.0%	10,675
Non-Compliant LGV	738	2.1%	1,204	2.5%	3,383	3.5%	407	3.7%	468	3.3%	655	3.8%	213	2.9%	439	3.9%	131	3.8%	388	4.2%	6,084
All LGV	**2,818**	**8.1%**	**3,867**	**7.9%**	**9,465**	**9.8%**	**1,108**	**10.1%**	**1,265**	**9.0%**	**1,759**	**10.2%**	**578**	**8.0%**	**1,183**	**10.6%**	**357**	**10.3%**	**1,044**	**11.2%**	16,759
Compliant OGV	584	1.7%	723	1.5%	2,643	2.7%	217	2.0%	251	1.8%	227	1.3%	69	0.9%	326	2.9%	56	1.6%	285	3.1%	4,074
Non-Compliant OGV	20	0.1%	23	0.0%	76	0.1%	10	0.1%	16	0.1%	8	0.0%	2	0.0%	11	0.1%	1	0.0%	23	0.3%	147
All OGV	**603**	**1.7%**	**746**	**1.5%**	**2,719**	**2.8%**	**227**	**2.1%**	**267**	**1.9%**	**234**	**1.4%**	**71**	**1.0%**	**337**	**3.0%**	**57**	**1.7%**	**309**	**3.3%**	4,221
Compliant Taxi	1,832	5.3%	2,467	5.1%	3,925	4.1%	491	4.5%	570	4.0%	742	4.3%	328	4.5%	460	4.1%	116	3.3%	364	3.9%	6,996
Non-Compliant Taxi	119	0.3%	177	0.4%	484	0.5%	58	0.5%	76	0.5%	90	0.5%	25	0.3%	53	0.5%	16	0.5%	42	0.5%	844
All Taxi	**1,951**	**5.6%**	**2,644**	**5.4%**	**4,409**	**4.6%**	**549**	**5.0%**	**646**	**4.6%**	**832**	**4.8%**	**353**	**4.9%**	**513**	**4.6%**	**132**	**3.8%**	**406**	**4.4%**	7,840
Bus	**1,349**	**3.9%**	**1,406**	**2.9%**	**1,162**	**1.2%**	**165**	**1.5%**	**459**	**3.3%**	**343**	**2.0%**	**576**	**7.9%**	**202**	**1.8%**	**324**	**9.3%**	**568**	**6.1%**	3,799
Total	**34,873**	**100.0%**	**48,763**	**100.0%**	**96,802**	**100.0%**	**10,919**	**100.0%**	**14,106**	**100.0%**	**17,201**	**100.0%**	**7,259**	**100.0%**	**11,155**	**100.0%**	**3,472**	**100.0%**	**9,311**	**100.0%**	170,225

Charges and Penalties

This worksheet presents the charge level assumptions used.

CHARGES ASSUMPTIONS

Charging Levels (£s, 2021 prices)

Vehicle	Low	Medium	High
Car Petrol	5	7.5	10
Car Diesel	5	7.5	10
PHV Petrol	5	7.5	10
PHV Diesel	5	7.5	10
Taxi Petrol	5	7.5	10
Taxi Diesel	5	7.5	10
LGV petrol	5	7.5	10
LGV diesel	5	7.5	10
HGV	100	100	100
HGV	100	100	100
Bus	100	100	100
Coach	100	100	100

Source: GM CAZ Charges Analysis v1.1.docx, Jacobs

Approved

No. of Unique Vehicles

This worksheet presents the number of unique vehicles in GM

Growth factor of car ownership (2016-2021)	1.0533	source: TEMPro
Growth factor of car ownership (2018-2021)	1.0313	source: TEMPro

Total Number of Unique Vehicles

	Year	Base	2021	ANPR	ratio	Source:
Cars	2016	1,139,980	1,200,741	592,953	2.03	*DVLA*
LGV	2016	111,872	117,835	42,328	2.78	*DVLA*
HGV	2016	30,525	32,152	19,764	1.63	*DVLA*
bus	2016	2,739	2,885	2,383	1.21	*DVLA*
Taxi	2018	2135	2,202			*DfT statistics, Table TAXI0104 "Taxis, Private Hire Vehicles (PHVs) and their drivers: England and Wales by licensing area"*
PHV	2018	11681	12,047			*DfT statistics, Table TAXI0104 "Taxis, Private Hire Vehicles (PHVs) and their drivers: England and Wales by licensing area"*

Note: as we are using the number of unique vehicles registered in GM, we will not be able to account for the vehicles which are not registered outside of GM

Approved

Baseline Vehicle Data

Vehicle Proportion - Do Min

Year		2016	2016	2016	2016	2016	2016	2017	2017	2017	2017	2017	2017	2018	2018	2018	2018	2018	2018	2019	2019	2019	2019	2019	2019	2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2021
Type		DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV
Pre-Euro	Pre-Euro	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Euro I	Euro 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Euro II	Euro 2	0.03	0.01	0.02	0.00	0.03	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Euro III	Euro 3	0.09	0.09	0.11	0.15	0.22	0.00	0.05	0.06	0.07	0.11	0.18	0.00	0.05	0.04	0.05	0.07	0.12	0.00	0.05	0.03	0.03	0.04	0.08	0.00	0.04	0.02	0.03	0.01	0.04	0.00	0.03	0.01	0.02	0.00	0.03	0.00
Euro IV	Euro 4	0.28	0.29	0.16	0.26	0.34	0.00	0.12	0.26	0.14	0.25	0.34	0.00	0.10	0.22	0.12	0.25	0.33	0.00	0.07	0.17	0.09	0.23	0.31	0.00	0.03	0.13	0.06	0.19	0.27	0.00	0.03	0.09	0.04	0.15	0.22	0.00
Euro V	Euro 5	0.45	0.48	0.44	0.56	0.32	0.00	0.52	0.42	0.37	0.48	0.31	0.00	0.42	0.38	0.30	0.37	0.30	0.00	0.42	0.35	0.26	0.32	0.31	0.00	0.41	0.32	0.24	0.29	0.33	0.00	0.34	0.29	0.23	0.26	0.34	0.00
Euro VI	Euro 6	0.15	0.12	0.27	0.02	0.08	0.00	0.29	0.25	0.41	0.16	0.16	0.00	0.42	0.34	0.52	0.28	0.22	0.00	0.46	0.33	0.61	0.26	0.21	0.00	0.52	0.28	0.67	0.20	0.18	0.00	0.60	0.25	0.71	0.16	0.17	0.00
Euro VI	Euro 6c	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.00	0.00	0.12	0.00	0.16	0.08	0.00	0.00	0.25	0.00	0.30	0.16	0.00	0.00	0.34	0.00	0.39	0.23	0.00
Euro VI	Euro 6d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00

Source: ANPR Summary for TJGMv2_160118.xlsx

Bus	Diesel	BusDiesel	DBus
Car	Diesel	CarDiesel	DCar
HGV	Diesel	HGVDiesel	DHGV
LGV	Diesel	VanDiesel	DVan
Car	Petrol	CarPetrol	PCar
Car	Other	CarOther	DCar
PHV	Diesel	PHVDiesel	DCar
PHV	Petrol	PHVPetrol	PCar

Vehicle proportion-Do Minimum

	2021	Car				Taxi			PHV				LGV			HGV			Bus		
		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	3%	1%	0%	1%	0%	0%	0%	3%	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Euro 4	4	22%	9%	0%	9%	0%	0%	0%	22%	9%	0%	0%	0%	15%	0%	0%	4%	0%	0%	3%	0%
Euro 5	5	34%	29%	0%	29%	0%	0%	0%	34%	29%	0%	0%	0%	26%	0%	0%	23%	0%	0%	34%	0%
Euro 6	6	17%	25%	0%	25%	0%	0%	0%	17%	25%	0%	0%	0%	16%	0%	0%	71%	0%	0%	60%	0%
Euro 6c	6c	23%	34%	0%	34%	0%	0%	0%	23%	34%	0%	0%	0%	39%	0%	0%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	2%	0%	2%	0%	0%	0%	0%	2%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

	2022	Car				Taxi			PHV				LGV	
		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	2%	1%	0%	1%	0%	0%	0%	2%	1%	0%	0%	0%	0%
Euro 4	4	18%	7%	0%	7%	0%	0%	0%	18%	7%	0%	0%	0%	12%
Euro 5	5	32%	25%	0%	25%	0%	0%	0%	32%	25%	0%	0%	0%	25%
Euro 6	6	18%	23%	0%	23%	0%	0%	0%	18%	23%	0%	0%	0%	15%
Euro 6c	6c	29%	31%	0%	31%	0%	0%	0%	29%	31%	0%	0%	0%	34%
Euro 6d	6d	0%	13%	0%	13%	0%	0%	0%	0%	13%	0%	0%	0%	14%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**

Vehicle proportion-Do Minimum. Index

	2021	Car				Taxi			PHV				LGV			HGV			Bus		
		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 2	2	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 3	3	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 4	4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 5	5	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 6	6	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 6c	6c	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Euro 6d	6d	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

	2022	Car				Taxi			PHV				LGV	
		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan
Pre-Euro	0	75.0	75.0	0.0	75.0	0.0	0.0	0.0	75.0	75.0	0.0	0.0	0.0	86.4
Euro 1	1	88.5	96.9	0.0	96.9	0.0	0.0	0.0	88.5	96.9	0.0	0.0	0.0	79.6
Euro 2	2	81.6	77.4	0.0	77.4	0.0	0.0	0.0	81.6	77.4	0.0	0.0	0.0	76.0
Euro 3	3	80.8	85.0	0.0	85.0	0.0	0.0	0.0	80.8	85.0	0.0	0.0	0.0	95.9
Euro 4	4	79.9	79.6	0.0	79.6	0.0	0.0	0.0	79.9	79.6	0.0	0.0	0.0	77.4
Euro 5	5	95.3	86.3	0.0	86.3	0.0	0.0	0.0	95.3	86.3	0.0	0.0	0.0	93.3
Euro 6	6	104.6	92.7	0.0	92.7	0.0	0.0	0.0	104.6	92.7	0.0	0.0	0.0	92.0
Euro 6c	6c	125.7	91.5	0.0	91.5	0.0	0.0	0.0	125.7	91.5	0.0	0.0	0.0	86.3
Euro 6d	6d	0.0	656.4	0.0	656.4	0.0	0.0	0.0	0.0	656.4	0.0	0.0	0.0	665.8
				non-compliant	**0%**		non-compliant	**83%**			non-compliant	**83%**		non-compliant

Do Minimum non-compliant fleet relative to intervention year

Type	Fuel		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	Petrol	**CarPetrol**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Car	Diesel	**CarDiesel**	100%	83%	67%	50%	33%	27%	18%	9%	4%	3%
Car	Other	**CarOther**	100%	83%	67%	50%	33%	27%	18%	9%	4%	3%
PHV	Petrol	**PHVPetrol**	100%	81%	63%	44%	26%	21%	14%	7%	4%	3%
PHV	Diesel	**PHVDiesel**	100%	83%	67%	50%	33%	27%	18%	9%	4%	3%
LGV	Diesel	**LGVDiesel**	100%	85%	70%	54%	39%	32%	20%	10%	4%	3%
HGV	Diesel	**HGVDiesel**	100%	81%	61%	42%	23%	19%	13%	7%	4%	3%
Bus	Diesel	**BusDiesel**	100%	83%	66%	48%	31%	25%	16%	7%	3%	2%
	Average		**88%**	**72%**	**57%**	**42%**	**27%**	**22%**	**14%**	**7%**	**3%**	**3%**

Do Minimum non-compliant fleet relative to intervention year

Type	Fuel		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	Petrol	**CarPetrol**	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Car	Diesel	**CarDiesel**	100%	83%	67%	50%	33%	27%	18%	9%	4%	3%
Car	Other	**CarOther**	100%	83%	67%	50%	33%	27%	18%	9%	4%	3%
PHV	Petrol	**PHVPetrol**	100%	81%	63%	44%	26%	21%	14%	7%	4%	3%
PHV	Diesel	**PHVDiesel**	100%	83%	67%	50%	33%	27%	18%	9%	4%	3%
LGV	Diesel	**LGVDiesel**	100%	85%	130%	115%	100%	32%	20%	10%	4%	3%
HGV	Diesel	**HGVDiesel**	100%	81%	61%	42%	23%	19%	13%	7%	4%	3%
Bus	Diesel	**BusDiesel**	100%	83%	66%	48%	31%	25%	16%	7%	3%	2%
	Average		**100%**	**72%**	**65%**	**50%**	**35%**	**22%**	**14%**	**7%**	**3%**	**3%**

DS non-compliant profile

Option 8

Vehicle	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	100%	84%	68%	52%	37%	30%	19%	9%	5%	3%
LGV	100%	83%	2348%	1949%	1526%	1272%	814%	407%	204%	153%
HGV	100%	83%	66%	48%	31%	26%	16%	8%	3%	2%
PHVs	100%	78%	57%	35%	13%	11%	8%	4%	2%	2%
Hackneys	100%	82%	64%	46%	28%	22%	14%	6%	3%	2%

Source: TJGM CAZ Revised trip profile v0.4

Approved

[redacted]

Proportion extrapolated between 2021 and 2025

2022	2022	2022	2022	2022	2022	2023	2023	2023	2023	2023	2023	2024	2024	2024	2024	2024	2024	2025	2025	2025	2025	2025	2025	2026	2026	2026	2026	2026	2026	2027	2027	2027	2027	2027	2027	2028	2028	2028	2028
DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.01	0.02	0.00	0.02	0.00	0.02	0.01	0.01	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.07	0.03	0.12	0.18	0.00	0.02	0.05	0.02	0.08	0.13	0.00	0.02	0.03	0.02	0.05	0.09	0.00	0.01	0.02	0.01	0.01	0.04	0.00	0.01	0.01	0.01	0.01	0.04	0.00	0.01	0.01	0.01	0.01	0.02	0.00	0.00	0.01	0.00	0.00
0.27	0.25	0.19	0.25	0.32	0.00	0.20	0.21	0.15	0.23	0.31	0.00	0.13	0.17	0.11	0.21	0.29	0.00	0.05	0.13	0.07	0.19	0.27	0.00	0.05	0.11	0.06	0.16	0.23	0.00	0.03	0.07	0.04	0.10	0.15	0.00	0.02	0.04	0.02	0.05
0.68	0.23	0.76	0.15	0.18	0.00	0.76	0.21	0.81	0.14	0.19	0.00	0.85	0.19	0.86	0.12	0.20	0.00	0.93	0.18	0.91	0.11	0.21	0.00	0.94	0.15	0.93	0.10	0.19	0.00	0.96	0.11	0.95	0.08	0.17	0.00	0.97	0.07	0.97	0.06
0.00	0.31	0.00	0.34	0.29	0.00	0.00	0.28	0.00	0.29	0.35	0.00	0.00	0.25	0.00	0.23	0.41	0.00	0.00	0.22	0.00	0.18	0.47	0.00	0.00	0.21	0.00	0.17	0.54	0.00	0.00	0.18	0.00	0.16	0.64	0.00	0.00	0.15	0.00	0.15
0.00	0.13	0.00	0.14	0.00	0.00	0.00	0.23	0.00	0.26	0.00	0.00	0.00	0.34	0.00	0.38	0.00	0.00	0.00	0.45	0.00	0.50	0.00	0.00	0.00	0.52	0.00	0.56	0.00	0.00	0.00	0.63	0.00	0.65	0.00	0.00	0.00	0.73	0.00	0.73

VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	HGV			Bus		
Other	Petrol	Diesel	Other	Petrol	Diesel	Other
VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%
0%	0%	2%	0%	0%	2%	0%
0%	0%	3%	0%	0%	2%	0%
0%	0%	19%	0%	0%	27%	0%
0%	0%	76%	0%	0%	68%	0%
0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%
0%	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	HGV			Bus		
Other	Petrol	Diesel	Other	Petrol	Diesel	Other
VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
0.0	0.0	75.0	0.0	0.0	75.0	0.0
0.0	0.0	83.8	0.0	0.0	104.2	0.0
0.0	0.0	78.9	0.0	0.0	75.7	0.0
0.0	0.0	80.6	0.0	0.0	78.0	0.0
0.0	0.0	83.0	0.0	0.0	84.7	0.0
0.0	0.0	82.7	0.0	0.0	79.0	0.0
0.0	0.0	107.1	0.0	0.0	113.8	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0%	non-compliant		**81%**	non-compliant		**83%**

CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2023	Car				Taxi			PHV					LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	2%	1%	0%	1%	0%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%
Euro 4	4	13%	5%	0%	5%	0%	0%	0%	13%	5%	0%	0%	0%	8%	0%	0%	2%	0%	0%	2%	0%
Euro 5	5	31%	21%	0%	21%	0%	0%	0%	31%	21%	0%	0%	0%	23%	0%	0%	15%	0%	0%	20%	0%
Euro 6	6	19%	21%	0%	21%	0%	0%	0%	19%	21%	0%	0%	0%	14%	0%	0%	81%	0%	0%	76%	0%
Euro 6c	6c	35%	28%	0%	28%	0%	0%	0%	35%	28%	0%	0%	0%	29%	0%	0%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	23%	0%	23%	0%	0%	0%	0%	23%	0%	0%	0%	26%	0%	0%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2023	Car				Taxi			PHV					LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	50	50	0	50	0	0	0	50	50	0	0	0	73	0	0	50	0	0	50	0
Euro 1	1	77	94	0	94	0	0	0	77	94	0	0	0	59	0	0	68	0	0	108	0
Euro 2	2	63	55	0	55	0	0	0	63	55	0	0	0	52	0	0	58	0	0	51	0
Euro 3	3	62	70	0	70	0	0	0	62	70	0	0	0	92	0	0	61	0	0	56	0
Euro 4	4	60	59	0	59	0	0	0	60	59	0	0	0	55	0	0	66	0	0	69	0
Euro 5	5	91	73	0	73	0	0	0	91	73	0	0	0	87	0	0	65	0	0	58	0
Euro 6	6	109	85	0	85	0	0	0	109	85	0	0	0	84	0	0	114	0	0	128	0
Euro 6c	6c	151	83	0	83	0	0	0	151	83	0	0	0	73	0	0	0	0	0	0	0
Euro 6d	6d	0	1213	0	1213	0	0	0	0	1213	0	0	0	1232	0	0	0	0	0	0	0
		non-compliant			**0%**	non-compliant		**67%**	non-compliant			**67%**	non-compliant		**70%**	non-compliant		**61%**	non-compliant		**66%**

CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth
	2024	Car				Taxi		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	1%	1%	0%	1%	0%	0%	0%
Euro 4	4	9%	3%	0%	3%	0%	0%	0%
Euro 5	5	29%	17%	0%	17%	0%	0%	0%
Euro 6	6	20%	19%	0%	19%	0%	0%	0%
Euro 6c	6c	41%	25%	0%	25%	0%	0%	0%
Euro 6d	6d	0%	34%	0%	34%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**

CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth
	2024	Car				Taxi		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO
Pre-Euro	0	25	25	0	25	0	0	0
Euro 1	1	65	91	0	91	0	0	0
Euro 2	2	45	32	0	32	0	0	0
Euro 3	3	43	55	0	55	0	0	0
Euro 4	4	40	39	0	39	0	0	0
Euro 5	5	86	59	0	59	0	0	0
Euro 6	6	114	78	0	78	0	0	0
Euro 6c	6c	177	74	0	74	0	0	0
Euro 6d	6d	0	1769	0	1769	0	0	0
		non-compliant			**0%**	non-compliant		**50%**

Approved

2028	2028	2029	2029	2029	2029	2029	2029	2030	2030	2030	2030	2030	2030
PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV	DBus	DCar	DHGV	DVan	PCar	PLGV
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
0.09	0.00	0.02	0.02	0.02	0.02	0.05	0.00	0.01	0.02	0.01	0.01	0.04	0.00
0.15	0.00	0.98	0.05	0.98	0.06	0.14	0.00	0.99	0.05	0.98	0.05	0.14	0.00
0.74	0.00	0.00	0.14	0.00	0.14	0.79	0.00	0.00	0.13	0.00	0.14	0.81	0.00
0.00	0.00	0.00	0.78	0.00	0.78	0.00	0.00	0.00	0.80	0.00	0.79	0.00	0.00

PHV				LGV			HGV			Bus		
Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
9%	3%	0%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
29%	17%	0%	0%	0%	21%	0%	0%	11%	0%	0%	13%	0%
20%	19%	0%	0%	0%	12%	0%	0%	86%	0%	0%	85%	0%
41%	25%	0%	0%	0%	23%	0%	0%	0%	0%	0%	0%	0%
0%	34%	0%	0%	0%	38%	0%	0%	0%	0%	0%	0%	0%
100%	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

PHV				LGV			HGV			Bus		
Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
25	25	0	0	0	59	0	0	25	0	0	25	0
65	91	0	0	0	39	0	0	51	0	0	113	0
45	32	0	0	0	28	0	0	37	0	0	27	0
43	55	0	0	0	88	0	0	42	0	0	34	0
40	39	0	0	0	32	0	0	49	0	0	54	0
86	59	0	0	0	80	0	0	48	0	0	37	0
114	78	0	0	0	76	0	0	121	0	0	141	0
177	74	0	0	0	59	0	0	0	0	0	0	0
0	1769	0	0	0	1797	0	0	0	0	0	0	0
non-compliant			**50%**	non-compliant		**54%**	non-compliant		**42%**	non-compliant		**48%**

	2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPetrol	HackneyDiesel	HackneyOther	PCar	DCar	PHVElectric	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	1%	1%	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 4	4	4%	2%	0%	2%	0%	0%	0%	4%	2%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Euro 5	5	27%	13%	0%	13%	0%	0%	0%	27%	13%	0%	0%	0%	19%	0%	0%	7%	0%	0%	5%	0%
Euro 6	6	21%	18%	0%	18%	0%	0%	0%	21%	18%	0%	0%	0%	11%	0%	0%	91%	0%	0%	93%	0%
Euro 6c	6c	47%	22%	0%	22%	0%	0%	0%	47%	22%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	45%	0%	45%	0%	0%	0%	0%	45%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

	2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPetrol	HackneyDiesel	HackneyOther	PCar	DCar	PHVElectric	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	0	0	0	0	0	0
Euro 1	1	54	88	0	88	0	0	0	54	88	0	0	0	19	0	0	35	0	0	117	0
Euro 2	2	27	9	0	9	0	0	0	27	9	0	0	0	4	0	0	15	0	0	3	0
Euro 3	3	23	40	0	40	0	0	0	23	40	0	0	0	84	0	0	22	0	0	12	0
Euro 4	4	20	19	0	19	0	0	0	20	19	0	0	0	10	0	0	32	0	0	39	0
Euro 5	5	81	45	0	45	0	0	0	81	45	0	0	0	73	0	0	31	0	0	16	0
Euro 6	6	118	71	0	71	0	0	0	118	71	0	0	0	68	0	0	128	0	0	155	0
Euro 6c	6c	203	66	0	66	0	0	0	203	66	0	0	0	45	0	0	0	0	0	0	0
Euro 6d	6d	0	2325	0	2325	0	0	0	0	2325	0	0	0	2363	0	0	0	0	0	0	0
		non-compliant			**0%**	non-compliant			**33%**	non-compliant			**33%**	non-compliant		**39%**	non-compliant		**23%**	non-compliant		**31%**

	2026	
Euro Class	Euro Class	Petrol
		PCar
Pre-Euro	0	0%
Euro 1	1	0%
Euro 2	2	0%
Euro 3	3	1%
Euro 4	4	4%
Euro 5	5	23%
Euro 6	6	19%
Euro 6c	6c	54%
Euro 6d	6d	0%
Sub-total		**100%**

	2026	
Euro Class	Euro Class	Petrol
		PCar
Pre-Euro	0	0
Euro 1	1	43
Euro 2	2	23
Euro 3	3	20
Euro 4	4	16
Euro 5	5	67
Euro 6	6	111
Euro 6c	6c	232
Euro 6d	6d	0

Approved

[redacted]

CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
Car			Taxi			PHV				LGV			HGV			Bus		
Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1%	0%	1%	0%	0%	0%	4%	1%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
11%	0%	11%	0%	0%	0%	23%	11%	0%	0%	0%	16%	0%	0%	6%	0%	0%	5%	0%
15%	0%	15%	0%	0%	0%	19%	15%	0%	0%	0%	10%	0%	0%	93%	0%	0%	94%	0%
21%	0%	21%	0%	0%	0%	54%	21%	0%	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%
52%	0%	52%	0%	0%	0%	0%	52%	0%	0%	0%	56%	0%	0%	0%	0%	0%	0%	0%
100%	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
Car			Taxi			PHV				LGV			HGV			Bus		
Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
0	0	0	0	0	0	0	0	0	0	0	37	0	0	0	0	0	0	0
70	0	70	0	0	0	43	70	0	0	0	15	0	0	28	0	0	93	0
9	0	9	0	0	0	23	9	0	0	0	4	0	0	13	0	0	3	0
33	0	33	0	0	0	20	33	0	0	0	68	0	0	19	0	0	10	0
16	0	16	0	0	0	16	16	0	0	0	8	0	0	27	0	0	31	0
37	0	37	0	0	0	67	37	0	0	0	60	0	0	26	0	0	14	0
60	0	60	0	0	0	111	60	0	0	0	61	0	0	130	0	0	157	0
60	0	60	0	0	0	232	60	0	0	0	43	0	0	0	0	0	0	0
2685	0	2685	0	0	0	0	2685	0	0	0	2635	0	0	0	0	0	0	0
non-compliant		**0%**	non-compliant		**27%**	non-compliant			**27%**	non-compliant		**32%**	non-compliant		**19%**	non-compliant		**25%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 4	4	2%	1%	0%	1%	0%	0%	0%	2%	1%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Euro 5	5	15%	7%	0%	7%	0%	0%	0%	15%	7%	0%	0%	0%	10%	0%	0%	4%	0%	0%	3%	0%
Euro 6	6	17%	11%	0%	11%	0%	0%	0%	17%	11%	0%	0%	0%	8%	0%	0%	95%	0%	0%	96%	0%
Euro 6c	6c	64%	18%	0%	18%	0%	0%	0%	64%	18%	0%	0%	0%	16%	0%	0%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	63%	0%	63%	0%	0%	0%	0%	63%	0%	0%	0%	65%	0%	0%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0
Euro 1	1	26	42	0	42	0	0	0	26	42	0	0	0	9	0	0	17	0	0	56	0
Euro 2	2	17	7	0	7	0	0	0	17	7	0	0	0	5	0	0	10	0	0	3	0
Euro 3	3	14	21	0	21	0	0	0	14	21	0	0	0	42	0	0	12	0	0	6	0
Euro 4	4	11	12	0	12	0	0	0	11	12	0	0	0	6	0	0	19	0	0	19	0
Euro 5	5	46	25	0	25	0	0	0	46	25	0	0	0	38	0	0	18	0	0	10	0
Euro 6	6	100	44	0	44	0	0	0	100	44	0	0	0	50	0	0	134	0	0	160	0
Euro 6c	6c	278	52	0	52	0	0	0	278	52	0	0	0	40	0	0	0	0	0	0	0
Euro 6d	6d	0	3261	0	3261	0	0	0	0	3261	0	0	0	3071	0	0	0	0	0	0	0
		non-compliant			**0%**	non-compliant		**18%**	non-compliant			**18%**	non-compliant		**20%**	non-compliant		**13%**	non-compliant		**16%**

Approved

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 4	4	1%	1%	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 5	5	9%	4%	0%	4%	0%	0%	0%	9%	4%	0%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Euro 6	6	15%	7%	0%	7%	0%	0%	0%	15%	7%	0%	0%	0%	6%	0%	0%	97%	0%	0%	97%	0%
Euro 6c	6c	74%	15%	0%	15%	0%	0%	0%	74%	15%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	73%	0%	73%	0%	0%	0%	0%	73%	0%	0%	0%	73%	0%	0%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
Euro 1	1	10	17	0	17	0	0	0	10	17	0	0	0	4	0	0	7	0	0	22	0
Euro 2	2	11	6	0	6	0	0	0	11	6	0	0	0	5	0	0	6	0	0	3	0
Euro 3	3	8	10	0	10	0	0	0	8	10	0	0	0	19	0	0	7	0	0	3	0
Euro 4	4	6	8	0	8	0	0	0	6	8	0	0	0	3	0	0	11	0	0	9	0
Euro 5	5	26	13	0	13	0	0	0	26	13	0	0	0	19	0	0	11	0	0	6	0
Euro 6	6	89	29	0	29	0	0	0	89	29	0	0	0	40	0	0	136	0	0	163	0
Euro 6c	6c	320	44	0	44	0	0	0	320	44	0	0	0	37	0	0	0	0	0	0	0
Euro 6d	6d	0	3779	0	3779	0	0	0	0	3779	0	0	0	3463	0	0	0	0	0	0	0
		non-compliant			**0%**	non-compliant		**9%**	non-compliant			**9%**	non-compliant		**10%**	non-compliant		**7%**	non-compliant		**7%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol
	2029	Car				Taxi			PHV				LGV			HGV			
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 4	4	1%	1%	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 5	5	5%	2%	0%	2%	0%	0%	0%	5%	2%	0%	0%	0%	2%	0%	0%	2%	0%	0%
Euro 6	6	14%	5%	0%	5%	0%	0%	0%	14%	5%	0%	0%	0%	6%	0%	0%	98%	0%	0%
Euro 6c	6c	79%	14%	0%	14%	0%	0%	0%	79%	14%	0%	0%	0%	14%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	78%	0%	78%	0%	0%	0%	0%	78%	0%	0%	0%	78%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol
	2029	Car				Taxi			PHV				LGV			HGV			
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyDi	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol
Pre-Euro	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Euro 1	1	2	3	0	3	0	0	0	2	3	0	0	0	1	0	0	1	0	0
Euro 2	2	8	5	0	5	0	0	0	8	5	0	0	0	6	0	0	5	0	0
Euro 3	3	5	4	0	4	0	0	0	5	4	0	0	0	7	0	0	4	0	0
Euro 4	4	4	6	0	6	0	0	0	4	6	0	0	0	2	0	0	7	0	0
Euro 5	5	16	7	0	7	0	0	0	16	7	0	0	0	8	0	0	7	0	0
Euro 6	6	84	22	0	22	0	0	0	84	22	0	0	0	35	0	0	138	0	0
Euro 6c	6c	343	40	0	40	0	0	0	343	40	0	0	0	36	0	0	0	0	0
Euro 6d	6d	0	4055	0	4055	0	0	0	0	4055	0	0	0	3672	0	0	0	0	0
		non-compliant			**0%**	non-compliant		**4%**	non-compliant			**4%**	non-compliant		**4%**	non-compliant		**4%**	non-

Approved

[redacted]

BusDiesel	BusOther
Bus	
Diesel	Other
DBus	BusOther
0%	0%
0%	0%
0%	0%
0%	0%
0%	0%
2%	0%
98%	0%
0%	0%
0%	0%
100%	**0%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2030	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 1	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 2	2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 3	3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 4	4	1%	1%	0%	1%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Euro 5	5	4%	2%	0%	2%	0%	0%	0%	4%	2%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%
Euro 6	6	14%	5%	0%	5%	0%	0%	0%	14%	5%	0%	0%	0%	5%	0%	0%	98%	0%	0%	99%	0%
Euro 6c	6c	81%	13%	0%	13%	0%	0%	0%	81%	13%	0%	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%
Euro 6d	6d	0%	80%	0%	80%	0%	0%	0%	0%	80%	0%	0%	0%	79%	0%	0%	0%	0%	0%	0%	0%
Sub-total		**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**0%**	**100%**	**100%**	**0%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**

BusDiesel	BusOther
Bus	
Diesel	Other
DBus	BusOther
0	0
4	0
3	0
1	0
3	0
5	0
164	0
0	0
0	0
-compliant	**3%**

		CarPetrol	CarDiesel	CarElectric	CarOther	HackneyPetr	HackneyDies	HackneyOth	PHVPetrol	PHVDiesel	PHVElectric	PHVOther	VanPetrol	VanDiesel	VanOther	HGVPetrol	HGVDiesel	HGVOther	BusPetrol	BusDiesel	BusOther
	2030	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
		PCar	DCar	CarElectric	DCar	HackneyPe	HackneyD	HackneyO	PCar	DCar	PHVElectri	PHVOther	VanPetrol	DVan	VanOther	HGVPetrol	DHGV	HGVOther	BusPetrol	DBus	BusOther
Pre-Euro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Euro 1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Euro 2	2	8	5	0	5	0	0	0	8	5	0	0	0	6	0	0	4	0	0	3	0
Euro 3	3	4	3	0	3	0	0	0	4	3	0	0	0	4	0	0	3	0	0	0	0
Euro 4	4	3	6	0	6	0	0	0	3	6	0	0	0	2	0	0	6	0	0	2	0
Euro 5	5	13	6	0	6	0	0	0	13	6	0	0	0	6	0	0	6	0	0	4	0
Euro 6	6	82	20	0	20	0	0	0	82	20	0	0	0	33	0	0	138	0	0	164	0
Euro 6c	6c	348	39	0	39	0	0	0	348	39	0	0	0	35	0	0	0	0	0	0	0
Euro 6d	6d	0	4124	0	4124	0	0	0	0	4124	0	0	0	3724	0	0	0	0	0	0	0
		non-compliant			**0%**	non-compliant		**3%**	non-compliant			**3%**	non-compliant		**3%**	non-compliant		**3%**	non-compliant		**2%**

Approved

Vehicle Upgrade Assumptions

Upgrade Response

Response	Assumption	Explanation
Scrap	25.00%	A proportion, 25%, of those people taking the upgrade response will scrap their old vehicle
Buy new	25.00%	A proportion, 25%, of those people choosing to upgrade will buy a new vehicle
Switch	56.25%	A proportion, (75%*75%), of those people who elect to upgrade will sell their old vehicle and buy the cheapest unaffected one
Keep fuel	18.75%	A proportion, (25%*75%), of those people who decide to upgrade will sell their old vehicle and buy the cheapest unaffected one of the same fuel type
Redistribute	100.00%	A business will be able to relocate some of their fleet so as to vary their exposure to a measure
Substitute		Businesses will change operating areas, with those (un)affected by a measure substituting those (un)affected (for a cost raising / lowering measure)

Source: Shifting tool. Jacobs

Costs to purchase new Euro 6 compliant vechicle (Car price info year. Price 2018)

Vehicle	Cost	Assumption	Source
Car Petrol	£ 12,997		*ANPR Weighted Costs_Rev2.xlsx*
Car Diesel	£ 12,078		*ANPR Weighted Costs_Rev2.xlsx*
PHV Petrol	£ 12,997		*ANPR Weighted Costs_Rev2.xlsx*
PHV Diesel	£ 12,078		*ANPR Weighted Costs_Rev2.xlsx*
Taxi Petrol	£ 46,000		*http://www.levc.com/new-taxis/new_tx4_taxi/*
Taxi Diesel	£ 46,000	Only used for residual value	
LGV petrol	£ 13,328		*ANPR Weighted Costs_Rev2.xlsx*
LGV diesel	£ 13,328		*ANPR Weighted Costs_Rev2.xlsx*
Rigid HGV	£ 51,300	Average across a number of HGV types	*Source: "Road Haulage Association Cost Tables 2014", DFF International Ltd, 2014*
Artic HGV	£ 80,100	Average across a number of HGV types	*Source: "Road Haulage Association Cost Tables 2014", DFF International Ltd, 2014*
Buses	£ 160,000		*JAQU*
Coach	£ 250,000		*JAQU*

Other Upgrade Costs

Vehicle	Cost	Source
Bus cost of retrofit	£ 20,000	*TfL Bus Retrofit Programme - £86m/5000 buses (Euro VI)* https://www.airqualitynews.com/2017/06/28/86-1-million-london-bus-retrofit-programme-announced/

Derived Parameters

PHV proportion of Taxi	76%

%age of planned upgrades by year (Do-Min). Assumed only for non complaint

	Vehicle	Fuel	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car Petrol	Car	petrol	7%	6%	6%	6%	6%	7%	11%	10%	5%	1%
Car Diesel	Car	diesel	9%	11%	11%	11%	11%	7%	11%	10%	5%	1%
PHV Petrol	PHV	petrol	7%	6%	6%	6%	6%	7%	11%	10%	5%	1%
PHV Diesel	PHV	diesel	9%	11%	11%	11%	11%	7%	11%	10%	5%	1%
Taxi Petrol	Taxi	petrol	7%	6%	6%	6%	6%	7%	11%	10%	5%	1%
Taxi Diesel	Taxi	diesel	9%	11%	11%	11%	11%	7%	11%	10%	5%	1%
LGV petrol	LGV	petrol	11%	12%	12%	12%	12%	6%	9%	8%	4%	1%
LGV diesel	LGV	diesel	11%	12%	12%	12%	12%	6%	9%	8%	4%	1%
HGV	HGV	rigid	4%	5%	5%	5%	5%	1%	2%	2%	1%	1%
HGV	HGV	artic	4%	5%	5%	5%	5%	1%	2%	2%	1%	1%
Bus	Bus	diesel	8%	8%	8%	8%	8%	1%	2%	2%	2%	2%

Source: GM Vehicle Data.xlsx

Upgrade Response

Vehicles scrapped	50%

Approved

Health and Environmental Impact

2018 prices, undiscounted

Summary	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Nox Saved	**11,274**	1,419	1,335	1,251	1,167	1,083	1,056	1,022	995	978	967
NO2 Savings (£)	**66,548,893**	8,386,835	7,887,721	7,388,608	6,889,494	6,390,381	6,230,470	6,032,157	5,869,002	5,767,021	5,707,204
Total PM Saved	**497**	52	52	52	52	52	50	49	47	47	46
PM Savings (£)	**62,464,423**	6,593,651	6,556,800	6,519,949	6,483,098	6,446,248	6,284,938	6,084,892	5,920,310	5,817,438	5,757,098
Health and Environmental Impact	**129,013,316**	14,980,485	14,444,521	13,908,557	13,372,593	12,836,629	12,515,408	12,117,049	11,789,312	11,584,460	11,464,302

Source: Bryony Kershaw, Jacobs. Received 05/02/2018. \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\Incoming Data and Downloads

		0.9019	0.8714	0.8420	0.8135	0.7860	0.7594	0.7337	0.7089	0.6849	0.6618
Discounted	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
NO2 Savings (£)	**52,331,683**	7,564,444	6,873,693	6,221,010	5,604,608	5,022,782	4,731,491	4,425,980	4,160,646	3,950,097	3,776,932
PM Savings (£)	**48,720,415**	5,947,095	5,713,872	5,489,622	5,274,005	5,066,692	4,772,855	4,464,674	4,197,019	3,984,629	3,809,951
Health and Environmental Impact	**101,052,098**	13,511,540	12,587,566	11,710,632	10,878,613	10,089,474	9,504,346	8,890,654	8,357,665	7,934,726	7,586,884

Approved

Trips Cancelled or Re-moded 2021

This worksheet presents the AM, IP and PM peak hour trips either cancelled or re-moded, and converted into AADTs

Source: Adam James, Jacobs. Received 30/01/2018. \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\Incoming Data and Downloads

	Other Roads		
	AM Peak Hour to AM Peak Period	Inter-Peak Hour to Off-Peak Period	PM Peak Hour to PM Peak Period
Cars/Motorcycles	2.693	9.649	2.807
LGVS	3.125	9.649	3.071
Rigid HGVS	3.04	9.649	3.472
Articulated HGVS	3.018	9.649	3.049
Buses	2.941	9.649	3.098

Divisor for Trips to unique vehicles

	Total	Cars	Taxi	LGVs	HGV
Trips per day	2.82	2.63	9.65	2.79	2.95

AM Trips

	Non-Compliant Car	Non-Compliant LGV	Non-Compliant HGV	Non-Compliant Taxi	Non-Compliant PHV
Cancel Trip			118	22	
Switch to PT					
Switch to Active Mode					

IP Trips

	Non-Compliant Car	Non-Compliant LGV	Non-Compliant HGV	Non-Compliant Taxi	Non-Compliant PHV
Cancel Trip			128	29	
Switch to PT					
Switch to Active Mode					

PM Trips

	Non-Compliant Car	Non-Compliant LGV	Non-Compliant HGV	Non-Compliant Taxi	Non-Compliant PHV
Cancel Trip			58	45	
Switch to PT					
Switch to Active Mode					

AADT Conversion (non-compliant vehicles)

	AM			IP			PM		
	Cancel	Re-mode (PT)	Re-mode (Active trave	Cancel	Re-mode (PT)	Re-mode (Active travel)	Cancel	Re-mode (PT)	Re-mode (Active travel)
Cars	-	-	-	-	-	-	-	-	-
LGVs	-	-	-	-	-	-	-	-	-
HGV	121	-	-	418	-	-	64	-	-
Taxi	6	-	-	29	-	-	13	-	-

Total Trips PT			
AM	IP	PM	Total
0	0	0	0
0	0	0	0
			0

Total AADTs

	Vehicles cancelling	Vehicles remoding
Cars	-	-
LGVs	-	-
HGV	603	-
Taxi	49	-

Approved

Trips Cancelled or Re-moded 2025

This worksheet presents the AM, IP and PM peak hour trips either cancelled or re-moded, and converted into AADTs

Source: Adam James, Jacobs. Received 30/01/2018. \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\Incoming Data and Downloads

	Other Roads		
	AM Peak Hour to AM Peak Period	Inter-Peak Hour to Off-Peak Period	PM Peak Hour to PM Peak Period
Cars/Motorcycles	2.693	9.649	2.807
LGVS	3.125	9.649	3.071
Rigid HGVS	3.04	9.649	3.472
Articulated HGVS	3.018	9.649	3.049
Buses	2.941	9.649	3.098

Divisor for Trips to unique vehicles

User Class	Total	Cars	Taxi	LGVs	HGV
Trips per day	2.82	2.63	9.65	2.79	2.95

AM Trips

	Non-Compliant Car	Non-Compliant LGV	Non-Compliant HGV	Non-Compliant Taxi	Non-Compliant PHV
Cancel Trip		822	37	6	
Switch to PT		651	-		
Switch to Active Mode		180	-		

IP Trips

	Non-Compliant Car	Non-Compliant LGV	Non-Compliant HGV	Non-Compliant Taxi	Non-Compliant PHV
Cancel Trip		794	40	8	
Switch to PT		612	-		
Switch to Active Mode		190	-		

PM Trips

	Non-Compliant Car	Non-Compliant LGV	Non-Compliant HGV	Non-Compliant Taxi	Non-Compliant PHV
Cancel Trip		686	18	12	
Switch to PT		536	-		
Switch to Active Mode		157	-		

AADT Conversion (non-compliant vehicles)

	AM			IP			PM		
	Cancel	Re-mode (PT)	Re-mode (Active trave	Cancel	Re-mode (PT)	Re-mode (Active travel)	Cancel	Re-mode (PT)	Re-mode (Active travel)
Cars	-	-	-	-	-	-	-	-	-
LGVs	920	729	202	2,744	2,117	658	755	590	173
HGV	38	-	-	130	-	-	20	-	-
Taxi	2	-	-	8	-	-	4	-	-

Total AADTs

	Vehicles cancelling	Vehicles remoding
Cars	-	-
LGVs	4,420	4,469
HGV	188	-
Taxi	13	-

Approved

Carbon reduction

This page summarises the carbon reduction data due to the CAP

Table 3 - Carbon benefits of DS (central case CO2e price selected)

Source: \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\0_Project Works\Economic model\CO2 reduction

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
CO2e (t)	- 141,737	- 141,324	- 140,911	- 140,499	- 140,086	- 139,673	- 139,262	- 138,851	- 138,442	- 138,034	- 1,398,819
Value (£, 2018 prices)	9,960,534	10,094,342	10,227,199	10,359,105	10,490,060	10,620,064	10,749,212	10,877,506	11,004,950	11,131,550	105,514,522

Approved

Vehicle Upgrade Response

This sheet takes frequency data and converts the behavioural reponse (modelled on a per-trip basis) to vehicles, based on he assumption tha more frequent CAZ users will be the first to upgrade

Data coming from ANPR data projected to 2021

	Non-compliant vehicles		Frequency (abs) - non-compliant vehicles							Total
	Vehicle	Fuel	1	2	3	4	5	6	7	
Car	Car	Diesel	-	-	-	-	-	-	-	-
Car	Car	Petrol	-	-	-	-	-	-	-	-
Car	Car	Other	-	-	-	-	-	-	-	-
Hackney	Taxi	Diesel	342	153	138	138	140	256	573	1,740
Hackney	Taxi	Petrol	-	-	-	-	-	-	-	-
PHV	PHV	Diesel	252	225	208	223	263	301	390	1,861
PHV	PHV	Petrol	-	-	-	-	-	-	-	-
PHV	PHV	Other	-	-	-	-	-	-	-	-
Van	LGV	Diesel	15,192	6,027	3,575	2,414	2,088	874	277	30,447
Van	LGV	Petrol	-	-	-	-	-	-	-	-
HGV	HGV	Diesel	3,382	1,042	526	363	289	88	41	5,732
HGV	HGV	Petrol	-	-	-	-	-	-	-	-
Bus	Bus	Diesel	271	115	64	88	112	146	156	953
Bus	Bus	Petrol	-	-	-	-	-	-	-	-

Non-compliant vehicles		Frequency (abs) - non-compliant vehicles							Total
Vehicle		1	2	3	4	5	6	7	
Car		-	-	-	-	-	-	-	-
Taxi		342	153	138	138	140	256	573	1,740
PHV		252	225	208	223	263	301	390	1,861
LGV		15,192	6,027	3,575	2,414	2,088	874	277	30,447
HGV		3,382	1,042	526	363	289	88	41	5,732
Bus		271	115	64	88	112	146	156	953

Non-compliant vehicles		Frequency (proportion) - non-compliant vehicles							Total
Vehicle		1	2	3	4	5	6	7	
Car		0%	0%	0%	0%	0%	0%	0%	0%
Taxi		20%	9%	8%	8%	8%	15%	33%	100%
PHV		14%	12%	11%	12%	14%	16%	21%	100%
LGV		50%	20%	12%	8%	7%	3%	1%	100%
HGV		59%	18%	9%	6%	5%	2%	1%	100%
Bus		28%	12%	7%	9%	12%	15%	16%	100%

DM Non-compliant vehicle flows

	Area	AM Peak Hour	IP Peak Hour	PM Peak Hour	AM Period	IP Period	PM Period	AADT
Car	GM	27,015	21,688	30,394	72,751	209,267	85,315	367,333
Taxi	GM	3,758	3,017	4,267	10,121	29,113	11,977	51,211
LGV	GM	9,203	9,264	7,237	28,761	89,384	22,226	140,370
HGV	GM	2,715	3,092	1,259	8,224	29,837	4,106	42,166
Bus	GM	1,915	1,712	1,515	5,633	16,516	4,694	26,843

DM Non-compliant vehicle flows (AADT)

Non-compliant vehicles		Frequency (abs) - non-compliant vehicles							Total
Vehicle	Total	1	2	3	4	5	6	7	
Car	367,333	-	-	-	-	-	-	-	-
Taxi	12,342	2,426	1,085	979	979	993	1,816	4,064	12,342
PHV	38,869	5,258	4,707	4,335	4,663	5,484	6,284	8,138	38,869
LGV	140,370	70,040	27,789	16,482	11,128	9,628	4,027	1,278	140,370
HGV	42,166	24,880	7,669	3,872	2,673	2,125	647	300	42,166
Bus	26,843	7,645	3,236	1,811	2,490	3,166	4,111	4,384	26,843

DM Non-compliant vehicle flows (weekly)

Non-compliant vehicles		Frequency (abs) - non-compliant vehicles							Total
Vehicle	Total	1	2	3	4	5	6	7	
Car	-	-	-	-	-	-	-	-	-
Taxi	55,759	2,426	2,170	2,937	3,915	4,965	10,895	28,450	55,759
PHV	168,420	5,258	9,414	13,006	18,650	27,422	37,706	56,965	168,420
LGV	300,819	70,040	55,577	49,445	44,510	48,138	24,165	8,945	300,819
HGV	79,136	24,880	15,338	11,616	10,690	10,626	3,885	2,101	79,136
Bus	100,694	7,645	6,471	5,434	9,961	15,831	24,665	30,685	100,694

Behaviour response - Upgrade

Assumption: The first to upgrade will be the ones that make the trip more often

					Number of times entering CAZ															
					7		6		5		4		3		2		1			
Vehicle	Fuel	% of all trips that upgrade	Weekly trips	No. trips to upgrade	Vehicles that enter CAZ	Remaining trips	Vehicles that enter CAZ	Remaining trips	Vehicles that enter CAZ	Remaining trips	Vehicles that enter CAZ	Remaining trips	Vehicles that enter CAZ	Remaining trips	Vehicles that enter CAZ	Remaining trips	Vehicles that enter CAZ	Remaining trips without vehicle upgrade	Total Vehicle Upgrade	Vehicle upgrade as a proportion of total daily non-compliant vehicles
Car	Petrol	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%
Car	Diesel	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%
Taxi	Petrol	100%	55,759	55,759	4,064	27,308	1,816	16,413	993	11,448	979	7,533	979	4,596	1,085	2,426	2,426	-	12,342	100%
Taxi	Diesel	100%	55,759	55,759	4,064	27,308	1,816	16,413	993	11,448	979	7,533	979	4,596	1,085	2,426	2,426	-	12,342	100%
PHV	Petrol	70%	168,420	117,557	8,138	60,593	6,284	22,887	4,577	-	-	-	-	-	-	-	-	-	19,000	49%
PHV	Diesel	70%	168,420	117,557	8,138	60,593	6,284	22,887	4,577	-	-	-	-	-	-	-	-	-	19,000	49%
LGV	Petrol	75%	300,819	226,817	1,278	217,873	4,027	193,708	9,628	145,571	11,128	101,060	16,482	51,616	25,808	-	-	-	68,350	49%
LGV	Diesel	75%	300,819	226,817	1,278	217,873	4,027	193,708	9,628	145,571	11,128	101,060	16,482	51,616	25,808	-	-	-	68,350	49%
HGV	Diesel	87%	79,136	68,453	300	66,351	647	62,467	2,125	51,841	2,673	41,151	3,872	29,535	7,669	14,197	14,197	-	31,483	75%
Bus	Diesel	100%	100,694	100,694	4,384	70,008	4,111	45,343	3,166	29,512	2,490	19,550	1,811	14,117	3,236	7,645	7,645	-	26,843	100%
Coach	Diesel	100%	100,694	100,694	4,384	70,008	4,111	45,343	3,166	29,512	2,490	19,550	1,811	14,117	3,236	7,645	7,645	-	26,843	100%

Summary of Response

Vehicle Type	Vehicles upgrading
Car	0%
Taxi	100%
PHV	49%
LGV	49%
HGV	75%
Bus	100%
Coach	100%

Approved

Assumptions
1)Age planned upgrade are assumed to be done all at the beginning of the year
2)Fuel type "Other" is assumed not to upgrade for the scheme
3)Car,Taxi and PHV upgrading the vehicles for the age and that will choice a second hand vehicle, will buy a euro class 2 level higher than the current class
4)EV are assumed to upgrade due to age planned upgrade at the same rate of petrol vehicles
5)The DM scenario includes only the age planned upgrade
6)Total number of vehicles is assumed to be constant along the appraisal period 2021-2030
7) compliant vehicles will upgrade due to planned age upgrading
-up to Euro 5 and below until 2025
-up to Euro 6 and below from 2026 to 2027
-up to Euro 6c and below from 2028 to 2030

DO SOMETHING CALCULATION >>

Do Minimum - Fleet composition. Percentage

2021	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Hackney Petrol	Hackney Diesel	Hackney Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	Van Petrol	Van Diesel	Van Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%	0%	0%	0%					0%				0%			0%			0%	
1	0%	0%	0%	0%				0%	0%				0%			0%			0%	
2	0%	0%	0%	0%		1%		0%	0%		0%		0%			0%			0%	
3	2%	0%	0%	0%		14%	1%	0%	1%		0%		0%			2%			3%	
4	12%	4%	0%	0%	0%	55%	0%	2%	8%		1%		26%			4%			3%	
5	18%	12%	0%	1%	0%	26%	0%	3%	25%	0%	2%		46%			23%			34%	
6	9%	11%	4%	0%		2%		2%	21%		1%		28%			71%			60%	
6c	12%	15%	0%	0%				2%	29%		1%									
6d	0%	1%	0%	0%				0%	2%		0%									
Sub-total	**52%**	**43%**	**4%**	**1%**	**0%**	**99%**	**1%**	**9%**	**85%**	**0%**	**6%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**100%**	**Taxi Total**		**100%**	**PHV Total**			**100%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**
Sum of non-compliant	2%	17%		1%	0%	97%	1%	0%	33%		4%		72%			29%			40%	

Method
Do Minimum - Fleet composition. Vehicles

2021	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
Min. Compliance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	6	6	0
0	-	-	4	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	4	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	10	57	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	19,008	5,155	26	731	-	317	18	33	102	-	36	-	-	-	-	643	-	-	87	-
4	139,393	46,394	14	2,503	1	1,205	1	246	920	-	156	-	31,009	-	-	1,286	-	-	87	-
5	215,426	149,491	577	6,527	5	577	-	380	2,964	2	241	-	53,749	-	-	7,395	-	-	981	-
6	107,713	128,871	44,401	3,060	-	49	-	190	2,556	-	121	-	33,076	-	-	22,828	-	-	1,731	-
6c	145,729	175,265	-	-	-	-	-	257	3,476	-	163	-	-	-	-	-	-	-	-	-
6d	-	10,310	-	-	-	-	-	-	204	-	-	-	-	-	-	-	-	-	-	-
Compliant	627,270	515,485	45,036	12,950	6	49	20	1,105	6,235	-	284	-	33,076	-	-	22,828	-	-	1,731	-
Non-Compliant	-	-	-	-	-	2,127	-	-	3,987	2	434	-	84,758	-		9,324			1,154	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Do minimum - Compliant vehicles. Percentage

2021	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	3%		0%	6%	0%		94%	3%		0%	5%									
4	22%		0%	19%	20%		6%	22%		0%	22%									
5	34%		1%	50%	80%		0%	34%		100%	34%									
6	17%	41%	99%	24%	0%	100%	0%	17%	41%	0%	17%		100%			100%			100%	
6c	23%	56%	0%	0%	0%	0%	0%	23%	56%	0%	23%		0%			0%			0%	
6d	0%	3%	0%	0%	0%	0%	0%	0%	3%	0%	0%		0%			0%			0%	
Sub-total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**300%**	**PHV Total**			**400%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to the scheme

2020	Car				Taxi			PHV				LGV (Start sunset period)			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-				-		-	-							-			-	
1	-	-				-		-	-							-			-	
2	-	-				28		-	-							-			-	
3	-	-				317		16	50							480.12			87	
4	-	-				1,205			450							960			87	
5	-	-				577			1,449							5,521			981	
6	-	-																		
6c	-	-																		
6d	-	-																		
Sub-total	**-**	**-**	**-**	**-**	**-**	**2,127**	**-**	**16**	**1,949**	**-**	**-**	**-**	**-**	**-**	**-**	**6,962**	**-**	**-**	**1,154**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**2,127**	**PHV Total**			**1,965**	**LGV Total**		**-**	**HGV Total**		**6,962**	**Bus Total**		**1153.9955**

Vehicles upgrading due to age planned upgrade

2021	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Petrol	PHV Petrol	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	1,308	460	2					2	9	-		-	-			27				
4	9,589	4,136	1					17	82	-		-	3,455			54				
5	14,819.19	13,326	40					26	264	0		-	5,989			313				
6																				
6c																				
6d																				
Sub-total	**25,716**	**17,922**	**44**	**-**	**-**	**-**	**-**	**45**	**355**	**0**	**-**	**-**	**9,444**	**-**	**-**	**395**	**-**	**-**	**-**	**-**
Total	**Car Total**			**43,681**	**Taxi Total**		**-**	**PHV Total**			**401**	**LGV Total**		**9,444**	**HGV Total**		**395**	**Bus Total**		**0**

Vehicles fleet - Do Something

2021	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	4	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	4	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	10	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	17,701	4,695	25	731	-	0	18	15	43	-	36	-	-	-	-	136			-	
4	129,804	42,258	14	2,503	1	0	1	229	388	-	156	-	27,554	-	-	271			-	
5	201,588	136,509	539	6,527	5	0	-	367	1,251	2	241	-	47,760	-	-	1,561			-	
6	114,905	131,973	44,401	3,060	-	1,644	-	202	3,264	-	121	-	35,668	-	-	28,345			2,596	
6c	156,844	185,260	30	-	-	-	-	276	4,439	0	163	-	4,492	-	-	-			-	
6d	6,429	14,790	11	-	-	532	-	15	837	0	-	-	2,361	-	-	1,839			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	8,540	0	284	-	42,520	-	-	30,184	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	1,683	2	434	-	75,314	-		1,968			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Vehicle proportion, calculation to fit into carbon emission external spreadsheet

2021	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100%	2,182	100%

Compliant vehicles percentage

2021	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	7%		0%	0%	7%		0%	7%		0%	1%									
5	12%		0%	1%	29%		0%	12%		31%	2%									
6	7%	40%	33%	0%	0%	76%	0%	7%	38%	0%	1%		84%			94%			90%	
6c	11%	56%	0%	0%	0%	0%	0%	11%	52%	2%	1%		11%			0%			0%	
6d	1%	4%	0%	0%	0%	24%	0%	1%	10%	1%	0%		6%			6%			10%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**34%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2022	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Petrol	PHV Petrol	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	1,053	505	1					1	5	-		-	-			7				
4	7,721	4,544	1					14	42	-		-	3,302			14				
5	11,991	14,678	32					22	135	0		-	5,724			79				
6																				
6c																				
6d																				
Sub-total	**20,765**	**19,727**	**35**	**-**	**-**	**-**	**-**	**36**	**181**	**0**	**-**	**-**	**9,026**	**-**	**-**	**99**	**-**	**-**	**-**	**-**
Total	**Car Total**			**40,527**	**Taxi Total**		**-**	**PHV Total**			**217**	**LGV Total**		**9,026**	**HGV Total**		**99**	**Bus Total**		**0**

Vehicles fleet - Do Something

2022	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	4	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	4	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	9	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	16,648	4,190	23	731	-	0	18	14	39	-	36	-	-	-	-	129			-	
4	122,083	37,714	13	2,503	1	0	1	215	347	-	156	-	24,252	-	-	258			-	
5	190,386	122,209	508	6,527	5	0	-	346	1,120	2	241	-	42,036	-	-	1,482			-	
6	120,695	135,381	44,402	3,060	-	1,644	-	213	3,295	-	121	-	38,144	-	-	28,415			2,596	
6c	165,837	196,268	54	-	-	-	-	293	4,540	0	163	-	8,785	-	-	-			-	
6d	11,620	19,722	20	-	-	532	-	25	882	0	-	-	4,618	-	-	1,868			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	8,717	0	284	-	51,547	-	-	30,283	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	1,505	2	434	-	66,288	-		1,869			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2022	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2023	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	7%		0%	0%	7%		0%	7%		0%	1%									
5	11%		0%	1%	29%		0%	11%		31%	2%									
6	8%	39%	33%	0%	0%	76%	0%	8%	38%	0%	1%		74%			94%			90%	
6c	12%	56%	0%	0%	0%	0%	0%	12%	52%	3%	1%		17%			0%			0%	
6d	1%	6%	0%	0%	0%	24%	0%	1%	10%	1%	0%		9%			6%			10%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**34%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2023	Car				Taxi			PHV				LGV			HGV			Bus		
	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Petrol	PHV Petrol	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus Petrol	Bus Diesel	Bus Other
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-			-			-				
1	-	-	0					-	-	-			-			-				
2	-	-	1					-	-	-			-			-				
3	990.24	451	1					1	4	-			-			6				
4	7,261.77	4,055	1					13	37	-			2,907			13				
5	11,324.57	13,141	30					21	120	0			5,038			75				
6																				
6c																				
6d																				
Sub-total	**19,577**	**17,647**	**33**	**-**	**-**	**-**	**-**	**34**	**162**	**0**	**-**	**-**	**7,945**	**-**	**-**	**94**	**-**	**-**	**-**	**-**
Total	**Car Total**			**37,257**	**Taxi Total**		**-**	**PHV Total**			**196**	**LGV Total**		**7,945**	**HGV Total**		**94**	**Bus Total**		**0**

Vehicles upgrading due to the scheme

2023	Car				Taxi			PHV				LGV (End sunset period)			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0													-							
1													-							
2													-							
3													-							
4													11,809							
5													20,468							
6																				
6c																				
6d																				
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**32,277**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**-**	**PHV Total**			**-**	**LGV Total**		**32,277**	**HGV Total**		**-**	**Bus Total**		**0**

Vehicles fleet - Do Something

2023	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	9	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	15,657	3,740	22	731	-	0	18	13	34	-	36	-	-	-	-	122			-	
4	114,822	33,659	13	2,503	1	0	1	202	309	-	156	-	9,536	-	-	245			-	
5	179,804	109,406	479	6,527	5	0	-	326	1,003	2	241	-	16,530	-	-	1,407			-	
6	126,142	138,422	44,402	3,060	-	1,644	-	222	3,323	-	121	-	60,468	-	-	28,481			2,596	
6c	174,330	206,124	76	-	-	-	-	308	4,630	0	163	-	13,926	-	-	-			-	
6d	16,514	24,134	28	-	-	532	-	33	923	0	-	-	17,375	-	-	1,896			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	8,876	0	284	-	91,769	-	-	30,377	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	1,346	2	434	-	26,066	-		1,775			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2023	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2024	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	6%		0%	0%	7%		0%	6%		0%	1%									
5	10%		0%	1%	29%		0%	11%		31%	2%									
6	8%	38%	33%	0%	0%	76%	0%	8%	37%	0%	1%		66%			94%			90%	
6c	12%	56%	0%	0%	0%	0%	0%	12%	52%	3%	1%		15%			0%			0%	
6d	1%	7%	0%	0%	0%	24%	0%	1%	10%	1%	0%		19%			6%			10%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**34%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2024	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	931.34	402	1					1	4	-		-	-			6				
4	6,829.83	3,619	1					12	33	-			1,143			12				
5	10,695.14	11,764	28					19	108	0			1,981			71				
6																				
6c																				
6d																				
Sub-total	**18,456**	**15,785**	**31**	**-**	**-**	**-**	**-**	**32**	**145**	**0**	**-**	**-**	**3,124**	**-**	**-**	**89**	**-**	**-**	**-**	**-**
Total	**Car Total**			**34,273**	**Taxi Total**		**-**	**PHV Total**			**177**	**LGV Total**		**3,124**	**HGV Total**		**89**	**Bus Total**		**0**

Vehicles fleet - Do Something

2024	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	8	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	14,726	3,338	21	731	-	0	18	12	31	-	36	-	-	-	-	116			-	
4	107,992	30,040	13	2,503	1	0	1	190	276	-	156	-	8,393	-	-	232			-	
5	169,808	97,944	451	6,527	5	0	-	307	898	2	241	-	14,549	-	-	1,337			-	
6	131,264	141,137	44,403	3,060	-	1,644	-	231	3,348	-	121	-	61,325	-	-	28,544			2,596	
6c	182,352	214,947	98	-	-	-	-	323	4,711	0	163	-	15,411	-	-	-			-	
6d	21,128	28,080	36	-	-	532	-	41	959	0	-	-	18,156	-	-	1,923			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	9,018	0	284	-	94,893	-	-	30,467	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	1,204	2	434	-	22,942	-		1,685			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2024	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	6%		0%	0%	7%		0%	6%		0%	1%									
5	10%		0%	1%	29%		0%	10%		31%	2%									
6	8%	37%	33%	0%	0%	76%	0%	8%	37%	0%	1%		65%			94%			90%	
6c	13%	56%	0%	0%	0%	0%	0%	13%	52%	3%	1%		16%			0%			0%	
6d	2%	7%	0%	0%	0%	24%	0%	2%	11%	1%	0%		19%			6%			10%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**34%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	875.94	359	1					1	3	-		-	-			6				
4	6,423.57	3,230	1					11	30	-		-	1,006			12				
5	10,100.52	10,532	27					18	97	0		-	1,744			67				
6																				
6c																				
6d																				
Sub-total	**17,400**	**14,121**	**30**	**-**	**-**	**-**	**-**	**30**	**130**	**0**	**-**	**-**	**2,750**	**-**	**-**	**85**	**-**	**-**	**-**	**-**
Total	**Car Total**			**31,550**	**Taxi Total**		**-**	**PHV Total**			**160**	**LGV Total**		**2,750**	**HGV Total**		**85**	**Bus Total**		**0**

Vehicles fleet - Do Something

2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	8	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	13,850	2,979	20	731	-	0	18	12	27	-	36	-	-	-	-	110			-	
4	101,568	26,809	12	2,503	1	0	1	179	246	-	156	-	7,388	-	-	221			-	
5	160,364	87,681	425	6,527	5	0	-	290	804	2	241	-	12,805	-	-	1,269			-	
6	136,082	143,559	44,404	3,060	-	1,644	-	240	3,370	-	121	-	62,079	-	-	28,604			2,596	
6c	189,927	222,846	118	-	-	-	-	336	4,783	0	163	-	16,719	-	-	-			-	
6d	25,478	31,610	43	-	-	532	-	49	991	0	-	-	18,844	-	-	1,948			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	9,145	0	284	-	97,642	-	-	30,552	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	1,077	2	434	-	20,193	-		1,600			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2025	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2026	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	5%		0%	0%	7%		0%	5%		0%	1%									
5	9%		0%	1%	29%		0%	9%		31%	2%									
6	8%	36%	33%	0%	0%	76%	0%	8%	37%	0%	1%		64%			94%			90%	
6c	13%	56%	0%	0%	0%	0%	0%	13%	52%	3%	1%		17%			0%			0%	
6d	2%	8%	0%	0%	0%	24%	0%	2%	11%	1%	0%		19%			6%			10%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**34%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2026	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	931	207	1					1	2	-		-	-			6				
4	6,824	1,864	1					12	17	-		-	426			11				
5	10,775	6,095	29					19	56	0		-	739			64				
6	9,143.37	9,979.46	2,983		-	114.31		16	234	-		-	3,581			1,441			215	
6c																				
6d																				
Sub-total	**27,673**	**18,145**	**3,015**	**-**	**-**	**114**	**-**	**48**	**309**	**0**	**-**	**-**	**4,745**	**-**	**-**	**1,522**	**-**	**-**	**215**	**-**
Total	**Car Total**			**48,834**	**Taxi Total**		**114**	**PHV Total**			**358**	**LGV Total**		**4,745**	**HGV Total**		**1,522**	**Bus Total**		**215.12395**

Vehicles fleet - Do Something

2026	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	8	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	12,920	2,772	19	731	-	0	18	11	25	-	36	-	-	-	-	105			-	
4	94,744	24,946	12	2,503	1	0	1	167	229	-	156	-	6,961	-	-	210			-	
5	150,287	81,742	398	6,527	5	0	-	271	749	2	241	-	12,066	-	-	1,205			-	
6	132,057	134,978	41,421	3,060	-	1,530	-	233	3,149	-	121	-	58,818	-	-	28,660			2,596	
6c	198,008	227,417	139	-	-	-	-	351	4,825	0	163	-	17,273	-	-	-			-	
6d	39,254	43,631	3,035	-	-	646	-	73	1,244	0	-	-	22,716	-	-	1,972			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	9,218	0	284	-	98,807	-	-	30,632	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	1,004	2	434	-	19,028	-		1,520			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2026	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	5%		0%	0%	7%		0%	5%		0%	1%									
5	8%		0%	1%	29%		0%	9%		29%	2%									
6	8%	33%	31%	0%	0%	70%	0%	8%	34%	0%	1%		60%			94%			90%	
6c	13%	56%	0%	0%	0%	0%	0%	13%	52%	5%	1%		17%			0%			0%	
6d	3%	11%	3%	0%	0%	30%	0%	3%	13%	2%	0%		23%			6%			10%	
Sub-total	**39%**	**100%**	**35%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**35%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	1,389	308	2					1	3	-		-	-			5				
4	10,185	2,775	1					18	25	-		-	642			11				
5	16,157	9,092	43					29	83	0		-	1,114			61				
6	14,197	15,013	4,453		-	170		25	350	-		-	5,428			1,444			215	
6c																				
6d																				
Sub-total	**41,927**	**27,187**	**4,500**	**-**	**-**	**170**	**-**	**73**	**462**	**0**	**-**	**-**	**7,184**	**-**	**-**	**1,520**	**-**	**-**	**215**	**-**
Total	**Car Total**			**73,615**	**Taxi Total**		**170**	**PHV Total**			**535**	**LGV Total**		**7,184**	**HGV Total**		**1,520**	**Bus Total**		**215.12395**

Vehicles fleet - Do Something

2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	7	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	11,531	2,463	17	731	-	0	18	10	23	-	36	-	-	-	-	100			-	
4	84,558	22,171	11	2,503	1	0	1	149	204	-	156	-	6,319	-	-	199			-	
5	135,172	72,881	356	6,527	5	0	-	243	668	2	241	-	10,953	-	-	1,145			-	
6	125,499	122,046	36,969	3,060	-	1,360	-	221	2,818	-	121	-	53,872	-	-	28,714			2,596	
6c	210,126	234,236	171	-	-	-	-	373	4,888	0	163	-	18,108	-	-	-			-	
6d	60,384	61,687	7,500	-	-	816	-	110	1,623	0	-	-	28,583	-	-	1,995			288	
Compliant	627,270	515,485	45,036	12,950	6	2,176	20	1,105	9,328	0	284	-	100,563	-	-	30,709	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	894	2	434	-	17,272	-		1,443			-	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2027	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	5%		0%	0%	7%		0%	5%		0%	1%									
5	8%		0%	1%	29%		0%	8%		26%	2%									
6	8%	29%	27%	0%	0%	62%	0%	8%	30%	0%	1%		54%			94%			90%	
6c	14%	56%	0%	0%	0%	0%	0%	14%	52%	8%	1%		18%			0%			0%	
6d	5%	15%	8%	0%	0%	38%	0%	5%	17%	3%	0%		28%			6%			10%	
Sub-total	**39%**	**100%**	**36%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**36%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**181%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0					-	-	-		-	-			-				
1	-	-	0					-	-	-		-	-			-				
2	-	-	1					-	-	-		-	-			-				
3	1,116	247	2					1	2	-		-	-			5				
4	8,181	2,219	1					14	20	-			525			10				
5	13,078	7,295	34					23	67	0			910			58				
6	12,143	12,217	3,577		-	136		21	282	-			4,474			1,447			215	
6c	20,330	23,447	17		-	-		36	489	0			1,504			-			-	
6d																				
Sub-total	**54,848**	**45,426**	**3,632**	**-**	**-**	**136**	**-**	**96**	**861**	**0**	**-**	**-**	**7,413**	**-**	**-**	**1,519**	**-**	**-**	**215**	**-**
Total	**Car Total**			**103,906**	**Taxi Total**		**136**	**PHV Total**			**957**	**LGV Total**		**7,413**	**HGV Total**		**1,519**	**Bus Total**		**215.12395**

Vehicles fleet - Do Something

2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	7	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	10,415	2,217	15	731	-	0	18	9	20	-	36	-	-	-	-	95			-	
4	76,377	19,952	11	2,503	1	0	1	135	183	-	156	-	5,794	-	-	189			-	
5	122,931	65,771	323	6,527	5	0	-	220	603	1	241	-	10,043	-	-	1,087			-	
6	119,493	111,493	33,393	3,060	-	1,224	-	211	2,551	-	121	-	49,791	-	-	28,765			2,596	
6c	199,604	216,260	181	-	-	-	-	354	4,448	0	163	-	17,287	-	-	-			-	
6d	98,450	99,792	11,090	-	-	952	-	177	2,416	0	-	-	34,920	-	-	2,017			288	
Compliant	627,270	515,485	45,024	12,950	6	2,176	20	1,105	9,416	1	284	-	101,997	-	-	30,782	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	807	1	434	-	15,837	-	-	1,370			-	
Sub-total	**627,270**	**515,485**	**45,024**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,728**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2028	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2029	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	4%		0%	0%	7%		0%	4%		0%	1%									
5	7%		0%	1%	29%		0%	7%		24%	2%									
6	7%	26%	25%	0%	0%	56%	0%	7%	27%	0%	1%		49%			93%			90%	
6c	13%	51%	0%	0%	0%	0%	0%	13%	47%	9%	1%		17%			0%			0%	
6d	7%	23%	11%	0%	0%	44%	0%	7%	26%	4%	0%		34%			7%			10%	
Sub-total	**39%**	**100%**	**36%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**37%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**182%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2029	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0		-	-		-	-	-		-	-			-			-	
1	-	-	0		-	-		-	-	-		-	-			-			-	
2	-	-	0		-	0		-	-	-		-	-			-			-	
3	537.44	118	0.80		-	0.00		0	1	-		-	-			5			-	
4	3,941.22	1,065	0.55		0.06	0.00		7	10	-		-	257			10			-	
5	6,343.48	3,511	16.68		0.25	0.00		11	32	0		-	445			55			-	
6	6,166.07	5,952	1,723.13		-	65.33		11	136	-		-	2,206			1,449			215	
6c	10,299.98	11,546	9.33		-	-		18	237	0		-	766			-			-	
6d																				
Sub-total	**27,288**	**22,193**	**1,751**	**-**	**0**	**65**	**-**	**48**	**417**	**0**	**-**	**-**	**3,673**	**-**	**-**	**1,518**	**-**	**-**	**215**	**-**
Total	**Car Total**			**51,232**	**Taxi Total**		**66**	**PHV Total**			**465**	**LGV Total**		**3,673**	**HGV Total**		**1,518**	**Bus Total**		**215.12395**

Vehicles fleet - Do Something

2029	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	6	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	9,878	2,099	15	731	-	0	18	8	19	-	36	-	-	-	-	90			-	
4	72,436	18,887	10	2,503	1	0	1	128	174	-	156	-	5,537	-	-	179			-	
5	116,990	62,348	307	6,527	5	0	-	209	571	1	241	-	9,598	-	-	1,032			-	
6	116,282	106,340	31,670	3,060	0	1,158	-	205	2,422	-	121	-	47,778	-	-	28,813			2,596	
6c	194,062	207,348	184	-	0	0	-	345	4,235	0	163	-	16,854	-	-	-			-	
6d	117,622	118,463	12,820	-	0	1,018	-	211	2,801	0	-	-	38,067	-	-	2,037			288	
Compliant	627,270	515,485	45,017	12,950	6	2,176	20	1,105	9,458	1	284	-	102,699	-	-	30,851	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	764	1	434	-	15,136	-		1,301			-	
Sub-total	**627,270**	**515,485**	**45,017**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,721**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

2029	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,222	1.9%
Total	525,707	100%	525,707	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Compliant vehicles percentage

2030	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	0%		0%	2%									
4	4%		0%	0%	6%		0%	4%		0%	1%									
5	7%		0%	1%	27%		0%	7%		22%	2%									
6	7%	25%	24%	0%	0%	53%	0%	7%	26%	0%	1%		47%			93%			90%	
6c	12%	48%	0%	0%	2%	0%	0%	12%	45%	10%	1%		16%			0%			0%	
6d	9%	27%	12%	0%	1%	47%	0%	9%	30%	4%	0%		37%			7%			10%	
Sub-total	**39%**	**100%**	**36%**	**3%**	**36%**	**100%**	**31%**	**39%**	**100%**	**37%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**182%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2030	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0		-	-		-	-	-		-	-			-			-	
1	-	-	0		-	-		-	-	-		-	-			-			-	
2	-	-	0		-	0		-	-	-		-	-			-			-	
3	127	28	0		-	0		0	0	-		-	-			5			-	
4	934	252	0		0	0		2	2	-			61			9			-	
5	1,509	832	4		0	0		3	8	0			106			52			-	
6	1,500	1,419	409		0	15		3	32	-			529			1,452			215	
6c	2,503	2,767	2		0	0		4	57	0			187			-			-	
6d																				
Sub-total	**6,575**	**5,299**	**415**	**-**	**0**	**15**	**-**	**12**	**99**	**0**	**-**	**-**	**883**	**-**	**-**	**1,517**	**-**	**-**	**215**	**-**
Total	**Car Total**			**12,289**	**Taxi Total**		**16**	**PHV Total**			**111**	**LGV Total**		**883**	**HGV Total**		**1,517**	**Bus Total**		**215.12395**

Vehicles fleet - Do Something

2030	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-	-	-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-	-	-			-	
2	-	-	6	57	-	0	-	-	-	-	-	-	-	-	-	-			-	
3	9,750	2,071	15	731	-	0	18	8	19	-	36	-	-	-	-	85			-	
4	71,501	18,635	10	2,503	1	0	1	126	171	-	156	-	5,476	-	-	170			-	
5	115,577	61,537	303	6,527	5	0	-	206	564	1	241	-	9,492	-	-	980			-	
6	115,483	105,110	31,262	3,060	0	1,143	-	203	2,391	-	121	-	47,295	-	-	28,859			2,596	
6c	192,690	205,205	185	-	0	0	-	342	4,184	0	163	-	16,748	-	-	-			-	
6d	122,268	122,928	13,231	-	0	1,033	-	219	2,850	0	-	-	38,824	-	-	2,057			288	
Compliant	627,270	515,485	45,015	12,950	6	2,176	20	1,105	9,425	1	284	-	102,867	-	-	30,916	-	-	2,885	-
Non-Compliant	-	-	-	-	-	-	-	-	754	1	434	-	14,968	-		1,236			-	
Sub-total	**627,270**	**515,485**	**45,015**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,180**	**2**	**717**	**-**	**117,835**	**-**	**-**	**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,720**	**Taxi Total**		**2,202**	**PHV Total**			**12,004**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

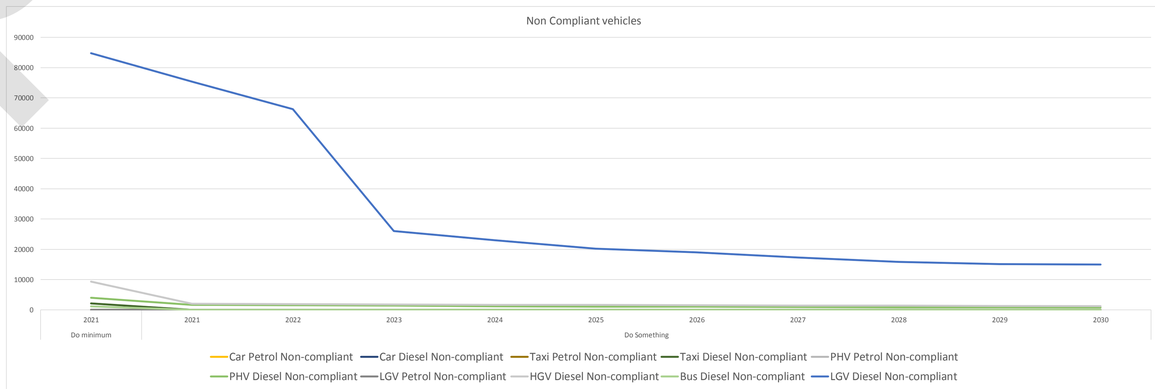
2030	DM		DS	
	Nr Vehicles	% Vehicles	Nr Vehicles	% Vehicles
Car Petrol	627,270	99.8%	627,270	99.8%
PHVPetrol	1,105	0.2%	1,105	0.2%
Total	628,375	100%	628,375	100%
Car Diesel	515,485	98.1%	515,485	98.1%
PHV Diesel	10,222	1.9%	10,180	1.9%
Total	525,707	100%	525,664	100%
Taxi Diesel	2,176	99.7%	2,176	99.7%
Taxi petrol	6	0.3%	6	0.3%
Total	2,182	100.0%	2,182	100.0%

Annual vehicle fleet composition by fuel type

			Do minimum	Do Something									
Vehicle	Fuel	Compliance	2021	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	Petrol	Compliant	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270
Car	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270
Car	Diesel	Compliant	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485
Car	Diesel	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Diesel	Total	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485
Taxi	Petrol	Compliant	6	6	6	6	6	6	6	6	6	6	6
Taxi	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	6	6	6	6	6	6	6	6	6	6	6
Taxi	Diesel	Compliant	49	2176	2176	2176	2176	2176	2176	2176	2176	2176	2176
Taxi	Diesel	Non-compliant	2127	0	0	0	0	0	0	0	0	0	0
	Diesel	Total	2176	2176	2176	2176	2176	2176	2176	2176	2176	2176	2176
PHV	Petrol	Compliant	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105
PHV	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105
PHV	Diesel	Compliant	6235	8540	8717	8876	9018	9145	9218	9328	9416	9458	9425
PHV	Diesel	Non-compliant	3987	1683	1505	1346	1204	1077	1004	894	807	764	754
	Diesel	Total	10222	10222	10222	10222	10222	10222	10222	10222	10222	10222	10180
LGV	Petrol	Compliant	0	0	0	0	0	0	0	0	0	0	0
LGV	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	0	0	0	0	0	0	0	0	0	0	0
LGV	Diesel	Compliant	33076	42520	51547	91769	94893	97642	98807	100563	101997	102699	102867
LGV	Diesel	Non-compliant	84758	75314	66288	26066	22942	20193	19028	17272	15837	15136	14968
	Diesel	Total	117835	117835	117835	117835	117835	117835	117835	117835	117835	117835	117835
HGV	Diesel	Compliant	22828	30184	30283	30377	30467	30552	30632	30709	30782	30851	30916
HGV	Diesel	Non-compliant	9324	1968	1869	1775	1685	1600	1520	1443	1370	1301	1236
	Diesel	Total	32152	32152	32152	32152	32152	32152	32152	32152	32152	32152	32152
Bus	Diesel	Compliant	1731	2885	2885	2885	2885	2885	2885	2885	2885	2885	2885
Bus	Diesel	Non-compliant	1154	0	0	0	0	0	0	0	0	0	0
Bus	Diesel	Total	2885	2885	2885	2885	2885	2885	2885	2885	2885	2885	2885

Annual vehicle fleet composition

			Do minimum	Do Something									
Vehicle	Fuel	Compliance	2021	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car		Compliant	1142755	1142755	1142755	1142755	1142755	1142755	1142755	1142755	1142755	1142755	1142755
Car		Non-compliant	0	0	0	0	0	0	0	0	0	0	0
Car		**Total**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**	**1142755**
Taxi		Compliant	55	2182	2182	2182	2182	2182	2182	2182	2182	2182	2182
Taxi		Non-compliant	2127	0	0	0	0	0	0	0	0	0	0
Taxi		**Total**	**2182**	**2182**	**2182**	**2182**	**2182**	**2182**	**2182**	**2182**	**2182**	**2182**	**2182**
PHV		Compliant	7341	9645	9822	9981	10123	10250	10323	10433	10521	10563	10531
PHV		Non-compliant	3987	1683	1505	1346	1204	1077	1004	894	807	764	754
PHV		**Total**	**11327**	**11327**	**11327**	**11327**	**11327**	**11327**	**11327**	**11327**	**11327**	**11327**	**11285**
LGV		Compliant	33076	42520	51547	91769	94893	97642	98807	100563	101997	102699	102867
LGV		Non-compliant	84758	75314	66288	26066	22942	20193	19028	17272	15837	15136	14968
LGV		**Total**	**117835**	**117835**	**117835**	**117835**	**117835**	**117835**	**117835**	**117835**	**117835**	**117835**	**117835**
HGV		Compliant	22828	30184	30283	30377	30467	30552	30632	30709	30782	30851	30916
HGV		Non-compliant	9324	1968	1869	1775	1685	1600	1520	1443	1370	1301	1236
HGV		**Total**	**32152**	**32152**	**32152**	**32152**	**32152**	**32152**	**32152**	**32152**	**32152**	**32152**	**32152**
Bus		Compliant	1731	2885	2885	2885	2885	2885	2885	2885	2885	2885	2885
Bus		Non-compliant	1154	0	0	0	0	0	0	0	0	0	0
Bus		**Total**	**2885**	**2885**	**2885**	**2885**	**2885**	**2885**	**2885**	**2885**	**2885**	**2885**	**2885**



Fleet composition - percentual reduction

			Do minimum	Do Something									
Vehicle	Fuel	Compliance	2021	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car		Compliant	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Car		Non-compliant	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Car		**Total**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Taxi		Compliant	3%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Taxi		Non-compliant	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Taxi		**Total**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
PHV		Compliant	65%	85%	87%	88%	89%	90%	91%	92%	93%	93%	93%
PHV		Non-compliant	35%	15%	13%	12%	11%	10%	9%	8%	7%	7%	7%
PHV		**Total**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
LGV		Compliant	28%	36%	44%	78%	81%	83%	84%	85%	87%	87%	87%
LGV		Non-compliant	72%	64%	56%	22%	19%	17%	16%	15%	13%	13%	13%
LGV		**Total**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
HGV		Compliant	71%	94%	94%	94%	95%	95%	95%	96%	96%	96%	96%
HGV		Non-compliant	29%	6%	6%	6%	5%	5%	5%	4%	4%	4%	4%
HGV		**Total**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Bus		Compliant	60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Bus		Non-compliant	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus		**Non-compliant**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Do Something Not compliant percentage

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PHV	15%	13%	12%	11%	10%	9%	8%	7%	7%	7%
LGV	64%	56%	22%	19%	17%	16%	15%	13%	13%	13%
HGV	6%	6%	6%	5%	5%	5%	4%	4%	4%	4%
Bus	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Taxi	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Do Something Not compliant percentage (2021=100%)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PHV	100%	89%	80%	72%	64%	60%	53%	48%	45%	45%
LGV	100%	88%	35%	30%	27%	25%	23%	21%	20%	20%
HGV	100%	95%	90%	86%	81%	77%	73%	70%	66%	63%
Bus	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Taxi	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Summary of no. of vehicles to upgrade

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	317	-	16	50	-	-	-	-	-	-	480	-	-	87	-
4	-	-	-	-	-	1,205	-	-	450	-	-	-	11,809	-	-	960	-	-	87	-
5	-	-	-	-	-	577	-	-	1,449	-	-	-	20,468	-	-	5,521	-	-	981	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	-	**2,127**		**16**	**1,949**	**-**		-	**32,277**		-	**6,962**		**-**	**1,154**	
Total	**Car Total**			-	**Taxi Total**		**2,127**	**PHV Total**			**1,965**	**LGV Total**		**32,277**	**HGV Total**		**6,962**	**Bus Total**		**1153.9955**

DO MINIMUM CALCULATION >>

Do Minimum fleet composition (taked into account only the age planned upgrade)

Method

Vehicle fleet - Do Minimum

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	4	24	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
1	-	-	4	49	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
2	-	-	10	57	-	28	-	-	-	-	-	-	-	-		-	-	-	-	-
3	19,008	5,155	26	731	-	317	18	33	102	-	36	-	-	-		643	-	-	87	-
4	139,393	46,394	14	2,503	1	1,205	1	246	920	-	156	-	31,009	-		1,286	-	-	87	-
5	215,426	149,491	577	6,527	5	577	-	380	2,964	2	241	-	53,749	-		7,395	-	-	981	-
6	107,713	128,871	44,401	3,060	-	49	-	190	2,556	-	121	-	33,076	-		22,828	-	-	1,731	-
6c	145,729	175,265	-	-	-	-	-	257	3,476	-	163	-	-	-		-	-	-	-	-
6d	-	10,310	-	-	-	-	-	-	204	-	-	-	-	-		-	-	-	-	-
Compliant	627,270	515,485	45,036	12,950	6	49	20	1,105	6,235	2	717	-	33,076	-		22,828			1,731	
Non-Compliant	-	-	-	-	-	2,127	-	-	3,987	-	-	-	84,758	-		9,324			1,154	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**	**-**	**117,835**	**-**		**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	7%		0%	0%	7%		0%	7%		0%	1%									
5	13%		0%	1%	29%		0%	13%		33%	2%									
6	7%	41%	33%	0%	0%	100%	0%	7%	41%	0%	1%		100%			100%			100%	
6c	10%	56%	0%	0%	0%	0%	0%	10%	56%	0%	1%		0%			0%			0%	
6d	0%	3%	0%	0%	0%	0%	0%	0%	3%	0%	0%		0%			0%			0%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**33%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**178%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			3		-	-	-			-			-			-	
3	1,307.58	460	2			28		2	9	-			-			27			7	
4	9,588.89	4,136	1			107		16.89	82	-			3,455			54			7	
5	14,819.19	13,326	40			51		26.11	264	0			5,989			313			79	
6																				
6c																				
6d																				
Sub-total	**25,716**	**17,922**	**44**	**-**		**190**		**45**	**355**	**0**	**-**	**-**	**9,444**	**-**	**-**	**395**	**-**	**-**	**93**	**-**
Total	**Car Total**			**43,681**	**Taxi Total**		**190**	**PHV Total**			**401**	**LGV Total**		**9,444**	**HGV Total**		**395**	**Bus Total**		**92.877306**

Vehicles fleet - Do Minimum with age planne

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	4	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	4	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	10	57	-	26	-	-	-	-	-	-	-	-		-			-	
3	17,701	4,695	25	731	-	288	18	31	93	-	36	-	-	-		616			80	
4	129,804	42,258	14	2,503	1	1,100	1	229	838	-	156	-	27,554	-		1,232			80	
5	201,588	136,509	539	6,527	5	547	-	355	2,707	2	241	-	47,760	-		7,082			902	
6	114,905	131,973	44,401	3,060	-	129	-	202	2,617	-	121	-	35,668	-		23,124			1,801	
6c	156,844	185,260	30	-	-	39	-	276	3,674	0	163	-	4,492	-		-			-	
6d	6,429	14,790	11	-	-	47	-	11	293	0	-	-	2,361	-		99			23	
Compliant	627,270	515,485	45,036	12,950	6	215	20	1,105	6,584	2	717	-	42,520	-		23,222			1,824	
Non-Compliant	-	-	-	-	-	1,961	-	-	3,638	-	-	-	75,314	-		8,930			1,061	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	7%		0%	0%	7%		0%	7%		0%	1%									
5	12%		0%	1%	29%		0%	12%		30%	2%									
6	7%	40%	33%	0%	0%	60%	0%	7%	40%	0%	1%		84%			100%			99%	
6c	11%	56%	0%	0%	0%	18%	0%	11%	56%	3%	1%		11%			0%			0%	
6d	1%	4%	0%	0%	0%	22%	0%	1%	4%	1%	0%		6%			0%			1%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**35%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**180%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2022	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			3		-	-	-			-			-			-	
3	1,052.87	505	1			31		2	10	-			-			31			7	
4	7,721.03	4,544	1			118		13.60	90	-			3,302			62			7	
5	11,990.84	14,678	32			59		21.13	291	0			5,724			357			75	
6																				
6c																				
6d																				
Sub-total	**20,765**	**19,727**	**35**	**-**	**-**	**211**	**-**	**37**	**391**	**0**	**-**		**9,026**		**-**	**450**	**-**	**-**	**88**	**-**
Total	**Car Total**			**40,527**	**Taxi Total**		**211**	**PHV Total**			**428**	**LGV Total**		**9,026**	**HGV Total**		**450**	**Bus Total**		**87.915587**

Vehicles fleet - Do Minimum

2022	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	4	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	4	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	9	57	-	23	-	-	-	-	-	-	-	-		-			-	
3	16,648	4,190	23	731	-	257	18	29	83	-	36	-	-	-		585			73	
4	122,083	37,714	13	2,503	1	984	1	215	748	-	156	-	24,252	-		1,170			73	
5	190,386	122,209	508	6,527	5	511	-	335	2,423	2	241	-	42,036	-		6,725			827	
6	120,695	135,381	44,402	3,060	-	218	-	213	2,685	-	121	-	38,144	-		23,460			1,866	
6c	165,837	196,268	54	-	-	83	-	292	3,892	0	163	-	8,785	-		-			-	
6d	11,620	19,722	20	-	-	100	-	20	391	0	-	-	4,618	-		213			46	
Compliant	627,270	515,485	45,036	12,950	6	401	20	1,105	6,968	2	717	-	51,547	-		23,672			1,912	
Non-Compliant	-	-	-	-	-	1,775	-	-	3,254	-	-	-	66,288	-		8,480			973	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

2023	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	7%		0%	0%	7%		0%	7%		0%	1%									
5	11%		0%	1%	29%		0%	11%		27%	2%									
6	8%	39%	33%	0%	0%	54%	0%	8%	39%	0%	1%		74%			99%			98%	
6c	12%	56%	0%	0%	0%	21%	0%	12%	56%	6%	1%		17%			0%			0%	
6d	1%	6%	0%	0%	0%	25%	0%	1%	6%	2%	0%		9%			1%			2%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**36%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**181%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2023	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			2		-	-	-			-			-			-	
3	990.24	451	1			28		2	9	-			-			29			6	
4	7,261.77	4,055	1			106		12.79	80	-			2,907			59			6	
5	11,324.57	13,141	30			55		19.95	261	0			5,038			339			69	
6																				
6c																				
6d																				
Sub-total	**19,577**	**17,647**	**33**	**-**	**-**	**191**	**-**	**34**	**350**	**0**	**-**		**7,945**		**-**	**427**	**-**	**-**	**81**	**-**
Total	**Car Total**			**37,257**	**Taxi Total**		**191**	**PHV Total**			**385**	**LGV Total**		**7,945**	**HGV Total**		**427**	**Bus Total**		**80.63162**

Vehicles fleet - Do Minimum

2023	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	9	57	-	20	-	-	-	-	-	-	-	-		-			-	
3	15,657	3,740	22	731	-	230	18	28	74	-	36	-	-	-		555			67	
4	114,822	33,659	13	2,503	1	880	1	202	667	-	156	-	21,345	-		1,111			67	
5	179,804	109,406	479	6,527	5	477	-	317	2,170	2	241	-	36,998	-		6,386			759	
6	126,142	138,422	44,402	3,060	-	298	-	222	2,745	-	121	-	40,324	-		23,777			1,925	
6c	174,330	206,124	76	-	-	124	-	307	4,087	0	163	-	12,563	-		-			-	
6d	16,514	24,134	28	-	-	148	-	29	479	0	-	-	6,604	-		322			68	
Compliant	627,270	515,485	45,036	12,950	6	569	20	1,105	7,311	2	717	-	59,491	-		24,099			1,992	
Non-Compliant	-	-	-	-	-	1,607	-	-	2,911	-	-	-	58,343	-		8,052			893	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

2024	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	6%		0%	0%	7%		0%	6%		0%	1%									
5	10%		0%	1%	29%		0%	10%		24%	2%									
6	8%	38%	33%	0%	0%	52%	0%	8%	38%	0%	1%		68%			99%			97%	
6c	12%	56%	0%	0%	0%	22%	0%	12%	56%	9%	1%		21%			0%			0%	
6d	1%	7%	0%	0%	0%	26%	0%	1%	7%	3%	0%		11%			1%			3%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**37%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**182%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

2024	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			2		-	-	-			-			-			-	
3	931.34	402	1			25		2	8	-			-			28			6	
4	6,829.83	3,619	1			95		12.03	72	-			2,558			56			6	
5	10,695.14	11,764	28			51		18.84	233	0			4,434			322			63	
6																				
6c																				
6d																				
Sub-total	**18,456**	**15,785**	**31**	**-**	**-**	**173**	**-**	**33**	**313**	**0**	**-**		**6,992**		**-**	**406**	**-**	**-**	**74**	**-**
Total	**Car Total**			**34,273**	**Taxi Total**		**173**	**PHV Total**			**346**	**LGV Total**		**6,992**	**HGV Total**		**406**	**Bus Total**		**73.951142**

Vehicles fleet - Do Minimum

2024	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	8	57	-	18	-	-	-	-	-	-	-	-		-			-	
3	14,726	3,338	21	731	-	205	18	26	66	-	36	-	-	-		527			61	
4	107,992	30,040	13	2,503	1	787	1	190	596	-	156	-	18,787	-		1,055			61	
5	169,808	97,944	451	6,527	5	444	-	299	1,942	1	241	-	32,564	-		6,065			696	
6	131,264	141,137	44,403	3,060	-	368	-	231	2,799	-	121	-	42,243	-		24,077			1,978	
6c	182,352	214,947	98	-	-	162	-	321	4,262	1	163	-	15,889	-		-			-	
6d	21,128	28,080	36	-	-	191	-	37	557	0	-	-	8,352	-		428			88	
Compliant	627,270	515,485	45,036	12,950	6	722	20	1,105	7,618	2	717	-	66,484	-		24,505			2,066	
Non-Compliant	-	-	-	-	-	1,454	-	-	2,604	-	-	-	51,351	-		7,647			819	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	6%		0%	0%	7%		0%	6%		0%	1%									
5	10%		0%	1%	29%		0%	10%		22%	2%									
6	8%	37%	33%	0%	0%	51%	0%	8%	37%	0%	1%		64%			98%			96%	
6c	13%	56%	0%	0%	0%	22%	0%	13%	56%	11%	1%		24%			0%			0%	
6d	2%	7%	0%	0%	0%	26%	0%	2%	7%	4%	0%		13%			2%			4%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**37%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**182%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Diesel	PHV Diesel	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			2		-	-	-			-			-			-	
3	875.94	359	1			22		2	7	-			-			27			5	
4	6,423.57	3,230	1			85		11.32	64	-			2,252			53			5	
5	10,100.52	10,532	27			48		17.79	209	0			3,903			306			58	
6																				
6c																				
6d																				
Sub-total	**17,400**	**14,121**	**30**	**-**	**-**	**156**	**-**	**31**	**280**	**0**	**-**		**6,154**		**-**	**385**	**-**	**-**	**68**	**-**
Total	**Car Total**			**31,550**	**Taxi Total**		**156**	**PHV Total**			**311**	**LGV Total**		**6,154**	**HGV Total**		**385**	**Bus Total**		**67.824154**

Vehicles fleet - Do Minimum

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2025	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	8	57	-	16	-	-	-	-	-	-	-	-		-			-	
3	13,850	2,979	20	731	-	183	18	24	59	-	36	-	-	-		501			56	
4	101,568	26,809	12	2,503	1	704	1	179	532	-	156	-	16,535	-		1,002			56	
5	160,364	87,681	425	6,527	5	413	-	283	1,739	1	241	-	28,661	-		5,759			638	
6	136,082	143,559	44,404	3,060	-	432	-	240	2,847	-	121	-	43,932	-		24,361			2,027	
6c	189,927	222,846	118	-	-	198	-	335	4,419	1	163	-	18,816	-		-			-	
6d	25,478	31,610	43	-	-	230	-	45	627	0	-	-	9,890	-		529			107	
Compliant	627,270	515,485	45,036	12,950	6	860	20	1,105	7,893	2	717	-	72,638	-		24,890			2,134	
Non-Compliant	-	-	-	-	-	1,316	-	-	2,329	-	-	-	45,197	-		7,262			751	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2026	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	5%		0%	0%	7%		0%	5%		0%	1%									
5	9%		0%	1%	29%		0%	9%		19%	2%									
6	8%	36%	33%	0%	0%	50%	0%	8%	36%	0%	1%		60%			98%			95%	
6c	13%	56%	0%	0%	0%	23%	0%	13%	56%	13%	1%		26%			0%			0%	
6d	2%	8%	0%	0%	0%	27%	0%	2%	8%	5%	0%		14%			2%			5%	
Sub-total	**39%**	**100%**	**34%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**37%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**183%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Diesel	PHV Diesel	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2026	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			1		-	-	-			-			-			-	
3	931	207	1			13		2	4	-			-			7			1	
4	6,824	1,864	1			49		12	37	-			954			14.20			1	
5	10,775	6,095	29			29		19	121	0			1,653			82			7	
6	9,143	9,979	2,983			30		16	198	-			2,534			345			22	
6c																				
6d																				
Sub-total	**27,673**	**18,145**	**3,015**	**-**	**-**	**121**	**-**	**49**	**360**	**0**	**-**		**5,141**		**-**	**448**	**-**	**-**	**30**	**-**
Total	**Car Total**			**48,834**	**Taxi Total**		**121**	**PHV Total**			**409**	**LGV Total**		**5,141**	**HGV Total**		**448**	**Bus Total**		**30.457809**

Vehicles fleet - Do Minimum

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2026	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	3	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	3	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	8	57	-	15	-	-	-	-	-	-	-	-		-			-	
3	12,920	2,772	19	731	-	170	18	23	55	-	36	-	-	-		494			56	
4	94,744	24,946	12	2,503	1	656	1	167	495	-	156	-	15,582	-		987			56	
5	150,287	81,742	398	6,527	5	394	-	265	1,621	1	241	-	27,008	-		5,678			631	
6	132,057	134,978	41,421	3,060	-	439	-	233	2,677	-	121	-	42,113	-		24,437			2,033	
6c	198,008	227,417	139	-	-	220	-	349	4,510	1	163	-	20,056	-		-			-	
6d	39,254	43,631	3,035	-	-	283	-	69	865	0	-	-	13,076	-		556			110	
Compliant	627,270	515,485	45,036	12,950	6	941	20	1,105	8,052	2	717	-	75,245	-		24,993			2,142	
Non-Compliant	-	-	-	-	-	1,235	-	-	2,171	-	-	-	42,590	-		7,159			743	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	5%		0%	0%	7%		0%	5%		0%	1%									
5	8%		0%	1%	29%		0%	8%		18%	2%									
6	8%	33%	31%	0%	0%	47%	0%	8%	33%	0%	1%		56%			98%			95%	
6c	13%	56%	0%	0%	0%	23%	0%	13%	56%	14%	1%		27%			0%			0%	
6d	3%	11%	3%	0%	0%	30%	0%	3%	11%	5%	0%		17%			2%			5%	
Sub-total	**39%**	**100%**	**35%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**37%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**183%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Diesel	PHV Diesel	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			2		-	-	-			-			-			-	
3	1,389	308	2			19		2	6	-			-			11			1	
4	10,185	2,775	1			73		18	55	-			1,438			22.40			1	
5	16,157	9,092	43			44		28	180	0			2,492			129			11	
6	14,197	15,013	4,453			49		25	298	-			3,886			554			36	
6c																				
6d																				
Sub-total	**41,927**	**27,187**	**4,500**	**-**	**-**	**186**	**-**	**74**	**539**	**0**	**-**		**7,817**		**-**	**717**	**-**	**-**	**49**	**-**
Total	**Car Total**			**73,615**	**Taxi Total**		**186**	**PHV Total**			**613**	**LGV Total**		**7,817**	**HGV Total**		**717**	**Bus Total**		**48.690951**

Vehicles fleet - Do Minimum

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2027	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	7	57	-	13	-	-	-	-	-	-	-	-		-			-	
3	11,531	2,463	17	731	-	151	18	20	49	-	36	-	-	-		482			55	
4	84,558	22,171	11	2,503	1	584	1	149	440	-	156	-	14,144	-		965			55	
5	135,172	72,881	356	6,527	5	364	-	238	1,445	1	241	-	24,516	-		5,549			620	
6	125,499	122,046	36,969	3,060	-	444	-	221	2,420	-	121	-	39,305	-		24,556			2,042	
6c	210,126	234,236	171	-	-	253	-	370	4,645	1	163	-	21,925	-		-			-	
6d	60,384	61,687	7,500	-	-	366	-	106	1,223	0	-	-	17,945	-		600			113	
Compliant	627,270	515,485	45,036	12,950	6	1,063	20	1,105	8,288	2	717	-	79,175	-		25,156			2,155	
Non-Compliant	-	-	-	-	-	1,113	-	-	1,934	-	-	-	38,659	-		6,996			730	
Sub-total	**627,270**	**515,485**	**45,036**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	5%		0%	0%	7%		0%	5%		0%	1%									
5	8%		0%	1%	29%		0%	8%		16%	2%									
6	8%	29%	27%	0%	0%	42%	0%	8%	29%	0%	1%		50%			98%			95%	
6c	14%	56%	0%	0%	0%	24%	0%	14%	56%	16%	1%		28%			0%			0%	
6d	5%	15%	8%	0%	0%	34%	0%	5%	15%	6%	0%		23%			2%			5%	
Sub-total	**39%**	**100%**	**36%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**38%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**183%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Vehicles upgrading due to age planned upgrade

	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Diesel	PHV Diesel	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	1			1		-	-	-			-			-			-	
3	1,116	247	2			15		2	5	-			-			10			1	
4	8,181	2,219	1			58		14	44	-			1,175			20			1	
5	13,078	7,295	34			36		23	145	0			2,036			113			10	
6	12,143	12,217	3,577			44		21	242	-			3,265			501			32	
6c	20,330.48	23,447.21	16.59			25.28		35.82	464.96	0.08			1,821.06			-			-	
6d																				
Sub-total	**54,848**	**45,426**	**3,632**	**-**	**-**	**181**	**-**	**97**	**901**	**0**	**-**		**8,297**		**-**	**644**	**-**	**-**	**44**	**-**
Total	**Car Total**			**103,906**	**Taxi Total**		**181**	**PHV Total**			**998**	**LGV Total**		**8,297**	**HGV Total**		**644**	**Bus Total**		**43.76255**

Vehicles fleet - Do Minimum

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2028	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	7	57	-	12	-	-	-	-	-	-	-	-		-			-	
3	10,415	2,217	15	731	-	136	18	18	44	-	36	-	-	-		473			54	
4	76,377	19,952	11	2,503	1	526	1	135	396	-	156	-	12,969	-		945			54	
5	122,931	65,771	323	6,527	5	339	-	217	1,304	1	241	-	22,479	-		5,435			610	
6	119,493	111,493	33,393	3,060	-	444	-	211	2,211	-	121	-	36,922	-		24,159			2,018	
6c	199,604	216,260	181	-	-	255	-	352	4,288	1	163	-	21,631	-		-			-	
6d	98,450	99,792	11,090	-	-	464	-	173	1,979	0	-	-	23,834	-	-	1,139	-	-	149	-
Compliant	627,270	515,485	45,024	12,950	6	1,162	20	1,105	8,478	2	717	-	82,386	-		25,299			2,167	
Non-Compliant	-	-	-	-	-	1,014	-	-	1,744	-	-	-	35,448	-		6,853			718	
Sub-total	**627,270**	**515,485**	**45,024**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,728**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2029	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	4%		0%	0%	7%		0%	4%		0%	1%									
5	7%		0%	1%	29%		0%	7%		14%	2%									
6	7%	26%	25%	0%	0%	38%	0%	7%	26%	0%	1%		45%			95%			93%	
6c	13%	51%	0%	0%	0%	22%	0%	13%	51%	15%	1%		26%			0%			0%	
6d	7%	23%	11%	0%	0%	40%	0%	7%	23%	8%	0%		29%			5%			7%	
Sub-total	**39%**	**100%**	**36%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**38%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**0%**	**PHV Total**			**0%**	**LGV Total**		**0%**	**HGV Total**		**0%**	**Bus Total**		**0%**

Vehicles upgrading due to age planned upgrade

	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Diesel	PHV Diesel	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2029	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	0			1		-	-	-			-			-			-	
3	537	118	1			7		1	2	-			-			5			1	
4	3,941	1,065	1			28		7	21	-			574			10.29			1	
5	6,343	3,511	17			18		11	70	0			996			59			10	
6	6,166	5,952	1,723			24		11	118	-			1,636			263			32	
6c	10,299.98	11,545.51	9.33			13.60		18.15	228.95	0.04			958.21			-			-	
6d																				
Sub-total	**27,288**	**22,193**	**1,751**	**-**	**-**	**91**	**-**	**48**	**440**	**0**	**-**	**-**	**4,164**		**-**	**338**	**-**	**-**	**43**	**-**
Total	**Car Total**			**51,232**	**Taxi Total**		**91**	**PHV Total**			**488**	**LGV Total**		**4,164**	**HGV Total**		**338**	**Bus Total**		**43.200818**

Vehicles fleet - Do Minimum

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2029	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	6	57	-	11	-	-	-	-	-	-	-	-		-			-	
3	9,878	2,099	15	731	-	129	18	17	42	-	36	-	-	-		468			53	
4	72,436	18,887	10	2,503	1	499	1	128	375	-	156	-	12,394	-		935			53	
5	116,990	62,348	307	6,527	5	326	-	206	1,236	1	241	-	21,484	-		5,376			601	
6	116,282	106,340	31,670	3,060	-	441	-	205	2,109	-	121	-	35,717	-		23,950			1,994	
6c	194,062	207,348	184	-	-	255	-	342	4,112	1	163	-	21,420	-		-			-	
6d	117,622	118,463	12,827	-	-	515	-	207	2,349	0	-	-	26,820	-	-	1,424	-	-	184	-
Compliant	627,270	515,485	45,024	12,950	6	1,210	20	1,105	8,570	2	717	-	83,957	-		25,373			2,178	
Non-Compliant	-	-	-	-	-	966	-	-	1,653	-	-	-	33,878	-		6,779			707	
Sub-total	**627,270**	**515,485**	**45,024**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,728**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Compliant vehicles percentage

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other		Bus	
2030	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	0%		0%	0%	0%		0%	0%		0%	0%									
1	0%		0%	0%	0%		0%	0%		0%	0%									
2	0%		0%	0%	0%		0%	0%		0%	0%									
3	1%		0%	2%	0%		31%	1%		0%	2%									
4	4%		0%	0%	7%		0%	4%		0%	1%									
5	7%		0%	1%	29%		0%	7%		14%	2%									
6	7%	25%	24%	0%	0%	36%	0%	7%	25%	0%	1%		43%			94%			92%	
6c	12%	48%	0%	0%	0%	21%	0%	12%	48%	15%	1%		26%			0%			0%	
6d	9%	27%	12%	0%	0%	43%	0%	9%	27%	9%	0%		32%			6%			8%	
Sub-total	**39%**	**100%**	**36%**	**3%**	**35%**	**100%**	**31%**	**39%**	**100%**	**38%**	**7%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**	**0%**	**100%**	**0%**
Total	**Car Total**			**0%**	**Taxi Total**		**167%**	**PHV Total**			**183%**	**LGV Total**		**100%**	**HGV Total**		**100%**	**Bus Total**		**100%**

Approved

Vehicles upgrading due to age planned upgrade

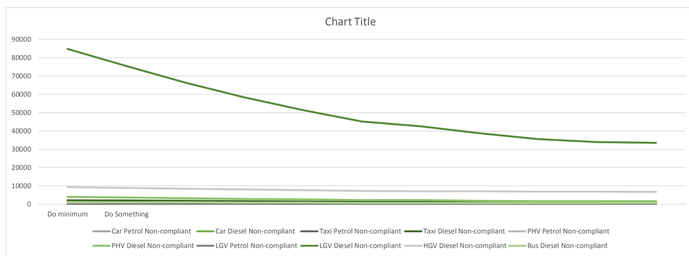
2030	Car Petrol	Car Diesel	Car Petrol	Car Petrol	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Diesel	PHV Diesel	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus		
	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	0			-		-	-	-			-			-			-	
1	-	-	0			-		-	-	-			-			-			-	
2	-	-	0			0		-	-	-			-			-			-	
3	127	28	0			2		0	1	-			-			5			1	
4	934	252	0			7		2	5	-			137			10.18			1	
5	1,509	832	4			4		3	17	0			238			59			9	
6	1,500	1,419	409			6		3	28	-			396			261			31	
6c	2,503.50	2,767.43	2.37			3.40		4.41	54.88	0.01			237.21			-			-	
6d																				
Sub-total	**6,575**	**5,299**	**415**	**-**	**-**	**22**	**-**	**12**	**105**	**0**	**-**		**1,008**		**-**	**335**	**-**	**-**	**43**	**-**
Total	**Car Total**			**12,289**	**Taxi Total**		**22**	**PHV Total**			**117**	**LGV Total**		**1,008**	**HGV Total**		**335**	**Bus Total**		**42.643747**

Vehicles fleet - Do Minimum

2030	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV Petrol	HGV Diesel	HGV Other	Bus		
	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	2	24	-	-	-	-	-	-	-	-	-	-		-			-	
1	-	-	2	49	-	-	-	-	-	-	-	-	-	-		-			-	
2	-	-	6	57	-	11	-	-	-	-	-	-	-	-		-			-	
3	9,750	2,071	15	731	-	127	18	17	41	-	36	-	-	-		462			52	
4	71,501	18,635	10	2,503	1	492	1	126	370	-	156	-	12,257	-		925			52	
5	115,577	61,537	303	6,527	5	323	-	204	1,220	1	241	-	21,246	-		5,318			591	
6	115,483	105,110	31,262	3,060	-	440	-	203	2,084	-	121	-	35,424	-		23,741			1,970	
6c	192,690	205,205	185	-	-	255	-	339	4,069	1	163	-	21,361	-		-			-	
6d	122,268	122,928	13,239	-	-	527	-	215	2,438	0	-	-	27,546	-	-	1,706	-	-	219	-
Compliant	627,270	515,485	45,024	12,950	6	1,222	20	1,105	8,591	2	717	-	84,332	-		25,447			2,189	
Non-Compliant	-	-	-	-	-	954	-	-	1,631	-	-	-	33,503	-		6,705			696	
Sub-total	**627,270**	**515,485**	**45,024**	**12,950**	**6**	**2,176**	**20**	**1,105**	**10,222**	**2**	**717**		**117,835**			**32,152**	**-**	**-**	**2,885**	**-**
Total	**Car Total**			**1,200,728**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2884.9887**

Annual vehicle fleet composition by fuel type

			Do minimum	Do Something									
Vehicle	Fuel	Compliance	2021	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	Petrol	Compliant	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270
Car	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270	627270
Car	Diesel	Compliant	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485
Car	Diesel	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Diesel	Total	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485	515485
Taxi	Petrol	Compliant	6	6	6	6	6	6	6	6	6	6	6
Taxi	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	6	6	6	6	6	6	6	6	6	6	6
Taxi	Diesel	Compliant	49	215	401	569	722	860	941	1063	1162	1210	1222
Taxi	Diesel	Non-compliant	2127	1961	1775	1607	1454	1316	1235	1113	1014	966	954
	Diesel	Total	2176	2176	2176	2176	2176	2176	2176	2176	2176	2176	2176
PHV	Petrol	Compliant	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105
PHV	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105
PHV	Diesel	Compliant	6235	6584	6968	7311	7618	7893	8052	8288	8478	8570	8591
PHV	Diesel	Non-compliant	3987	3638	3254	2911	2604	2329	2171	1934	1744	1653	1631
	Diesel	Total	10222	10222	10222	10222	10222	10222	10222	10222	10222	10222	10222
LGV	Petrol	Compliant	0	0	0	0	0	0	0	0	0	0	0
LGV	Petrol	Non-compliant	0	0	0	0	0	0	0	0	0	0	0
	Petrol	Total	0	0	0	0	0	0	0	0	0	0	0
LGV	Diesel	Compliant	33076	42520	51547	59491	66484	72638	75245	79175	82386	83957	84332
LGV	Diesel	Non-compliant	84758	75314	66288	58343	51351	45197	42590	38659	35448	33878	33503
	Diesel	Total	117835	117835	117835	117835	117835	117835	117835	117835	117835	117835	117835
HGV	Diesel	Compliant	22828	23222	23672	24099	24505	24890	24993	25156	25299	25373	25447
HGV	Diesel	Non-compliant	9324	8930	8480	8052	7647	7262	7159	6996	6853	6779	6705
	Diesel	Total	32152	32152	32152	32152	32152	32152	32152	32152	32152	32152	32152
Bus	Diesel	Compliant	1731	1824	1912	1992	2066	2134	2142	2155	2167	2178	2189
Bus	Diesel	Non-compliant	1154	1061	973	893	819	751	743	730	718	707	696
Bus	Diesel	Total	2885	2885	2885	2885	2885	2885	2885	2885	2885	2885	2885



Approved

Active travel

Cumulative Active travel impact

Type	2021
Walking	1,940,000
Cycling	24,200,000
Total	26,140,000

Source: \\EDIFIL01\Data\Environmental\Jobs\Economics\TfGM CAP\0_Project Works\Economic model\Active travel

Cumulative Upgraded vehicles (2018 prices, in Euro).

Type	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Walking	194,000	194,000	194,000	194,000	194,000	194,000	194,000	194,000	194,000	194,000	1,940,000
Cycling	2,420,000	2,420,000	2,420,000	2,420,000	2,420,000	2,420,000	2,420,000	2,420,000	2,420,000	2,420,000	24,200,000
Total	2,614,000	2,614,000	2,614,000	2,614,000	2,614,000	2,614,000	2,614,000	2,614,000	2,614,000	2,614,000	26,140,000

Cumulative Upgraded vehicles (2018 prices, in £)

Type	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Walking	172,955	172,955	172,955	172,955	172,955	172,955	172,955	172,955	172,955	172,955	1,729,549
Cycling	2,157,478	2,157,478	2,157,478	2,157,478	2,157,478	2,157,478	2,157,478	2,157,478	2,157,478	2,157,478	21,574,781
Total	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	23,304,329

Approved

Consumer Welfare Loss - Trips Foregone

This worksheet calculates the welfare loss associated with trips being cancelled

Assumptions

1)Due to the sunset period in 2021 and 2022, the interpolation between 2021 and 2025 is not linear for LGVs

2)Bus are assumed not to cancel/remode any trips

ROH	0.5

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cars	100%	84%	68%	52%	37%	30%	19%	9%	5%	3%
LGVs	100%	83%	2348%	1949%	1526%	1272%	814%	407%	204%	153%
HGV	100%	83%	66%	48%	31%	26%	16%	8%	3%	2%
Taxi	100%	82%	64%	46%	28%	22%	14%	6%	3%	2%

Number of trips foregone

	2021		2025	
	Cancelled trips	Trips (Annual)	Cancelled trips	Trips (Annual)
Cars	-	-	-	-
LGVs	-	-	4,419.78	1,118,204.37
HGV	602.63	152,466.52	187.87	47,530.15
Taxi	48.57	12,288.26	13.04	3,299.83
Total	651.20		4,620.69	

CAZ Charge (2021 prices)

	Low	Medium	High
Cars	5.00	7.50	10.00
LGVs	5.00	7.50	10.00
HGV	100.00	100.00	100.00
Taxi	5.00	7.50	10.00

Welfare Loss

	2021			2025		
	Low	Medium	High	Low	Medium	High
Cars	-	-	-	-	-	-
LGVs	-	-	-	2,795,511	4,193,266	5,591,022
HGV	7,623,326	7,623,326	7,623,326	2,376,507	2,376,507	2,376,507
Taxi	30,721	46,081	61,441	8,250	12,374	16,499

Welfare Loss (appraisal period) - Medium Charge (2021 prices)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Cars	-	-	-	-	-	-	-	-	-	-	-
LGVs	-	-	6,451,179	5,354,479	4,193,266	3,494,389	2,236,409	1,118,204	559,102	419,327	23,826,355
HGV	7,623,326	6,311,621	4,999,917	3,688,212	2,376,507	1,949,955	1,218,722	609,361	243,744	182,808	29,204,174
Taxi	46,081	37,654	29,228	20,801	12,374	9,979	6,387	2,794	1,198	798	167,294

Welfare Loss (appraisal period) - Medium Charge (2018 prices)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Cars	-	-	-	-	-	-	-	-	-	-	-

Approved

LGVs	-	-	5,904,605	4,795,325	3,674,535	2,996,196	1,876,287	917,949	449,094	329,570	20,943,561
HGV	7,260,822	5,903,962	4,576,300	3,303,062	2,082,520	1,671,951	1,022,475	500,232	195,786	143,678	26,660,788
Taxi	43,890	35,222	26,751	18,629	10,844	8,557	5,358	2,294	962	627	153,134
Total	**7,304,711**	**5,939,185**	**10,507,656**	**8,117,016**	**5,767,898**	**4,676,704**	**2,904,121**	**1,420,475**	**645,842**	**473,876**	**47,757,483**

Approved

Consumer Welfare Loss - Trips Remoded

This worksheet calculates the welfare loss associated with trips being re-moded

Assumptions

1)Due to the sunset period in 2021 and 2022, the interpolation between 2021 and 2025 is not linear for LGVs

2)Bus are assumed not to cancel/remode any trips

ROH	0.5

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cars	100%	84%	68%	52%	37%	30%	19%	9%	5%	3%
LGVs	100%	83%	2348%	1949%	1526%	1272%	814%	407%	204%	153%
HGV	100%	83%	66%	48%	31%	26%	16%	8%	3%	2%
Taxi	100%	82%	64%	46%	28%	22%	14%	6%	3%	2%

Number of trips re-moded

	2021		2025	
	Remoded trips	Trips (Annual)	Remoded trips	Trips (Annual)
Cars	-	-	-	-
LGVs	-	-	4,469	1,130,717
HGV	-	-	-	-
Taxi	-	-	-	-
Total	-		4,469.24	

CAZ Charge (2021 prices)

	Low	Medium	High
Cars	5.00	7.50	10.00
LGVs	5.00	7.50	10.00
HGV	100.00	100.00	100.00
Taxi	5.00	7.50	10.00

Welfare Loss (2021)

	2021			2025		
	Low	Medium	High	Low	Medium	High
Cars	-	-	-	-	-	-
LGVs	-	-	-	2,826,791	4,240,187	5,653,583
HGV	-	-	-	-	-	-
Taxi	-	-	-	-	-	-

Welfare Loss (appraisal period) - Medium Charge (2021 prices)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Cars	-	-	-	-	-	-	-	-	-	-	-
LGVs	-	-	6,523,365	5,414,393	4,240,187	3,533,489	2,261,433	1,130,717	565,358	424,019	24,092,960
HGV	-	-	-	-	-	-	-	-	-	-	-
Taxi	-	-	-	-	-	-	-	-	-	-	-

Welfare Loss (appraisal period) - Medium Charge (2018 prices)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Cars	-	-	-	-	-	-	-	-	-	-	-
LGVs	-	-	5,970,674	4,848,982	3,715,651	3,029,722	1,897,282	928,220	454,119	333,258	21,177,910
HGV	-	-	-	-	-	-	-	-	-	-	-
Taxi	-	-	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**5,970,674**	**4,848,982**	**3,715,651**	**3,029,722**	**1,897,282**	**928,220**	**454,119**	**333,258**	**21,177,910**

Approved

Cost of Bus Retrofitting

This worksheet calculates the welfare loss of bus operators choosing to retrofit their non-compliant buses

Assumptions

1)Bus euro 6 are assumed not to need retrofitting

ROH	0.5

Bus fleet retrofitting

2021	Bus		
Euro Class	Petrol	Diesel	Other
0			
1			
2			
3			
4		87	
5		981	
6			
6c			
6d			
Total	**Bus Total**		**1,067**

Assumption: only euro 4 and 5s can be retrofitted (source: Alec Curley and Clare Sheffield)

Cost of Bus Retrofitting

2021	Bus	Bus	Bus
Euro Class	Petrol	Diesel	Other
0	-	-	-
1	-	-	-
2	-	-	-
3	-	-	-
4	-	865,497	-
5	-	9,808,962	-
6	-	-	-
6c	-	-	-
6d	-	-	-
Total	**Bus Total**		**10,674,458**

Approved

Cost of Upgrading

Calculates total cost of upgrading based on the fleet that would upgrade

Takes the number of cars upgrading and multiplies by the cost calculated in Dif in Depreciation

Total Vehicles upgrading due to the scheme (2021 plus 2023)

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	317	-	16	50	-	-	-	-	-	-	480	-	-	87	-
4	-	-	-	-	-	1,205	-	-	450	-	-	-	11,809	-	-	960	-	-	87	-
5	-	-	-	-	-	577	-	-	1,449	-	-	-	20,468	-	-	5,521	-	-	981	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**2,127**	**-**	**16**	**1,949**	**-**	**-**	**-**	**32,277**	**-**	**-**	**6,962**	**-**	**-**	**1,154**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**2,127**	**PHV Total**			**1,965**	**LGV Total**		**32,277**	**HGV Total**		**6,962**	**Bus Total**		**1153.99548**

Vehicles upgrading to new vehicles

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	79	-	4	12	-	-	-	-	-	-	120	-	-	22	-
4	-	-	-	-	-	301	-	-	112	-	-	-	2,952	-	-	240	-	-	22	-
5	-	-	-	-	-	144	-	-	362	-	-	-	5,117	-	-	1,380	-	-	245	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**532**	**-**	**4**	**487**	**-**	**-**	**-**	**8,069**	**-**	**-**	**1,740**	**-**	**-**	**288**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**532**	**PHV Total**			**491**	**LGV Total**		**8,069**	**HGV Total**		**1,740**	**Bus Total**		**288.49887**

Approved

Vehicles upgrading to used vehicles - same fuel

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	59	-	3	9	-	-	-	-	-	-	90	-	-	16	-
4	-	-	-	-	-	226	-	-	84	-	-	-	2,214	-	-	180	-	-	16	-
5	-	-	-	-	-	108	-	-	272	-	-	-	3,838	-	-	1,035	-	-	184	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**399**	**-**	**3**	**365**	**-**	**-**	**-**	**6,052**	**-**	**-**	**1,305**	**-**	**-**	**216**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**399**	**PHV Total**			**368**	**LGV Total**		**6,052**	**HGV Total**		**1,305**	**Bus Total**		**216.3741525**

Vehicles upgrading to used vehicles - change fuel (cheapest option)

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	178	-	9	28	-	-	-	-	-	-	270	-	-	49	-
4	-	-	-	-	-	678	-	-	253	-	-	-	6,642	-	-	540	-	-	49	-
5	-	-	-	-	-	325	-	-	815	-	-	-	11,514	-	-	3,106	-	-	552	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**1,197**	**-**	**9**	**1,096**	**-**	**-**	**-**	**18,156**	**-**	**-**	**3,916**	**-**	**-**	**649**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**1,197**	**PHV Total**			**1,105**	**LGV Total**		**18,156**	**HGV Total**		**3,916**	**Bus Total**		**649.1224575**

Cost of Upgrading due to loss in vehicle value

Cost for vehicles upgrading to new vehi Car Petrol Car Diesel Car Electric Car Other Taxi Petrol Taxi Diesel Taxi Other PHV Petrol PHV Diesel PHV Electric PHV Other LGV Petrol LGV Diesel LGV Other HGV HGV HGV Bus Bus Bus

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	142,672	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	1,589,406	-	15,726	58,363	-	-	-	-	-	-	1,754,282	-	-	1,017,246	-
4	-	-	-	-	-	5,869,279	-	-	508,312	-	-	-	13,545,257	-	-	3,446,286	-	-	999,104	-
5	-	-	-	-	-	2,659,008	-	-	1,543,193	-	-	-	22,147,859	-	-	19,024,090	-	-	10,868,404	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**10,260,365**	**-**	**15,726**	**2,109,868**	**-**	**-**	**-**	**35,693,116**	**-**	**-**	**24,224,658**	**-**	**-**	**12,884,754**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**10,260,365**	**PHV Total**			**2,125,594**	**LGV Total**		**35,693,116**	**HGV Total**		**24,224,658**	**Bus Total**		**12884753.87**

Cost fot Vehicles upgrading to used veh Car Petrol Car Diesel Car Electric Car Other Taxi Petrol Taxi Diesel Taxi Other PHV Petrol PHV Diesel PHV Electric PHV Other LGV Petrol LGV Diesel LGV Other HGV HGV HGV Bus Bus Bus

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	9,434	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	101,378	-	116	3,152	-	-	-	-	-	-	135,058	-	-	77,647	-
4	-	-	-	-	-	334,730	-	-	24,603	-	-	-	685,667	-	-	243,275	-	-	69,931	-
5	-	-	-	-	-	117,738	-	-	58,251	-	-	-	873,279	-	-	1,057,486	-	-	599,152	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**563,281**	**-**	**116**	**86,007**	**-**	**-**	**-**	**1,558,946**	**-**	**-**	**1,435,819**	**-**	**-**	**746,729**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**563,281**	**PHV Total**			**86,122**	**LGV Total**		**1,558,946**	**HGV Total**		**1,435,819**	**Bus Total**		**746729.4156**

Approved

Cost for vehicles upgrading to used veh

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV	HGV	HGV	Bus	Bus	Bus
	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	5,052	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	25,347	-	1,132	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**30,399**	**-**	**1,132**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**30,399**	**PHV Total**			**1,132**	**LGV Total**		**-**	**HGV Total**		**-**	**Bus Total**		**0**

Total cost of upgrade

	Car Petrol	Car Diesel				Taxi Diesel		PHV Petrol	PHV Diesel				LGV Diesel			HGV		Bus		
	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	157,159	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	1,716,131	-	16,973	61,515	-	-	-	-	-	-	1,889,340	-	-	1,094,893	-
4	-	-	-	-	-	6,204,009	-	-	532,915	-	-	-	14,230,924	-	-	3,689,561	-	-	1,069,035	-
5	-	-	-	-	-	2,776,747	-	-	1,601,445	-	-	-	23,021,139	-	-	20,081,576	-	-	11,467,556	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**10,854,045**	**-**	**16,973**	**2,195,875**	**-**	**-**	**-**	**37,252,062**	**-**	**-**	**25,660,477**	**-**	**-**	**13,631,483**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**10,854,045**	**PHV Total**			**2,212,848**	**LGV Total**		**37,252,062**	**HGV Total**		**25,660,477**	**Bus Total**		**13631483.29**

Vehicle type	New vehicles	used vehicles - same fuel	used vehicles - change fuel (cheapest option)	Total
Car	-	-	-	-
LGV	35,693,116	1,558,946	-	37,252,062
HGV	24,224,658	1,435,819	-	25,660,477
PHV	2,125,594	86,122	1,132	2,212,848
Taxi	10,260,365	563,281	30,399	10,854,045
Bus	12,884,754	746,729	-	13,631,483
Coach				-
Total	85,188,487	4,390,898	31,531	**89,610,916**

2021 prices	Total
Car Petrol	-
Car Diesel	-
Car Electric	
Car Other	
Taxi Diesel	10,854,044.89
PHV Petrol	16,973.46
PHV Diesel	2,195,874.72
PHV Electric	
PHV Other	
LGV Diesel	37,252,062.36
HGV	25,660,477.14
Bus	13,631,483.29
Coach	
Total	**89,610,916**

2018 prices (undiscounted)	Total
Car Petrol	-
Car Diesel	-
Car Electric	-
Car Other	-
Taxi Diesel	10,337,913
PHV Petrol	16,166
PHV Diesel	2,091,456
PHV Electric	-
PHV Other	-
LGV Diesel	35,480,651
HGV	24,440,269
Bus	12,983,279
Coach	-
Total	**85,349,735**

Approved

Fuel switch cost

Calculates change in cost of fuel consumption for the users that switch to a difference fuel vehicle

Vehicle fleet - vehicles upgrading

2020	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	317	-	16	50	-	-	-	-	-	-	480	-	-	87	-
4	-	-	-	-	-	1,205	-	-	450	-	-	-	11,809	-	-	960	-	-	87	-
5	-	-	-	-	-	577	-	-	1,449	-	-	-	20,468	-	-	5,521	-	-	981	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Compliant	-	-	-		-	-		-	-			-	-			-			-	
Non-Compliant	-	-	-		-	2,127		16	1,949			-	32,277			6,962			1,154	
Sub-total	**-**	**-**	**-**	**-**	**-**	**2,127**	**-**	**16**	**1,949**	**-**	**-**	**-**	**32,277**	**-**	**-**	**6,962**	**-**	**-**	**1,154**	**-**
Total	**Car Total**			**1,200,741**	**Taxi Total**		**2,202**	**PHV Total**			**12,047**	**LGV Total**		**117,835**	**HGV Total**		**32,152**	**Bus Total**		**2,885**

Vehicle changing fuel type FROM

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0		-							-											
1		-							-											
2		-							-											
3		-							28											
4		-							253											
5		-							815											
6																				
6c																				
6d																				
Compliant	-	-	-		-	-		-	-			-	-			-			-	
Non-Compliant	-	-	-		-	-		-	1,096			-	-			-			-	
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,096**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**Car Total**			**117,835**	**Taxi Total**		**-**	**PHV Total**			**1,096**	**LGV Total**		**-**	**HGV Total**		**-**	**Bus Total**		**-**

Vehicle km Diesel

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0		-							-											
1		-							-											
2		-							-											
3		-							1,130,799											
4		-							10,177,191											
5		-							32,793,170											
6		-							-											
6c		-							-											
6d		-							-											
Compliant	-	-	-		-	-		-	-			-	-			-			-	
Non-Compliant	-	-	-		-	-		-	44,101,159			-	-			-			-	
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**44,101,159**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**-**	**PHV Total**			**44,101,159**	**LGV Total**		**-**	**HGV Total**		**-**	**Bus Total**		**-**

Vehicle changing fuel type TO

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0																				
1																				
2																				
3								33.22												
4	-							243.59												
5	-							376.45												
6	-							188												
6c	-							254.66												
6d	-							-												
Compliant	-	-	-		-	-		1,063	-			-	-			-			-	
Non-Compliant	-	-	-		-	-		33	-			-	-			-			-	
Sub-total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,096**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**-**	**PHV Total**			**1,096**	**LGV Total**		**-**	**HGV Total**		**-**	**Bus Total**		**-**

Approved

Vehicle km Petrol

2021	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0																				
1																				
2																				
3								1,336,399												
4	-							9,800,258												
5	-							15,145,853												
6	-							7,572,926												
6c	-							10,245,724												
6d	-							-												
Compliant																				
Non-Compliant																				
Sub-total	-	-	-	-	-	-	-	**44,101,159**	-	-	-	-	-	-	-	-	-	-	-	-
Total		**Car Total**		-		**Taxi Total**	-		**PHV Total**		**44,101,159**		**LGV Total**	-		**HGV Total**	-		**Bus Total**	-

Assumption: the annual vehicle km are the one related to the diesel category in both cases

Average consumption per euro class (Year 2021)

Vehicle	Fuel	Euro class	Average year	fuel consumption (litres per km)	Vehicle km	fuel consumption (litres)	fuel cost (2018 price)(£/litre)	Fuel cost (2018 price)
Car	Petrol	Euro 0	0	-	-	-	£ 1.089	£ -
Car	Petrol	Euro 1	1995	-	-	-	£ 1.089	£ -
Car	Petrol	Euro 2	1999	-	-	-	£ 1.089	£ -
Car	Petrol	Euro 3	2004	0.076	-	-	£ 1.089	£ -
Car	Petrol	Euro 4	2008	0.070	-	-	£ 1.089	£ -
Car	Petrol	Euro 5	2013	0.056	-	-	£ 1.089	£ -
Car	Petrol	Euro 6 / Electric	2016	0.054	-	-	£ 1.089	£ -
Car	Petrol	Euro 6c	2016	0.054	-	-	£ 1.089	£ -
Car	Petrol	Euro 6d	2016	0.054	-	-	£ 1.089	£ -
Car	Diesel	Euro 0	0	-	-	-	£ 1.128	£ -
Car	Diesel	Euro 1	1995	-	-	-	£ 1.128	£ -
Car	Diesel	Euro 2	1999	-	-	-	£ 1.128	£ -
Car	Diesel	Euro 3	2004	0.062	-	-	£ 1.128	£ -
Car	Diesel	Euro 4	2008	0.059	-	-	£ 1.128	£ -
Car	Diesel	Euro 5	2013	0.049	-	-	£ 1.128	£ -
Car	Diesel	Euro 6 / Electric	2016	0.045	-	-	£ 1.128	£ -
Car	Diesel	Euro 6c	2016	0.045	-	-	£ 1.128	£ -
Car	Diesel	Euro 6d	2016	0.045	-	-	£ 1.128	£ -
PHV	Petrol	Euro 0	0	-	-	-	£ 1.089	£ -
PHV	Petrol	Euro 1	1995	-	-	-	£ 1.089	£ -
PHV	Petrol	Euro 2	1999	-	-	-	£ 1.089	£ -
PHV	Petrol	Euro 3	2004	0.076	1,336,399	101,967	£ 1.089	£ 111,043
PHV	Petrol	Euro 4	2008	0.070	9,800,258	683,078	£ 1.089	£ 743,875
PHV	Petrol	Euro 5	2013	0.056	15,145,853	852,712	£ 1.089	£ 928,607
PHV	Petrol	Euro 6 / Electric	2016	0.054	7,572,926	409,695	£ 1.089	£ 446,160
PHV	Petrol	Euro 6c	2016	0.054	10,245,724	554,294	£ 1.089	£ 603,629
PHV	Petrol	Euro 6d	2016	0.054	-	-	£ 1.089	£ -
PHV	Diesel	Euro 0	0	-	-	-	£ 1.128	£ -
PHV	Diesel	Euro 1	1995	-	-	-	£ 1.128	£ -
PHV	Diesel	Euro 2	1999	-	-	-	£ 1.128	£ -
PHV	Diesel	Euro 3	2004	0.062	1,130,799	69,996	£ 1.128	£ 78,971
PHV	Diesel	Euro 4	2008	0.059	10,177,191	603,507	£ 1.128	£ 680,887
PHV	Diesel	Euro 5	2013	0.049	32,793,170	1,597,027	£ 1.128	£ 1,801,793
PHV	Diesel	Euro 6 / Electric	2016	0.045	-	-	£ 1.128	£ -
PHV	Diesel	Euro 6c	2016	0.045	-	-	£ 1.128	£ -
PHV	Diesel	Euro 6d	2016	0.045	-	-	£ 1.128	£ -

Summary of fuel cost 2021

	fuel cost (2018 price)		
Vehicle	Diesel	Petrol	Difference
Car	£ -	£ -	£ -
PHV	£ 2,561,652	£ 2,833,314	£ 271,662
Total	£ 2,561,652	£ 2,833,314	£ 271,662

Summary of fuel cost saving 2021 to 2030 +ve saving, -ve cost

Vehicle	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Car	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
PHV	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 2,716,620
Total	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 271,662	-£ 2,716,620

Profiling (non-compliant vehicles)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car	100%	84%	68%	52%	37%	30%	19%	9%	5%	3%
PHV	100%	78%	57%	35%	13%	11%	8%	4%	2%	2%

Car	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
PHV	-£ 271,662	-£ 212,869	-£ 154,075	-£ 95,282	-£ 36,488	-£ 30,142	-£ 20,624	-£ 11,105	-£ 6,346	-£ 4,759	-£ 843,352
Total	-£ 271,662	-£ 212,869	-£ 154,075	-£ 95,282	-£ 36,488	-£ 30,142	-£ 20,624	-£ 11,105	-£ 6,346	-£ 4,759	-£ 843,352

Approved

Depreciation

This page calculates the difference in depreciation, when non-compliant vehicles upgrade earlier than planned. The values are used to calculate the welfare loss to vehicle upgrades

Sale Year	2021
ROH	0.5

Euro standards effective

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	1993	1997	2001	2006	2010	2015	2019	2021
Car Diesel	1993	1997	2001	2006	2010	2015	2019	2021
PHV Petrol	1993	1997	2001	2006	2010	2015	2019	2021
PHV Diesel	1993	1997	2001	2006	2010	2015	2019	2021
Taxi Petrol	1993	1997	2001	2006	2010	2015	2019	2021
Taxi Diesel	1993	1997	2001	2006	2010	2015	2019	2021
LGV petrol	1995	1999	2001	2006	2010	2015	2019	2021
LGV diesel	1995	1999	2001	2006	2010	2015	2019	2021
HGV Rigid	1993	1997	2001	2006	2009	2014	2019	2021
HGV Artic	1993	1997	2001	2006	2009	2014	2019	2021
Buses	1993	1997	2001	2006	2009	2014	2019	2021
Coach	1993	1997	2001	2006	2009	2014	2019	2021
Taxi Electric	N/A	N/A	N/A	N/A	N/A	2014	2019	2021
PHV Electric	N/A	N/A	N/A	N/A	N/A	2014	2019	2021

Source: JAQU

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Ele	Euro 6c	Euro 6d
Car Petrol	1995	1999	2003.5	2008	2012.5	2017	2020	2021
Car Diesel	1995	1999	2003.5	2008	2012.5	2017	2020	2021
PHV Petrol	1995	1999	2003.5	2008	2012.5	2017	2020	2021
PHV Diesel	1995	1999	2003.5	2008	2012.5	2017	2020	2021
Taxi Petrol	1995	1999	2003.5	2008	2012.5	2017	2020	2021
Taxi Diesel	1995	1999	2003.5	2008	2012.5	2017	2020	2021
LGV petrol	1997	2000	2003.5	2008	2012.5	2017	2020	2021
LGV diesel	1997	2000	2003.5	2008	2012.5	2017	2020	2021
HGV	1995	1999	2003.5	2007.5	2011.5	2016.5	2020	2021
Buses	1995	1999	2003.5	2007.5	2011.5	2016.5	2020	2021
Coach	1995	1999	2003.5	2007.5	2011.5	2016.5	2020	2021
Taxi Electric					2014	2016.5	2020	2021
PHV Electric					2014	2016.5	2020	2021

Source: JAQU

New vehicle price

Vehicle	Cost
Cars	12,997
Car Electric	
Taxi	46,000
PHV	12,997
LGV	13,328
LGV Electric	
HGV	65,700
Bus	160,000
Coach	250,000

DEPRECIATION ASSUMPTIONS

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Car	37%	18%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
LGV	37%	18%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
HGV	35%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
Bus	35%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
Coach	35%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%

	Residual Value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Car	Car Petrol	12,997	8,188	6,714	5,640	4,738	3,980	3,343	2,808	2,359	1,981	1,664	1,398	1,174	986	829	696	585	491	413	347	291	245	205	173	145	122	102	86	72	61	51	43	36	30	25	21
Car	Car Diesel	12,997	8,188	6,714	5,640	4,738	3,980	3,343	2,808	2,359	1,981	1,664	1,398	1,174	986	829	696	585	491	413	347	291	245	205	173	145	122	102	86	72	61	51	43	36	30	25	21
Car	Car Electric																																				
Car	PHV Petrol	12,997	8,188	6,714	5,640	4,738	3,980	3,343	2,808	2,359	1,981	1,664	1,398	1,174	986	829	696	585	491	413	347	291	245	205	173	145	122	102	86	72	61	51	43	36	30	25	21
Car	PHV Diesel	12,997	8,188	6,714	5,640	4,738	3,980	3,343	2,808	2,359	1,981	1,664	1,398	1,174	986	829	696	585	491	413	347	291	245	205	173	145	122	102	86	72	61	51	43	36	30	25	21
Car	Taxi Petrol	46,000	28,980	23,764	19,961	16,768	14,085	11,831	9,938	8,348	7,012	5,890	4,948	4,156	3,491	2,933	2,463	2,069	1,738	1,460	1,226	1,030	865	727	611	513	431	362	304	255	215	180	151	127	107	90	75
Car	Taxi Diesel	46,000	28,980	23,764	19,961	16,768	14,085	11,831	9,938	8,348	7,012	5,890	4,948	4,156	3,491	2,933	2,463	2,069	1,738	1,460	1,226	1,030	865	727	611	513	431	362	304	255	215	180	151	127	107	90	75
LGV	LGV petrol	13,328	8,397	6,885	5,784	4,858	4,081	3,428	2,879	2,419	2,032	1,707	1,434	1,204	1,012	850	714	600	504	423	355	298	251	211	177	149	125	105	88	74	62	52	44	37	31	26	22
LGV	LGV diesel	13,328	8,397	6,885	5,784	4,858	4,081	3,428	2,879	2,419	2,032	1,707	1,434	1,204	1,012	850	714	600	504	423	355	298	251	211	177	149	125	105	88	74	62	52	44	37	31	26	22
HGV	HGV	65,700	42,705	35,018	28,715	23,546	19,308	15,832	12,983	10,646	8,730	7,158	5,870	4,813	3,947	3,236	2,654	2,176	1,784	1,463	1,200	984	807	662	542	445	365	299	245	201	165	135	111	91	75	61	50
Bus	Bus	160,000	104,000	85,280	69,930	57,342	47,021	38,557	31,617	25,926	21,259	17,432	14,295	11,722	9,612	7,882	6,463	5,300	4,346	3,563	2,922	2,396	1,965	1,611	1,321	1,083	888	728	597	490	402	329	270	221	182	149	122
Coach	Coach	250,000	162,500	133,250	109,265	89,597	73,470	60,245	49,401	40,509	33,217	27,238	22,335	18,315	15,018	12,315	10,098	8,281	6,790	5,568	4,566	3,744	3,070	2,517	2,064	1,693	1,388	1,138	933	765	628	515	422	346	284	233	191
Car	Taxi Electric	46,000	28,980	23,764	19,961	16,768	14,085	11,831	9,938	8,348	7,012	5,890	4,948	4,156	3,491	2,933	2,463	2,069	1,738	1,460	1,226	1,030	865	727	611	513	431	362	304	255	215	180	151	127	107	90	75
Car	PHV Electric																																				

%age of planned upgrades by year (Do-Min+vehicle upgrade post-intervention)

	Vehicle	Fuel	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Car Petrol	Car	petrol	7%	6%	6%	6%	6%	7%	11%	10%	5%	1%
Car Diesel	Car	diesel	9%	11%	11%	11%	11%	7%	11%	10%	5%	1%
PHV Petrol	PHV	petrol	56%	6%	6%	6%	6%	7%	11%	10%	5%	1%
PHV Diesel	PHV	diesel	58%	11%	11%	11%	11%	7%	11%	10%	5%	1%
Taxi Petrol	Taxi	petrol	100%	6%	6%	6%	6%	7%	11%	10%	5%	1%
Taxi Diesel	Taxi	diesel	100%	11%	11%	11%	11%	7%	11%	10%	5%	1%
LGV petrol	LGV	petrol	60%	12%	12%	12%	12%	6%	9%	8%	4%	1%
LGV diesel	LGV	diesel	60%	12%	12%	12%	12%	6%	9%	8%	4%	1%
HGV	HGV	diesel	79%	5%	5%	5%	5%	1%	2%	2%	1%	1%
Bus	Bus	diesel	100%	8%	8%	8%	8%	1%	2%	2%	2%	2%

2021

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	26	22	18	13	9	4	1	0
Car Diesel	26	22	18	13	9	4	1	0
PHV Petrol	26	22	18	13	9	4	1	0
PHV Diesel	26	22	18	13	9	4	1	0
Taxi Petrol	26	22	18	13	9	4	1	0
Taxi Diesel	26	22	18	13	9	4	1	0
LGV petrol	24	21	18	13	9	4	1	0
LGV diesel	24	21	18	13	9	4	1	0
HGV	26	22	18	14	10	5	1	0
Buses	26	22	18	14	10	5	1	0
Coach	26	22	18	14	10	5	1	0
Taxi Electric					7	5	1	0
PHV Electric					7	5	1	0

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	102	205	413	986	1,981	4,738	8,188	12,997
Car Diesel	102	205	413	986	1,981	4,738	8,188	12,997
PHV Petrol	102	205	413	986	1,981	4,738	8,188	12,997
PHV Diesel	102	205	413	986	1,981	4,738	8,188	12,997
Taxi Petrol	362	727	1,460	3,491	7,012	16,768	28,980	46,000
Taxi Diesel	362	727	1,460	3,491	7,012	16,768	28,980	46,000
LGV petrol	149	251	423	1,012	2,032	4,858	8,397	13,328
LGV diesel	149	251	423	1,012	2,032	4,858	8,397	13,328
HGV	299	662	1,463	3,236	7,158	19,308	42,705	65,700
Bus	728	1,611	3,563	7,882	17,432	47,021	104,000	160,000
Coach	1,138	2,517	5,568	12,315	27,238	73,470	162,500	250,000

Approved

2022

Average Age by Euro Standard

Conc	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	27	23	19	14	10	5	2	1
Car Diesel	27	23	19	14	10	5	2	1
PHV Petrol	27	23	19	14	10	5	2	1
PHV Diesel	27	23	19	14	10	5	2	1
Taxi Petrol	27	23	19	14	10	5	2	1
Taxi Diesel	27	23	19	14	10	5	2	1
LGV petrol	25	22	19	14	10	5	2	1
LGV diesel	25	22	19	14	10	5	2	1
HGV	27	23	19	15	11	6	2	1
Buses	27	23	19	15	11	6	2	1
Coach	27	23	19	15	11	6	2	1
Taxi Electric					8	6	2	1
PHV Electric					8	6	2	1

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	86	173	347	829	1,664	3,980	6,714	8,188
Car Diesel	86	173	347	829	1,664	3,980	6,714	8,188
PHV Petrol	86	173	347	829	1,664	3,980	6,714	8,188
PHV Diesel	86	173	347	829	1,664	3,980	6,714	8,188
Taxi Petrol	304	611	1,226	2,933	5,890	14,085	23,764	28,980
Taxi Diesel	304	611	1,226	2,933	5,890	14,085	23,764	28,980
LGV petrol	125	211	355	850	1,707	4,081	6,885	8,397
LGV diesel	125	211	355	850	1,707	4,081	6,885	8,397
HGV	245	542	1,200	2,654	5,870	15,832	35,018	42,705
Bus	597	1,321	2,922	6,463	14,295	38,557	85,280	104,000
Coach	933	2,064	4,566	10,098	22,335	60,245	133,250	162,500

Upgrade
7%
9%
56%
58%
100%
100%
60%
60%
79%
100%
100%

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	165	164	163	160	154	139	115	-
Car Diesel	214	213	211	207	200	181	149	-
PHV Petrol	1,336	1,332	1,322	1,297	1,252	1,129	930	-
PHV Diesel	1,385	1,380	1,371	1,344	1,298	1,171	964	-
Taxi Petrol	8,481	8,452	8,393	8,231	7,949	7,169	5,902	-
Taxi Diesel	8,481	8,452	8,393	8,231	7,949	7,169	5,902	-
LGV petrol	1,468	1,463	1,455	1,427	1,378	1,243	1,023	-
LGV diesel	1,468	1,463	1,455	1,427	1,378	1,243	1,023	-
HGV	9,050	9,024	8,967	8,841	8,563	7,700	6,039	-
Bus	27,934	27,855	27,679	27,291	26,431	23,768	18,640	-
Coach	43,648	43,523	43,249	42,642	41,299	37,138	29,125	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
7%	Petrol	Car Petrol	5	4	3	-	-	-
9%	Diesel	Car Diesel	33	32	31	27	20	-
56%	Petrol	PHV Petrol	39	35	26	-	-	-
58%	Diesel	PHV Diesel	214	210	200	173	127	-
100%	Petrol	Taxi Petrol	250	221	162	-	-	-
100%	Diesel	Taxi Diesel	1,312	1,283	1,225	1,062	780	-
60%	Petrol	LGV petrol	41	36	28	-	-	-
60%	Diesel	LGV diesel	225	221	212	184	135	-
79%	Diesel	HGV	1,350	1,324	1,267	1,141	863	-
100%	Diesel	Bus	4,166	4,087	3,911	3,523	2,663	-
100%	Diesel	Coach	6,510	6,386	6,111	5,504	4,161	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
7%	Petrol	Car Petrol	5	4	3	-	-	-
9%	Diesel	Car Diesel	-	-	-	-	-	-
56%	Petrol	PHV Petrol	39	35	26	-	-	-
58%	Diesel	PHV Diesel	-	-	-	-	-	-
100%	Petrol	Taxi Petrol	250	221	162	-	-	-
100%	Diesel	Taxi Diesel	-	-	-	-	-	-
60%	Petrol	LGV petrol	41	36	28	-	-	-
60%	Diesel	LGV diesel	-	-	-	-	-	-
79%	Diesel	HGV						
100%	Diesel	Bus						
100%	Diesel	Coach						

2023

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	28	24	20	15	11	6	3	2
Car Diesel	28	24	20	15	11	6	3	2
PHV Petrol	28	24	20	15	11	6	3	2
PHV Diesel	28	24	20	15	11	6	3	2
Taxi Petrol	28	24	20	15	11	6	3	2
Taxi Diesel	28	24	20	15	11	6	3	2
LGV petrol	26	23	20	15	11	6	3	2
LGV diesel	26	23	20	15	11	6	3	2
HGV	28	24	20	16	12	7	3	2
Buses	28	24	20	16	12	7	3	2
Coach	28	24	20	16	12	7	3	2
Taxi Electric					9	7	3	2
PHV Electric					9	7	3	2

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	72	145	291	696	1,398	3,343	5,640	6,714
Car Diesel	72	145	291	696	1,398	3,343	5,640	6,714
PHV Petrol	72	145	291	696	1,398	3,343	5,640	6,714
PHV Diesel	72	145	291	696	1,398	3,343	5,640	6,714
Taxi Petrol	255	513	1,030	2,463	4,948	11,831	19,961	23,764
Taxi Diesel	255	513	1,030	2,463	4,948	11,831	19,961	23,764
LGV petrol	105	177	298	714	1,434	3,428	5,784	6,885
LGV diesel	105	177	298	714	1,434	3,428	5,784	6,885
HGV	201	445	984	2,176	4,813	12,983	28,715	35,018
Bus	490	1,083	2,396	5,300	11,722	31,617	69,930	85,280
Coach	765	1,693	3,744	8,281	18,315	49,401	109,265	133,250

Approved

Consumer Welfare Loss - new upgrade

Upgrade		Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
6%	Car Petrol	186	185	183	178	170	145	111	-
11%	Car Diesel	336	335	331	322	306	263	201	-
6%	PHV Petrol	186	185	183	178	170	145	111	-
11%	PHV Diesel	336	335	331	322	306	263	201	-
6%	Taxi Petrol	658	655	649	631	600	515	393	-
11%	Taxi Diesel	1,190	1,184	1,172	1,140	1,085	930	711	-
12%	LGV petrol	383	382	379	368	350	300	229	-
12%	LGV diesel	383	382	379	368	350	300	229	-
5%	HGV	770	767	761	746	714	614	420	-
8%	Bus	3,085	3,073	3,047	2,988	2,859	2,457	1,684	-
8%	Coach	4,821	4,802	4,761	4,669	4,467	3,839	2,631	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	4	3	2	-	-	-
11%	Diesel	Car Diesel	33	33	31	27	20	-
6%	Petrol	PHV Petrol	4	3	2	-	-	-
11%	Diesel	PHV Diesel	33	33	31	27	20	-
6%	Petrol	Taxi Petrol	13	11	8	-	-	-
11%	Diesel	Taxi Diesel	119	116	111	96	70	-
12%	Petrol	LGV petrol	7	6	5	-	-	-
12%	Diesel	LGV diesel	38	37	36	31	23	-
5%	Diesel	HGV	71	69	66	60	45	-
8%	Diesel	Bus	283	278	266	239	181	-
8%	Diesel	Coach	442	434	415	374	283	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	8	7	5	-	-	-
11%	Diesel	Car Diesel	-	-	-	-	-	-
6%	Petrol	PHV Petrol	8	7	5	-	-	-
11%	Diesel	PHV Diesel	-	-	-	-	-	-
6%	Petrol	Taxi Petrol	27	24	18	-	-	-
11%	Diesel	Taxi Diesel	-	-	-	-	-	-
12%	Petrol	LGV petrol	15	13	10	-	-	-
12%	Diesel	LGV diesel	-	-	-	-	-	-
5%	Diesel	HGV						
8%	Diesel	Bus						
8%	Diesel	Coach						

2024

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	29	25	21	16	12	7	4	3
Car Diesel	29	25	21	16	12	7	4	3
PHV Petrol	29	25	21	16	12	7	4	3
PHV Diesel	29	25	21	16	12	7	4	3
Taxi Petrol	29	25	21	16	12	7	4	3
Taxi Diesel	29	25	21	16	12	7	4	3
LGV petrol	27	24	21	16	12	7	4	3
LGV diesel	27	24	21	16	12	7	4	3
HGV	29	25	21	17	13	8	4	3
Buses	29	25	21	17	13	8	4	3
Coach	29	25	21	17	13	8	4	3
Taxi Electric					10	8	4	3
PHV Electric					10	8	4	3

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	61	122	245	585	1,174	2,808	4,738	5,640
Car Diesel	61	122	245	585	1,174	2,808	4,738	5,640
PHV Petrol	61	122	245	585	1,174	2,808	4,738	5,640
PHV Diesel	61	122	245	585	1,174	2,808	4,738	5,640
Taxi Petrol	215	431	865	2,069	4,156	9,938	16,768	19,961
Taxi Diesel	215	431	865	2,069	4,156	9,938	16,768	19,961
LGV petrol	88	149	251	600	1,204	2,879	4,858	5,784
LGV diesel	88	149	251	600	1,204	2,879	4,858	5,784
HGV	165	365	807	1,784	3,947	10,646	23,546	28,715
Bus	402	888	1,965	4,346	9,612	25,926	57,342	69,930
Coach	628	1,388	3,070	6,790	15,018	40,509	89,597	109,265

Consumer Welfare Loss - new upgrade

Upgrade		Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
6%	Car Petrol	218	216	214	207	195	161	116	-
11%	Car Diesel	393	391	387	374	352	292	210	-
6%	PHV Petrol	218	216	214	207	195	161	116	-
11%	PHV Diesel	393	391	387	374	352	292	210	-
6%	Taxi Petrol	770	766	757	732	689	571	411	-
11%	Taxi Diesel	1,392	1,384	1,368	1,323	1,246	1,033	743	-
12%	LGV petrol	448	446	442	427	403	334	240	-
12%	LGV diesel	448	446	442	427	403	334	240	-
5%	HGV	928	924	915	895	851	713	449	-
8%	Bus	3,718	3,701	3,665	3,585	3,407	2,857	1,798	-
8%	Coach	5,809	5,783	5,727	5,601	5,324	4,465	2,810	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	3	3	2	-	-	-
11%	Diesel	Car Diesel	28	28	26	23	17	-
6%	Petrol	PHV Petrol	3	3	2	-	-	-
11%	Diesel	PHV Diesel	28	28	26	23	17	-
6%	Petrol	Taxi Petrol	11	9	7	-	-	-
11%	Diesel	Taxi Diesel	100	97	93	81	59	-
12%	Petrol	LGV petrol	6	5	4	-	-	-
12%	Diesel	LGV diesel	32	31	30	26	19	-
5%	Diesel	HGV	58	57	54	49	37	-
8%	Diesel	Bus	232	228	218	196	148	-
8%	Diesel	Coach	363	356	340	307	232	-

Approved

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	11	9	7	-	-	-
11%	Diesel	Car Diesel	-	-	-	-	-	-
6%	Petrol	PHV Petrol	11	9	7	-	-	-
11%	Diesel	PHV Diesel	-	-	-	-	-	-
6%	Petrol	Taxi Petrol	38	33	25	-	-	-
11%	Diesel	Taxi Diesel	18	2	-	-	-	-
12%	Petrol	LGV petrol	21	19	14	-	-	-
12%	Diesel	LGV diesel	-	-	-	-	-	-
5%	Diesel	HGV						
8%	Diesel	Bus						
8%	Diesel	Coach						

2025

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	30	26	22	17	13	8	5	4
Car Diesel	30	26	22	17	13	8	5	4
PHV Petrol	30	26	22	17	13	8	5	4
PHV Diesel	30	26	22	17	13	8	5	4
Taxi Petrol	30	26	22	17	13	8	5	4
Taxi Diesel	30	26	22	17	13	8	5	4
LGV petrol	28	25	22	17	13	8	5	4
LGV diesel	28	25	22	17	13	8	5	4
HGV	30	26	22	18	14	9	5	4
Buses	30	26	22	18	14	9	5	4
Coach	30	26	22	18	14	9	5	4
Taxi Electric					11	9	5	4
PHV Electric					11	9	5	4

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	51	102	205	491	986	2,359	3,980	4,738
Car Diesel	51	102	205	491	986	2,359	3,980	4,738
PHV Petrol	51	102	205	491	986	2,359	3,980	4,738
PHV Diesel	51	102	205	491	986	2,359	3,980	4,738
Taxi Petrol	180	362	727	1,738	3,491	8,348	14,085	16,768
Taxi Diesel	180	362	727	1,738	3,491	8,348	14,085	16,768
LGV petrol	74	125	211	504	1,012	2,419	4,081	4,858
LGV diesel	74	125	211	504	1,012	2,419	4,081	4,858
HGV	135	299	662	1,463	3,236	8,730	19,308	23,546
Bus	329	728	1,611	3,563	7,882	21,259	47,021	57,342
Coach	515	1,138	2,517	5,568	12,315	33,217	73,470	89,597

Consumer Welfare Loss - new upgrade

Upgrade		Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
6%	Car Petrol	244	243	239	231	216	175	120	-
11%	Car Diesel	441	439	433	417	391	316	218	-
6%	PHV Petrol	244	243	239	231	216	175	120	-
11%	PHV Diesel	441	439	433	417	391	316	218	-
6%	Taxi Petrol	864	859	848	817	765	619	426	-
11%	Taxi Diesel	1,562	1,552	1,532	1,477	1,382	1,119	771	-
12%	LGV petrol	503	500	495	477	446	361	249	-
12%	LGV diesel	503	500	495	477	446	361	249	-
5%	HGV	1,058	1,053	1,042	1,017	963	795	472	-
8%	Bus	4,236	4,216	4,172	4,074	3,857	3,185	1,892	-
8%	Coach	6,619	6,588	6,518	6,365	6,027	4,977	2,957	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	2	2	2	-	-	-
11%	Diesel	Car Diesel	24	23	22	19	14	-
6%	Petrol	PHV Petrol	2	2	2	-	-	-
11%	Diesel	PHV Diesel	24	23	22	19	14	-
6%	Petrol	Taxi Petrol	9	8	6	-	-	-
11%	Diesel	Taxi Diesel	84	82	78	68	50	-
12%	Petrol	LGV petrol	5	4	3	-	-	-
12%	Diesel	LGV diesel	27	26	25	22	16	-
5%	Diesel	HGV	48	47	45	40	30	-
8%	Diesel	Bus	190	187	179	161	122	-
8%	Diesel	Coach	297	292	279	251	190	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	13	12	9	-	-	-
11%	Diesel	Car Diesel	-	-	-	-	-	-
6%	Petrol	PHV Petrol	13	12	9	-	-	-
11%	Diesel	PHV Diesel	-	-	-	-	-	-
6%	Petrol	Taxi Petrol	47	41	30	-	-	-
11%	Diesel	Taxi Diesel	42	25	-	-	-	-
12%	Petrol	LGV petrol	26	23	18	-	-	-
12%	Diesel	LGV diesel	-	-	-	-	-	-
5%	Diesel	HGV						
8%	Diesel	Bus						
8%	Diesel	Coach						

Approved

2026

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	31	27	23	18	14	9	6	5
Car Diesel	31	27	23	18	14	9	6	5
PHV Petrol	31	27	23	18	14	9	6	5
PHV Diesel	31	27	23	18	14	9	6	5
Taxi Petrol	31	27	23	18	14	9	6	5
Taxi Diesel	31	27	23	18	14	9	6	5
LGV petrol	29	26	23	18	14	9	6	5
LGV diesel	29	26	23	18	14	9	6	5
HGV	31	27	23	19	15	10	6	5
Buses	31	27	23	19	15	10	6	5
Coach	31	27	23	19	15	10	6	5
Taxi Electric					12	10	6	5
PHV Electric					12	10	6	5

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	43	86	173	413	829	1,981	3,343	3,980
Car Diesel	43	86	173	413	829	1,981	3,343	3,980
PHV Petrol	43	86	173	413	829	1,981	3,343	3,980
PHV Diesel	43	86	173	413	829	1,981	3,343	3,980
Taxi Petrol	151	304	611	1,460	2,933	7,012	11,831	14,085
Taxi Diesel	151	304	611	1,460	2,933	7,012	11,831	14,085
LGV petrol	62	105	177	423	850	2,032	3,428	4,081
LGV diesel	62	105	177	423	850	2,032	3,428	4,081
HGV	111	245	542	1,200	2,654	7,158	15,832	19,308
Bus	270	597	1,321	2,922	6,463	17,432	38,557	47,021
Coach	422	933	2,064	4,566	10,098	27,238	60,245	73,470

Upgrade
6%
11%
6%
11%
6%
11%
12%
12%
5%
8%
8%

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	266	265	261	251	234	186	124	-
Car Diesel	482	478	472	454	423	337	224	-
PHV Petrol	266	265	261	251	234	186	124	-
PHV Diesel	482	478	472	454	423	337	224	-
Taxi Petrol	943	937	924	889	828	659	439	-
Taxi Diesel	1,705	1,693	1,670	1,607	1,497	1,191	794	-
LGV petrol	549	545	539	519	483	385	256	-
LGV diesel	549	545	539	519	483	385	256	-
HGV	1,164	1,158	1,145	1,117	1,055	863	492	-
Bus	4,661	4,638	4,587	4,475	4,226	3,455	1,969	-
Coach	7,283	7,247	7,168	6,992	6,603	5,398	3,077	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	2	2	1	-	-	-
11%	Diesel	Car Diesel	20	19	19	16	12	-
6%	Petrol	PHV Petrol	2	2	1	-	-	-
11%	Diesel	PHV Diesel	20	19	19	16	12	-
6%	Petrol	Taxi Petrol	7	7	5	-	-	-
11%	Diesel	Taxi Diesel	70	69	66	57	42	-
12%	Petrol	LGV petrol	4	4	3	-	-	-
12%	Diesel	LGV diesel	22	22	21	18	13	-
5%	Diesel	HGV	39	38	37	33	25	-
8%	Diesel	Bus	156	153	147	132	100	-
8%	Diesel	Coach	244	239	229	206	156	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
6%	Petrol	Car Petrol	15	14	10	-	-	-
11%	Diesel	Car Diesel	-	-	-	-	-	-
6%	Petrol	PHV Petrol	15	14	10	-	-	-
11%	Diesel	PHV Diesel	-	-	-	-	-	-
6%	Petrol	Taxi Petrol	54	48	35	-	-	-
11%	Diesel	Taxi Diesel	62	45	9	-	-	-
12%	Petrol	LGV petrol	30	27	21	-	-	-
12%	Diesel	LGV diesel	-	-	-	-	-	-
5%	Diesel	HGV						
8%	Diesel	Bus						
8%	Diesel	Coach						

Approved

2027

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	32	28	24	19	15	10	7	6
Car Diesel	32	28	24	19	15	10	7	6
PHV Petrol	32	28	24	19	15	10	7	6
PHV Diesel	32	28	24	19	15	10	7	6
Taxi Petrol	32	28	24	19	15	10	7	6
Taxi Diesel	32	28	24	19	15	10	7	6
LGV petrol	30	27	24	19	15	10	7	6
LGV diesel	30	27	24	19	15	10	7	6
HGV	32	28	24	20	16	11	7	6
Buses	32	28	24	20	16	11	7	6
Coach	32	28	24	20	16	11	7	6
Taxi Electric					13	11	7	6
PHV Electric					13	11	7	6

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	36	72	145	347	696	1,664	2,808	3,343
Car Diesel	36	72	145	347	696	1,664	2,808	3,343
PHV Petrol	36	72	145	347	696	1,664	2,808	3,343
PHV Diesel	36	72	145	347	696	1,664	2,808	3,343
Taxi Petrol	127	255	513	1,226	2,463	5,890	9,938	11,831
Taxi Diesel	127	255	513	1,226	2,463	5,890	9,938	11,831
LGV petrol	52	88	149	355	714	1,707	2,879	3,428
LGV diesel	52	88	149	355	714	1,707	2,879	3,428
HGV	91	201	445	984	2,176	5,870	12,983	15,832
Bus	221	490	1,083	2,396	5,300	14,295	31,617	38,557
Coach	346	765	1,693	3,744	8,281	22,335	49,401	60,245

Upgrade
7%
7%
7%
7%
7%
7%
6%
6%
1%
1%
1%

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	322	320	315	303	281	221	144	-
Car Diesel	333	331	326	313	291	229	149	-
PHV Petrol	322	320	315	303	281	221	144	-
PHV Diesel	333	331	326	313	291	229	149	-
Taxi Petrol	1,140	1,132	1,116	1,072	995	782	508	-
Taxi Diesel	1,179	1,171	1,155	1,109	1,030	810	526	-
LGV petrol	283	281	278	267	248	195	126	-
LGV diesel	283	281	278	267	248	195	126	-
HGV	352	350	346	338	318	258	143	-
Bus	663	660	652	636	599	486	269	-
Coach	1,036	1,031	1,019	993	936	760	420	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
7%	Petrol	Car Petrol	2	2	1	-	-	-
7%	Diesel	Car Diesel	11	11	10	9	6	-
7%	Petrol	PHV Petrol	2	2	1	-	-	-
7%	Diesel	PHV Diesel	11	11	10	9	6	-
7%	Petrol	Taxi Petrol	7	6	5	-	-	-
7%	Diesel	Taxi Diesel	38	37	36	31	23	-
6%	Petrol	LGV petrol	2	1	1	-	-	-
6%	Diesel	LGV diesel	9	9	9	7	5	-
1%	Diesel	HGV	9	9	8	8	6	-
1%	Diesel	Bus	17	17	16	14	11	-
1%	Diesel	Coach	26	26	25	22	17	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
7%	Petrol	Car Petrol	19	17	13	-	-	-
7%	Diesel	Car Diesel	-	-	-	-	-	-
7%	Petrol	PHV Petrol	19	17	13	-	-	-
7%	Diesel	PHV Diesel	-	-	-	-	-	-
7%	Petrol	Taxi Petrol	68	60	44	-	-	-
7%	Diesel	Taxi Diesel	51	40	16	-	-	-
6%	Petrol	LGV petrol	16	14	11	-	-	-
6%	Diesel	LGV diesel	-	-	-	-	-	-
1%	Diesel	HGV						
1%	Diesel	Bus						
1%	Diesel	Coach						

Approved

2028

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	33	29	25	20	16	11	8	7
Car Diesel	33	29	25	20	16	11	8	7
PHV Petrol	33	29	25	20	16	11	8	7
PHV Diesel	33	29	25	20	16	11	8	7
Taxi Petrol	33	29	25	20	16	11	8	7
Taxi Diesel	33	29	25	20	16	11	8	7
LGV petrol	31	28	25	20	16	11	8	7
LGV diesel	31	28	25	20	16	11	8	7
HGV	33	29	25	21	17	12	8	7
Buses	33	29	25	21	17	12	8	7
Coach	33	29	25	21	17	12	8	7
Taxi Electric					14	12	8	7
PHV Electric					14	12	8	7

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	30	61	122	291	585	1,398	2,359	2,808
Car Diesel	30	61	122	291	585	1,398	2,359	2,808
PHV Petrol	30	61	122	291	585	1,398	2,359	2,808
PHV Diesel	30	61	122	291	585	1,398	2,359	2,808
Taxi Petrol	107	215	431	1,030	2,069	4,948	8,348	9,938
Taxi Diesel	107	215	431	1,030	2,069	4,948	8,348	9,938
LGV petrol	44	74	125	298	600	1,434	2,419	2,879
LGV diesel	44	74	125	298	600	1,434	2,419	2,879
HGV	75	165	365	807	1,784	4,813	10,646	12,983
Bus	182	402	888	1,965	4,346	11,722	25,926	31,617
Coach	284	628	1,388	3,070	6,790	18,315	40,509	49,401

Upgrade
11%
11%
11%
11%
11%
11%
9%
9%
2%
2%
2%

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	544	540	532	510	473	368	234	-
Car Diesel	563	559	550	528	489	381	242	-
PHV Petrol	544	540	532	510	473	368	234	-
PHV Diesel	563	559	550	528	489	381	242	-
Taxi Petrol	1,925	1,911	1,883	1,806	1,673	1,303	829	-
Taxi Diesel	1,991	1,977	1,948	1,869	1,731	1,348	858	-
LGV petrol	477	474	468	449	416	324	206	-
LGV diesel	477	474	468	449	416	324	206	-
HGV	595	592	585	570	537	434	234	-
Bus	1,121	1,116	1,103	1,074	1,011	817	441	-
Coach	1,752	1,743	1,723	1,678	1,580	1,276	690	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
11%	Petrol	Car Petrol	3	2	2	-	-	-
11%	Diesel	Car Diesel	14	14	14	12	9	-
11%	Petrol	PHV Petrol	3	2	2	-	-	-
11%	Diesel	PHV Diesel	14	14	14	12	9	-
11%	Petrol	Taxi Petrol	9	8	6	-	-	-
11%	Diesel	Taxi Diesel	51	50	48	41	30	-
9%	Petrol	LGV petrol	2	2	2	-	-	-
9%	Diesel	LGV diesel	12	12	12	10	7	-
2%	Diesel	HGV	12	12	11	10	8	-
2%	Diesel	Bus	22	22	21	19	14	-
2%	Diesel	Coach	35	34	33	29	22	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
11%	Petrol	Car Petrol	34	30	22	-	-	-
11%	Diesel	Car Diesel	-	-	-	-	-	-
11%	Petrol	PHV Petrol	34	30	22	-	-	-
11%	Diesel	PHV Diesel	-	-	-	-	-	-
11%	Petrol	Taxi Petrol	119	105	77	-	-	-
11%	Diesel	Taxi Diesel	97	78	40	-	-	-
9%	Petrol	LGV petrol	28	25	19	-	-	-
9%	Diesel	LGV diesel	-	-	-	-	-	-
2%	Diesel	HGV						
2%	Diesel	Bus						
2%	Diesel	Coach						

Approved

2029

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	34	30	26	21	17	12	9	8
Car Diesel	34	30	26	21	17	12	9	8
PHV Petrol	34	30	26	21	17	12	9	8
PHV Diesel	34	30	26	21	17	12	9	8
Taxi Petrol	34	30	26	21	17	12	9	8
Taxi Diesel	34	30	26	21	17	12	9	8
LGV petrol	32	29	26	21	17	12	9	8
LGV diesel	32	29	26	21	17	12	9	8
HGV	34	30	26	22	18	13	9	8
Buses	34	30	26	22	18	13	9	8
Coach	34	30	26	22	18	13	9	8
Taxi Electric					15	13	9	8
PHV Electric					15	13	9	8

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	25	51	102	245	491	1,174	1,981	2,359
Car Diesel	25	51	102	245	491	1,174	1,981	2,359
PHV Petrol	25	51	102	245	491	1,174	1,981	2,359
PHV Diesel	25	51	102	245	491	1,174	1,981	2,359
Taxi Petrol	90	180	362	865	1,738	4,156	7,012	8,348
Taxi Diesel	90	180	362	865	1,738	4,156	7,012	8,348
LGV petrol	37	62	105	251	504	1,204	2,032	2,419
LGV diesel	37	62	105	251	504	1,204	2,032	2,419
HGV	61	135	299	662	1,463	3,947	8,730	10,646
Bus	149	329	728	1,611	3,563	9,612	21,259	25,926
Coach	233	515	1,138	2,517	5,568	15,018	33,217	40,509

Upgrade
10%
10%
10%
10%
10%
10%
8%
8%
2%
2%
2%

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	511	507	500	479	443	342	214	-
Car Diesel	529	525	517	495	458	354	222	-
PHV Petrol	511	507	500	479	443	342	214	-
PHV Diesel	529	525	517	495	458	354	222	-
Taxi Petrol	1,808	1,795	1,768	1,694	1,566	1,211	759	-
Taxi Diesel	1,871	1,857	1,830	1,753	1,621	1,253	785	-
LGV petrol	448	445	440	421	390	301	189	-
LGV diesel	448	445	440	421	390	301	189	-
HGV	560	557	550	536	504	405	215	-
Bus	1,054	1,048	1,036	1,009	949	763	405	-
Coach	1,647	1,638	1,619	1,576	1,483	1,192	633	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
10%	Petrol	Car Petrol	2	2	1	-	-	-	-	-
10%	Diesel	Car Diesel	11	11	10	9	7	-	-	-
10%	Petrol	PHV Petrol	2	2	1	-	-	-	-	-
10%	Diesel	PHV Diesel	11	11	10	9	7	-	-	-
10%	Petrol	Taxi Petrol	7	6	5	-	-	-	-	-
10%	Diesel	Taxi Diesel	39	38	36	31	23	-	-	-
8%	Petrol	LGV petrol	2	1	1	-	-	-	-	-
8%	Diesel	LGV diesel	9	9	9	8	6	-	-	-
2%	Diesel	HGV	9	9	8	7	6	-	-	-
2%	Diesel	Bus	16	16	15	14	10	-	-	-
2%	Diesel	Coach	26	25	24	22	16	-	-	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6 / Electric	Euro 6 / Electric
10%	Petrol	Car Petrol	32	28	21	-	-	-	-	-
10%	Diesel	Car Diesel	-	-	-	-	-	-	-	-
10%	Petrol	PHV Petrol	32	28	21	-	-	-	-	-
10%	Diesel	PHV Diesel	-	-	-	-	-	-	-	-
10%	Petrol	Taxi Petrol	114	101	74	-	-	-	-	-
10%	Diesel	Taxi Diesel	98	81	47	-	-	-	-	-
8%	Petrol	LGV petrol	27	24	18	-	-	-	-	-
8%	Diesel	LGV diesel	-	-	-	-	-	-	-	-
2%	Diesel	HGV								
2%	Diesel	Bus								
2%	Diesel	Coach								

Approved

2030

Average Age by Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	35	31	27	22	18	13	10	9
Car Diesel	35	31	27	22	18	13	10	9
PHV Petrol	35	31	27	22	18	13	10	9
PHV Diesel	35	31	27	22	18	13	10	9
Taxi Petrol	35	31	27	22	18	13	10	9
Taxi Diesel	35	31	27	22	18	13	10	9
LGV petrol	33	30	27	22	18	13	10	9
LGV diesel	33	30	27	22	18	13	10	9
HGV	35	31	27	23	19	14	10	9
Buses	35	31	27	23	19	14	10	9
Coach	35	31	27	23	19	14	10	9
Taxi Electric					16	14	10	9
PHV Electric					16	14	10	9

Average residual (depreciated) value of vehicle in each Euro Standard

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	Euro 6d
Car Petrol	21	43	86	205	413	986	1,664	1,981
Car Diesel	21	43	86	205	413	986	1,664	1,981
PHV Petrol	21	43	86	205	413	986	1,664	1,981
PHV Diesel	21	43	86	205	413	986	1,664	1,981
Taxi Petrol	75	151	304	727	1,460	3,491	5,890	7,012
Taxi Diesel	75	151	304	727	1,460	3,491	5,890	7,012
LGV petrol	31	52	88	211	423	1,012	1,707	2,032
LGV diesel	31	52	88	211	423	1,012	1,707	2,032
HGV	50	111	245	542	1,200	3,236	7,158	8,730
Bus	122	270	597	1,321	2,922	7,882	17,432	21,259
Coach	191	422	933	2,064	4,566	12,315	27,238	33,217

Upgrade
5%
5%
5%
5%
5%
5%
4%
4%
1%
2%
2%

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric	Euro 6c	New (Euro 6d)
Car Petrol	282	280	276	264	244	187	116	-
Car Diesel	292	290	285	273	252	194	120	-
PHV Petrol	282	280	276	264	244	187	116	-
PHV Diesel	292	290	285	273	252	194	120	-
Taxi Petrol	999	991	976	935	863	663	410	-
Taxi Diesel	1,033	1,025	1,010	967	893	686	424	-
LGV petrol	248	246	243	232	215	165	102	-
LGV diesel	248	246	243	232	215	165	102	-
HGV	309	307	304	296	278	223	117	-
Bus	1,091	1,085	1,072	1,043	981	786	412	-
Coach	1,704	1,695	1,675	1,630	1,532	1,229	644	-

Consumer Welfare Loss - second hand, same fuel type

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
5%	Petrol	Car Petrol	1	1	1	-	-	-
5%	Diesel	Car Diesel	5	5	5	4	3	-
5%	Petrol	PHV Petrol	1	1	1	-	-	-
5%	Diesel	PHV Diesel	5	5	5	4	3	-
5%	Petrol	Taxi Petrol	3	3	2	-	-	-
5%	Diesel	Taxi Diesel	17	17	16	14	10	-
4%	Petrol	LGV petrol	1	1	1	-	-	-
4%	Diesel	LGV diesel	4	4	4	3	2	-
1%	Diesel	HGV	4	4	4	3	2	-
2%	Diesel	Bus	13	13	13	11	9	-
2%	Diesel	Coach	21	21	20	18	13	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

Upgrade			Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6 / Electric
5%	Petrol	Car Petrol	18	16	12	-	-	-
5%	Diesel	Car Diesel	-	-	-	-	-	-
5%	Petrol	PHV Petrol	18	16	12	-	-	-
5%	Diesel	PHV Diesel	-	-	-	-	-	-
5%	Petrol	Taxi Petrol	64	56	41	-	-	-
5%	Diesel	Taxi Diesel	57	48	30	-	-	-
4%	Petrol	LGV petrol	15	13	10	-	-	-
4%	Diesel	LGV diesel	-	-	-	-	-	-
1%	Diesel	HGV						
2%	Diesel	Bus						
2%	Diesel	Coach						

Approved

All Year Average

Consumer Welfare Loss - new upgrade

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6	Euro 6c	New (Euro 6d)
Car Petrol	2,738	2,720	2,684	2,583	2,409	1,926	1,295	-
Car Diesel	3,582	3,559	3,513	3,385	3,162	2,546	1,734	-
PHV Petrol	3,909	3,887	3,843	3,720	3,507	2,916	2,110	-
PHV Diesel	4,754	4,727	4,672	4,521	4,260	3,536	2,549	-
Taxi Petrol	17,588	17,497	17,314	16,807	15,928	13,493	10,078	-
Taxi Diesel	20,404	20,296	20,078	19,476	18,432	15,539	11,514	-
LGV petrol	4,808	4,782	4,738	4,588	4,328	3,608	2,621	-
LGV diesel	4,808	4,782	4,738	4,588	4,328	3,608	2,621	-
HGV	14,786	14,733	14,615	14,356	13,782	12,005	8,581	-
Bus	47,564	47,392	47,013	46,175	44,320	38,575	27,511	-
Coach	74,318	74,051	73,458	72,148	69,250	60,274	42,986	-

Consumer Welfare Loss - second hand, same fuel type

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6	Euro 6c	New (Euro 6d)
Car Petrol	24	21	15	-	-	-	-	-
Car Diesel	179	175	167	145	107	-	-	-
PHV Petrol	58	51	38	-	-	-	-	-
PHV Diesel	361	353	336	292	214	-	-	-
Taxi Petrol	316	280	205	-	-	-	-	-
Taxi Diesel	1,830	1,789	1,708	1,481	1,088	-	-	-
LGV petrol	69	61	47	-	-	-	-	-
LGV diesel	379	371	357	310	228	-	-	-
HGV	1,598	1,568	1,500	1,351	1,021	-	-	-
Bus	5,097	5,000	4,785	4,309	3,258	-	-	-
Coach	7,964	7,812	7,476	6,733	5,090	-	-	-

Consumer Welfare Loss - second hand, different fuel type (cheapest option)

	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5	Euro 6	Euro 6c	New (Euro 6d)
Car Petrol	155	137	100	-	-	-	-	-
Car Diesel	-	-	-	-	-	-	-	-
PHV Petrol	189	167	123	-	-	-	-	-
PHV Diesel	-	-	-	-	-	-	-	-
Taxi Petrol	781	690	507	-	-	-	-	-
Taxi Diesel	426	319	142	-	-	-	-	-
LGV petrol	220	194	150	-	-	-	-	-
LGV diesel	-	-	-	-	-	-	-	-
HGV	-	-	-	-	-	-	-	-
Bus	-	-	-	-	-	-	-	-
Coach	-	-	-	-	-	-	-	-

Approved

Loss of Asset Value

This sheet calculate the loss of asset value as a result of induced early upgrade of compliant vehicles post-intervention. The clean air credit scheme requires the applicant to scrap the older vehicle.

Assumptions
1)The depreciation of the fleet is assumed to start from 2019, so in 2021 a 2 years depreciation will be considered

Total number of vehicles upgrading

	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	158	-	8	25	-	-	-	-	-	-	240	-	-	43	-
4	-	-	-	-	-	603	-	-	225	-	-	-	5,904	-	-	480	-	-	43	-
5	-	-	-	-	-	289	-	-	725	-	-	-	10,234	-	-	2,761	-	-	490	-
6																				
6c																				
6d																				
Sub-total	**-**	**-**	**-**	**-**	**-**	**1,064**	**-**	**8**	**974**	**-**	**-**	**-**	**16,139**	**-**	**-**	**3,481**	**-**	**-**	**577**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**1,064**	**PHV Total**			**983**	**LGV Total**		**16,139**	**HGV Total**		**3,481**	**Bus Total**		**576.9977**

Average residual (depreciated) value of vehicle in each Euro Standard

	0	1	2	3	4	5	6	6c	6d
	Euro 0	**Euro 1**	**Euro 2**	**Euro 3**	**Euro 4**	**Euro 5**	**Euro 6 / Electric**	**Euro 6c**	**Euro 6d**
Car Petrol	72	72	145	291	696	1,398	3,343	5,640	6,714
Car Diesel	72	72	145	291	696	1,398	3,343	5,640	6,714
PHV Petrol	72	72	145	291	696	1,398	3,343	5,640	6,714
PHV Diesel	72	72	145	291	696	1,398	3,343	5,640	6,714
Taxi Petrol	255	255	513	1,030	2,463	4,948	11,831	19,961	23,764
Taxi Diesel	255	255	513	1,030	2,463	4,948	11,831	19,961	23,764
LGV petrol	105	105	177	298	714	1,434	3,428	5,784	6,885
LGV diesel	105	105	177	298	714	1,434	3,428	5,784	6,885
HGV	201	201	445	984	2,176	4,813	12,983	28,715	35,018
Bus	490	490	1,083	2,396	5,300	11,722	31,617	69,930	85,280
Coach	765	765	1,693	3,744	8,281	18,315	49,401	109,265	133,250

Total loss of residual value

	Car Petrol	Car Diesel	Car Electric	Car Other	Taxi Petrol	Taxi Diesel	Taxi Other	PHV Petrol	PHV Diesel	PHV Electric	PHV Other	LGV Petrol	LGV Diesel	LGV Other	HGV	HGV	HGV	Bus	Bus	Bus
	Car				Taxi			PHV				LGV			HGV			Bus		
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	7,211	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	163,109	-	2,382	7,272	-	-	-	-	-	-	236,189	-	-	103,689	-
4	-	-	-	-	-	1,484,770	-	-	156,503	-	-	-	4,214,252	-	-	1,044,802	-	-	229,338	-
5	-	-	-	-	-	1,427,601	-	-	1,012,888	-	-	-	14,671,871	-	-	13,287,600	-	-	#######	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	**-**	**-**	**-**	**-**	**-**	**3,082,692**	**-**	**2,382**	**1,176,664**	**-**	**-**	**-**	**18,886,123**	**-**	**-**	**14,568,591**	**-**	**-**	**#######**	**-**
Total	**Car Total**			**-**	**Taxi Total**		**3,082,692**	**PHV Total**			**1,179,046**	**LGV Total**		**18,886,123**	**HGV Total**		**14,568,591**	**Bus Total**		**6081848**

2018 prices (undiscounted)	2,021	Total
Car Petrol	-	-
Car Diesel	-	-
Car Electric		
Car Other		
Taxi Diesel	3,082,692	3,082,692
PHV Petrol	2,382	2,382
PHV Diesel	1,176,664	1,176,664
PHV Electric		
PHV Other		
LGV Diesel	18,886,123	18,886,123
HGV	14,568,591	14,568,591
Bus	6,081,848	6,081,848
Coach		
Total	**43,798,300**	**43,798,300**

Approved

Total transaction costs

This worksheet presents the costs associated with search for vehicle upgrades

Assumptions
1)Euro 6, 6c and 6d transaction cost is assumed to be the same as euro 5

		1	2	3
		Weighted Transaction Costs		
	Euro Standard	Car	LGV	HGV
5	Euro 5	£5.77	£10.13	£6.71
4	Euro 4	£3.40	£7.89	£7.70
3	Euro 3	£3.38	£9.65	£6.67
2	Euro 2	£6.07	£12.17	£5.58
1	Euro 1	£6.07	£12.17	£5.58

Source: Transaction costs-National data inputs for Local Economic Models

Number of vehicles upgraded by Euro Class

	Car				Taxi			PHV				LGV			HGV			Bus			
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	
0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	-	-	-	-	-	317	-	16	50	-	-	-	-	-	-	480	-	-	87	-	
4	-	-	-	-	-	1,205	-	-	450	-	-	-	-	-	-	960	-	-	87	-	
5	-	-	-	-	-	577	-	-	1,449	-	-	-	-	-	-	5,521	-	-	981	-	
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sub-total	**-**	**-**	**-**	**-**	**-**	**2,127**	**-**	**16**	**1,949**	**-**	**-**	**-**	**-**	**-**	**-**	**6,962**	**-**	**-**	**1,154**	**-**	
Total	**Car Total**			**-**	**Taxi Total**		**2,127**	**PHV Total**			**1,965**	**LGV Total**		**-**	**HGV Total**		**6,962**	**Bus Total**		**1153.9955**	**12,208**

Total transaction costs

	1	1	1	1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	
	Car				Taxi			PHV				LGV			HGV			Bus			
Euro Class	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Electric	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	Petrol	Diesel	Other	
0																					
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	-	-	-	-	-	171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	-	-	-	-	-	1,070	-	55	169	-	-	-	-	-	-	3,202	-	-	577	-	
4	-	-	-	-	-	4,094	-	-	1,527	-	-	-	-	-	-	7,397	-	-	667	-	
5	-	-	-	-	-	3,330	-	-	8,361	-	-	-	-	-	-	37,055	-	-	6,583	-	
6																					
6c																					
6d																					
Sub-total	**-**	**-**	**-**	**-**	**-**	**8,665**	**-**	**55**	**10,058**	**-**	**-**	**-**	**-**	**-**	**-**	**47,655**	**-**	**-**	**7,827**	**-**	
Total	**Car Total**			**-**	**Taxi Total**		**8,665**	**PHV Total**			**10,113**	**LGV Total**		**-**	**HGV Total**		**47,655**	**Bus Total**		**7827.1364**	**74,260**

2021 prices	2021	Total
Car Petrol	-	-
Car Diesel	-	-
Car Electric		-
Car Other		-
Taxi Diesel	8,665	8,664.69
PHV Petrol	55	55.31
PHV Diesel	10,058	10,057.64
PHV Electric		-
PHV Other		-
LGV Diesel	-	-
HGV	47,655	47,655.16
Bus	7,827	7,827.14
Coach		-
Total	**74,260**	**74,260**

2018 prices (undiscounted)	2021	Total
Car Petrol	-	-
Car Diesel	-	-
Car Electric	-	-
Car Other	-	-
Taxi Diesel	8,253	8,252.66
PHV Petrol	53	52.68
PHV Diesel	9,579	9,579.37
PHV Electric	-	-
PHV Other	-	-
LGV Diesel	-	-
HGV	45,389	45,389.07
Bus	7,455	7,454.94
Coach	-	-
Total	**70,729**	**70,729**

Approved

Summary of Vehicle Upgrade

This worksheet presents the summary of the vehicle upgrades

Undiscounted 2018 prices	Car	LGV	HGV	PHV	Taxi	Bus	Total
Number of Vehicles Upgrading	-	32,277	6,962	1,965	2,127	1,154	**44,485**
of which are scrapping	-	32,277	6,962	1,965	2,127	87	**43,418**
of which are retrofitting						1,067	**1,067**
Welfare Loss of Upgrading	-	35,480,651	24,440,269	2,107,623	10,337,913	12,983,279	**85,349,735**
Welfare Loss of Retrofitting						10,674,458	**10,674,458**
Transaction Cost	-	-	45,389	9,632	8,253	7,455	**70,729**
Loss of Asset Value	-	18,886,123	14,568,591	1,179,046	3,082,692	6,081,848	**43,798,300**
Fuel Switch Cost	-			843,352			**843,352**
Total							**140,736,574**

Proportion of non-compliant vehicles upgrading

Vehicle Type	Vehicles upgrading
Car	0%
Taxi	100%
PHV	49%
LGV	49%
HGV	75%
Bus	100%
Coach	100%

Approved

Discounting

This page summarises the impact and discounts to base year 2018

Discount Year	2018

Undiscounted Impacts (2018 prices)

	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Impact to Transport Users (+ve indicates benefit, -ve indicates disbenefits)													
Financial cost to upgrade	- 96,024,193			- 96,024,193			-	-	-	-	-	-	-
Financial subsidy (vehicle upgrades)	127,651,285	14,175,603	46,268,494	41,981,109	25,226,079	-	-	-	-	-	-	-	-
Loss of asset value	- 43,798,300			- 43,798,300									
Transaction cost	- 70,729			- 70,729									
Travel time savings	176,901,682			16,054,697	16,177,871	16,390,528	16,619,048	16,869,346	17,507,646	18,187,756	18,913,784	19,684,804	20,496,201
Vehicle operating cost	96,096,442			6,673,601	7,476,332	8,336,344	9,229,602	10,165,588	10,384,369	10,606,682	10,830,332	11,074,406	11,319,185
Fuel switch costs	- 843,352			- 271,662	- 212,869	- 154,075	- 95,282	- 36,488	- 30,142	- 20,624	- 11,105	- 6,346	- 4,759
Charge Payments	- 281,633,161	-	-	- 54,337,771	- 43,501,276	- 61,024,008	- 45,204,025	- 30,036,860	- 24,161,270	- 15,454,857	- 7,913,093	-	-
Welfare Loss (cancelled trips)	- 47,757,483			- 7,304,711	- 5,939,185	- 10,507,656	- 8,117,016	- 5,767,898	- 4,676,704	- 2,904,121	- 1,420,475	- 645,842	- 473,876
Welfare Loss (re-mode)	- 21,177,910			-	-	- 5,970,674	- 4,848,982	- 3,715,651	- 3,029,722	- 1,897,282	- 928,220	- 454,119	- 333,258
Sub-total	**- 90,655,719**	**14,175,603**	**46,268,494**	**- 137,097,960**	**- 773,047**	**- 52,929,542**	**- 32,416,654**	**- 12,521,963**	**- 4,005,824**	**8,517,554**	**19,471,223**	**29,652,903**	**31,003,493**
Air Quality/Environment (+ve indicates benefit, -ve indicates disbenefits)													
Health and environmental impact	129,013,316			14,980,485	14,444,521	13,908,557	13,372,593	12,836,629	12,515,408	12,117,049	11,789,312	11,584,460	11,464,302
Health and social impact													
Carbon reduction	105,514,522			9,960,534	10,094,342	10,227,199	10,359,105	10,490,060	10,620,064	10,749,212	10,877,506	11,004,950	11,131,550
Active travel	23,304,329			2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433	2,330,433
Sub-total	**257,832,167**	**-**	**-**	**27,271,452**	**26,869,296**	**26,466,189**	**26,062,131**	**25,657,122**	**25,465,905**	**25,196,693**	**24,997,250**	**24,919,843**	**24,926,285**
Implementation cost (+ve cost, -ve saving)													
Implementation cost	293,634,541	34,381,938	157,969,450	56,687,836	38,407,198	1,429,246	1,230,592	1,125,203	1,071,943	1,063,117	268,019	-	-
Sub-total	**293,634,541**	**34,381,938**	**157,969,450**	**56,687,836**	**38,407,198**	**1,429,246**	**1,230,592**	**1,125,203**	**1,071,943**	**1,063,117**	**268,019**	**-**	**-**
Operating & Maintenance cost (+ve cost, -ve saving)													
Operating & Maintenance cost	183,719,408	987,756	1,167,021	24,136,311	24,714,917	25,520,575	23,512,054	21,495,362	20,556,813	19,329,201	18,196,106	4,103,293	-
Sub-total	**183,719,408**	**987,756**	**1,167,021**	**24,136,311**	**24,714,917**	**25,520,575**	**23,512,054**	**21,495,362**	**20,556,813**	**19,329,201**	**18,196,106**	**4,103,293**	**-**
Revenue to the Public Sector (+ve cost, -ve saving)													
Clean Air Zone	- 281,633,161	-	-	- 54,337,771	- 43,501,276	- 61,024,008	- 45,204,025	- 30,036,860	- 24,161,270	- 15,454,857	- 7,913,093	-	-

Discounted Impacts (2018 prices)

Discounting Factor		*0.966*	*0.934*	*0.902*	*0.871*	*0.842*	*0.814*	*0.786*	*0.759*	*0.734*	*0.709*	*0.685*	*0.662*
	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Impact to Transport Users (+ve indicates benefit, -ve indicates disbenefits)													
Financial cost to upgrade	- 86,608,321	-	-	- 86,608,321	-	-	-	-	-	-	-	-	-
Financial subsidy (vehicle upgrades)	116,735,995	13,696,235	43,192,134	37,864,555	21,983,071	-	-	-	-	-	-	-	-
Loss of asset value	- 39,503,558	-	-	- 39,503,558	-	-	-	-	-	-	-	-	-
Transaction cost	- 63,793	-	-	- 63,793	-	-	-	-	-	-	-	-	-
Travel time savings	136,253,473	-	-	14,480,417	14,098,080	13,800,385	13,519,606	13,259,154	13,295,508	13,344,920	13,408,338	13,483,022	13,564,044
Vehicle operating cost	73,474,225	-	-	6,019,206	6,515,192	7,018,978	7,508,288	7,990,060	7,886,010	7,782,451	7,677,826	7,585,367	7,490,848
Fuel switch costs	- 719,836	-	-	- 245,024	- 185,503	- 129,727	- 77,512	- 28,679	- 22,890	- 15,132	- 7,873	- 4,347	- 3,150
Charge Payments	- 233,978,982	-	-	- 49,009,556	- 37,908,849	- 51,380,577	- 36,773,504	- 23,608,700	- 18,348,348	- 11,339,707	- 5,609,740	-	-
Welfare Loss (cancelled trips)	- 39,193,323	-	-	- 6,588,431	- 5,175,656	- 8,847,165	- 6,603,197	- 4,533,516	- 3,551,543	- 2,130,843	- 1,007,001	- 442,367	- 313,603
Welfare Loss (re-mode)	- 16,774,791	-	-	-	-	- 5,027,148	- 3,944,650	- 2,920,468	- 2,300,806	- 1,392,095	- 658,033	- 311,047	- 220,545
Sub-total	**- 90,378,911**	**13,696,235**	**43,192,134**	**- 123,654,505**	**- 673,666**	**- 44,565,254**	**- 26,370,969**	**- 9,842,150**	**- 3,042,069**	**6,249,593**	**13,803,517**	**20,310,629**	**20,517,594**
Air Quality/Environment (+ve indicates benefit, -ve indicates disbenefits)													
Health and environmental impact	101,052,098	-	-	13,511,540	12,587,566	11,710,632	10,878,613	10,089,474	9,504,346	8,890,654	8,357,665	7,934,726	7,586,884
Health and social impact	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon reduction	81,631,490	-	-	8,983,831	8,796,636	8,611,027	8,427,139	8,245,093	8,065,000	7,887,029	7,711,268	7,537,794	7,366,674
Active travel	18,092,642	-	-	2,101,917	2,030,838	1,962,162	1,895,809	1,831,699	1,769,758	1,709,911	1,652,088	1,596,220	1,542,242
Sub-total	**200,776,230**	**-**	**-**	**24,597,287**	**23,415,039**	**22,283,821**	**21,201,560**	**20,166,266**	**19,339,103**	**18,487,594**	**17,721,021**	**17,068,740**	**16,495,799**
Implementation cost (+ve cost, -ve saving)													
Implementation cost	270,157,234	33,219,263	147,466,171	51,129,180	33,469,654	1,203,387	1,001,087	884,400	814,046	780,042	190,004	-	-
Sub-total	**270,157,234**	**33,219,263**	**147,466,171**	**51,129,180**	**33,469,654**	**1,203,387**	**1,001,087**	**884,400**	**814,046**	**780,042**	**190,004**	**-**	**-**
Operating & Maintenance cost (+ve cost, -ve saving)													
Operating & Maintenance cost	148,364,452	954,354	1,089,426	21,769,569	21,537,622	21,487,639	19,127,071	16,895,160	15,611,081	14,182,433	12,899,562	2,810,533	-
Sub-total	**148,364,452**	**954,354**	**1,089,426**	**21,769,569**	**21,537,622**	**21,487,639**	**19,127,071**	**16,895,160**	**15,611,081**	**14,182,433**	**12,899,562**	**2,810,533**	**-**
Revenue to the Public Sector (+ve cost, -ve saving)													
Clean Air Zone	- 233,978,982	-	-	- 49,009,556	- 37,908,849	- 51,380,577	- 36,773,504	- 23,608,700	- 18,348,348	- 11,339,707	- 5,609,740	-	-

Approved

Summary of CBA

This worksheet summarises the costs and benefits of the CAP, presenting the Net Present Value

Discounted 2018 prices	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Impact to Transport Users (+ve indicates benefit, -ve indicates disbenefits)													
Financial cost to upgrade	- 86,608,321	-	-	- 86,608,321	-	-	-	-	-	-	-	-	-
Financial subsidy (vehicle upgrades)	116,735,995	13,696,235	43,192,134	37,864,555	21,983,071	-	-	-	-	-	-	-	-
Loss of asset value	- 39,503,558	-	-	- 39,503,558	-	-	-	-	-	-	-	-	-
Transaction cost	- 63,793	-	-	- 63,793	-	-	-	-	-	-	-	-	-
Travel time savings	136,253,473	-	-	14,480,417	14,098,080	13,800,385	13,519,606	13,259,154	13,295,508	13,344,920	13,408,338	13,483,022	13,564,044
Vehicle operating cost	73,474,225	-	-	6,019,206	6,515,192	7,018,978	7,508,288	7,990,060	7,886,010	7,782,451	7,677,826	7,585,367	7,490,848
Fuel switch costs	- 719,836	-	-	- 245,024	- 185,503	- 129,727	- 77,512	- 28,679	- 22,890	- 15,132	- 7,873	- 4,347	- 3,150
Charge Payments	- 233,978,982	-	-	- 49,009,556	- 37,908,849	- 51,380,577	- 36,773,504	- 23,608,700	- 18,348,348	- 11,339,707	- 5,609,740	-	-
Welfare Loss (cancelled trips)	- 39,193,323	-	-	- 6,588,431	- 5,175,656	- 8,847,165	- 6,603,197	- 4,533,516	- 3,551,543	- 2,130,843	- 1,007,001	- 442,367	- 313,603
Welfare Loss (re-mode)	- 16,774,791	-	-	-	-	- 5,027,148	- 3,944,650	- 2,920,468	- 2,300,806	- 1,392,095	- 658,033	- 311,047	- 220,545
Sub-total	**- 90,378,911**	**13,696,235**	**43,192,134**	**- 123,654,505**	**- 673,666**	**- 44,565,254**	**- 26,370,969**	**- 9,842,150**	**- 3,042,069**	**6,249,593**	**13,803,517**	**20,310,629**	**20,517,594**
Air Quality/Environment (+ve indicates benefit, -ve indicates disbenefits)													
Health and environmental impact	101,052,098	-	-	13,511,540	12,587,566	11,710,632	10,878,613	10,089,474	9,504,346	8,890,654	8,357,665	7,934,726	7,586,884
Health and social impact	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon reduction	81,631,490	-	-	8,983,831	8,796,636	8,611,027	8,427,139	8,245,093	8,065,000	7,887,029	7,711,268	7,537,794	7,366,674
Active travel	18,092,642	-	-	2,101,917	2,030,838	1,962,162	1,895,809	1,831,699	1,769,758	1,709,911	1,652,088	1,596,220	1,542,242
Sub-total	**200,776,230**	**-**	**-**	**24,597,287**	**23,415,039**	**22,283,821**	**21,201,560**	**20,166,266**	**19,339,103**	**18,487,594**	**17,721,021**	**17,068,740**	**16,495,799**
Present Value of Benefits (PVB)	**110,397,319**	**13,696,235**	**43,192,134**	**- 99,057,218**	**22,741,373**	**- 22,281,433**	**- 5,169,409**	**10,324,116**	**16,297,034**	**24,737,188**	**31,524,538**	**37,379,369**	**37,013,393**
Implementation cost (+ve cost, -ve saving)													
Implementation cost	270,157,234	33,219,263	147,466,171	51,129,180	33,469,654	1,203,387	1,001,087	884,400	814,046	780,042	190,004	-	-
Sub-total	**270,157,234**	**33,219,263**	**147,466,171**	**51,129,180**	**33,469,654**	**1,203,387**	**1,001,087**	**884,400**	**814,046**	**780,042**	**190,004**	**-**	**-**
Operating & Maintenance cost (+ve cost, -ve saving)													
Operating & Maintenance cost	148,364,452	954,354	1,089,426	21,769,569	21,537,622	21,487,639	19,127,071	16,895,160	15,611,081	14,182,433	12,899,562	2,810,533	-
Sub-total	**148,364,452**	**954,354**	**1,089,426**	**21,769,569**	**21,537,622**	**21,487,639**	**19,127,071**	**16,895,160**	**15,611,081**	**14,182,433**	**12,899,562**	**2,810,533**	**-**
Revenue to the Public Sector (+ve cost, -ve saving)													
Clean Air Zone	- 233,978,982	-	-	- 49,009,556	- 37,908,849	- 51,380,577	- 36,773,504	- 23,608,700	- 18,348,348	- 11,339,707	- 5,609,740	-	-
Sub-total	**- 233,978,982**	**-**	**-**	**- 49,009,556**	**- 37,908,849**	**- 51,380,577**	**- 36,773,504**	**- 23,608,700**	**- 18,348,348**	**- 11,339,707**	**- 5,609,740**	**-**	**-**
Present Value of Costs (PVC)	**184,542,704**	**34,173,617**	**148,555,598**	**23,889,193**	**17,098,427**	**- 28,689,552**	**- 16,645,346**	**- 5,829,141**	**- 1,923,220**	**3,622,768**	**7,479,825**	**2,810,533**	**-**
Net Present Value (NPV)	**- 74,145,385**	**- 20,477,383**	**- 105,363,463**	**- 122,946,411**	**5,642,946**	**6,408,118**	**11,475,937**	**16,153,256**	**18,220,254**	**21,114,420**	**24,044,712**	**34,568,836**	**37,013,393**

Analysis of Monetised Costs and Benefits - 2021-2030	Total	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Transport Users Impacts	- 90,378,911	13,696,235	43,192,134	- 123,654,505	- 673,666	- 44,565,254	- 26,370,969	- 9,842,150	- 3,042,069	6,249,593	13,803,517	20,310,629	20,517,594
Health and Environmental Impact	200,776,230	-	-	24,597,287	23,415,039	22,283,821	21,201,560	20,166,266	19,339,103	18,487,594	17,721,021	17,068,740	16,495,799
Present Value of Benefits (PVB)	110,397,319	13,696,235	43,192,134	- 99,057,218	22,741,373	- 22,281,433	- 5,169,409	10,324,116	16,297,034	24,737,188	31,524,538	37,379,369	37,013,393
Implementation Cost	270,157,234	33,219,263	147,466,171	51,129,180	33,469,654	1,203,387	1,001,087	884,400	814,046	780,042	190,004	-	-
O&M Cost	148,364,452	954,354	1,089,426	21,769,569	21,537,622	21,487,639	19,127,071	16,895,160	15,611,081	14,182,433	12,899,562	2,810,533	-
Revenue	- 233,978,982	-	-	- 49,009,556	- 37,908,849	- 51,380,577	- 36,773,504	- 23,608,700	- 18,348,348	- 11,339,707	- 5,609,740	-	-
Present Value of Costs (PVC)	184,542,704	34,173,617	148,555,598	23,889,193	17,098,427	- 28,689,552	- 16,645,346	- 5,829,141	- 1,923,220	3,622,768	7,479,825	2,810,533	-
Net Present Value	**- 74,145,385**	**- 20,477,383**	**- 105,363,463**	**- 122,946,411**	**5,642,946**	**6,408,118**	**11,475,937**	**16,153,256**	**18,220,254**	**21,114,420**	**24,044,712**	**34,568,836**	**37,013,393**

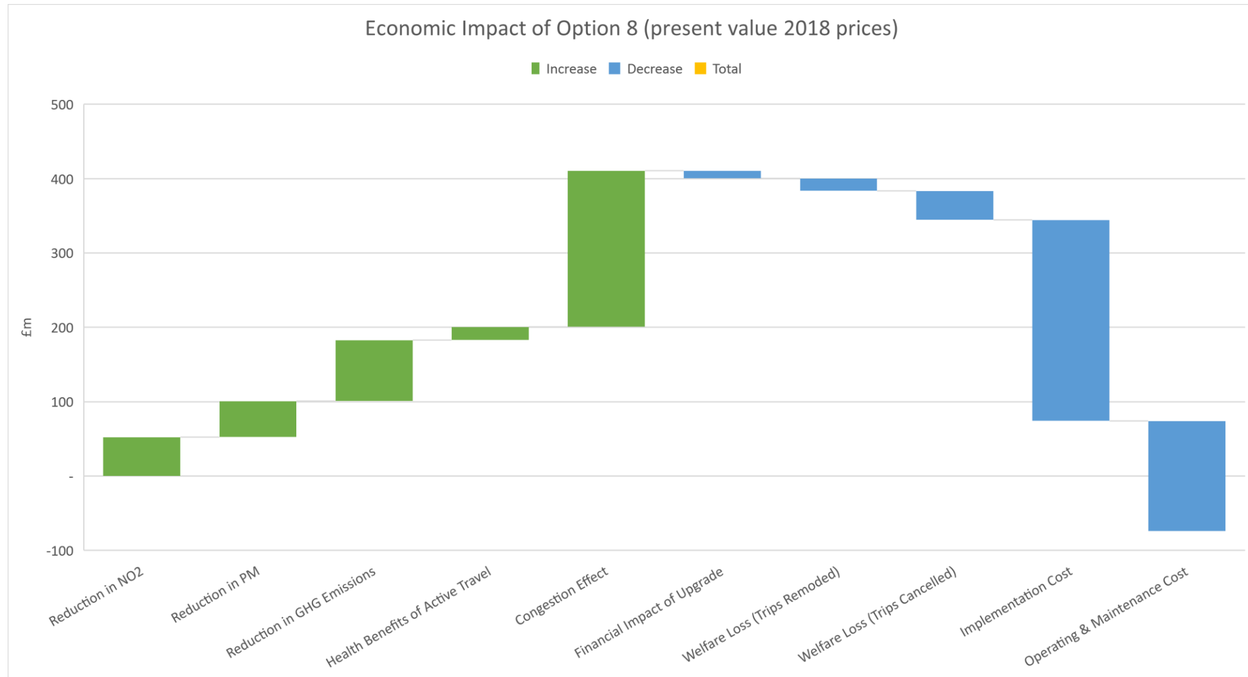
Approved

Visual Summary of the Economic Impact

£m	1000000

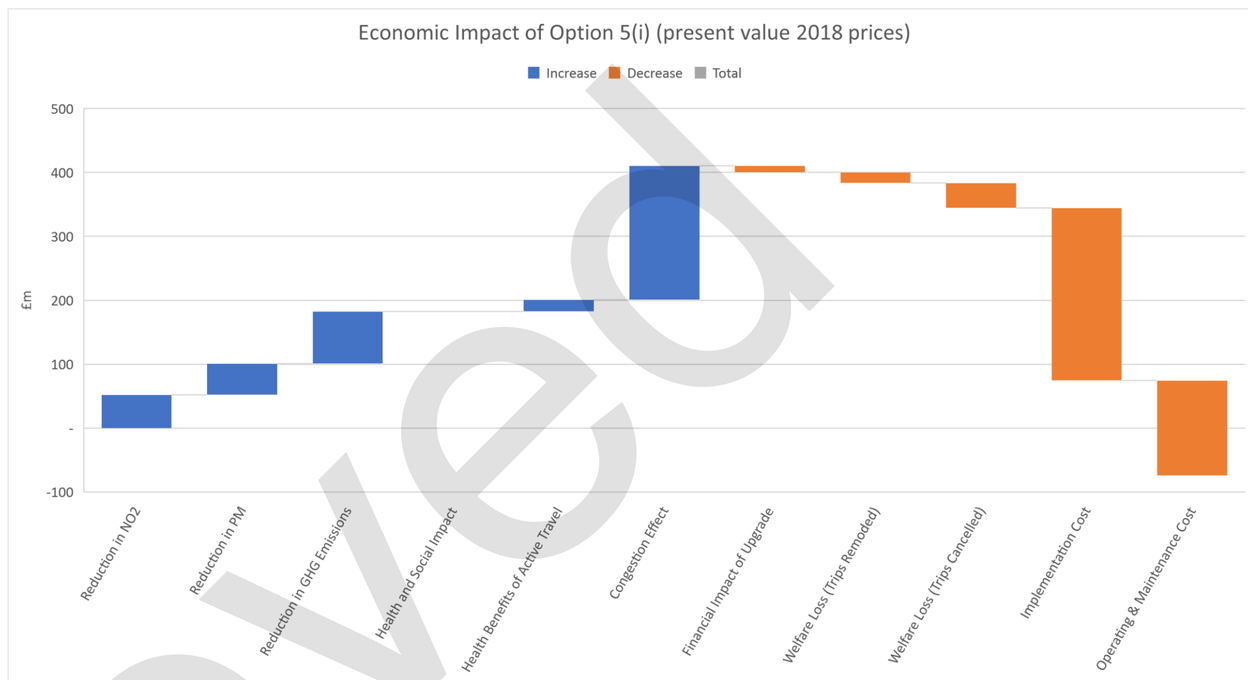
Version 1

Discounted		
Economic Impact	£	£m
Reduction in NO2	52,331,683	52
Reduction in PM	48,720,415	49
Reduction in GHG Emissions	81,631,490	82
Health Benefits of Active Travel	18,092,642	18
Congestion Effect	209,727,698	210
Financial Impact of Upgrade	- 10,159,513	- 10
Welfare Loss (Trips Remoded)	- 16,774,791	- 17
Welfare Loss (Trips Cancelled)	- 39,193,323	- 39
Implementation Cost	- 270,157,234	- 270
Operating & Maintenance Cost	- 148,364,452	- 148



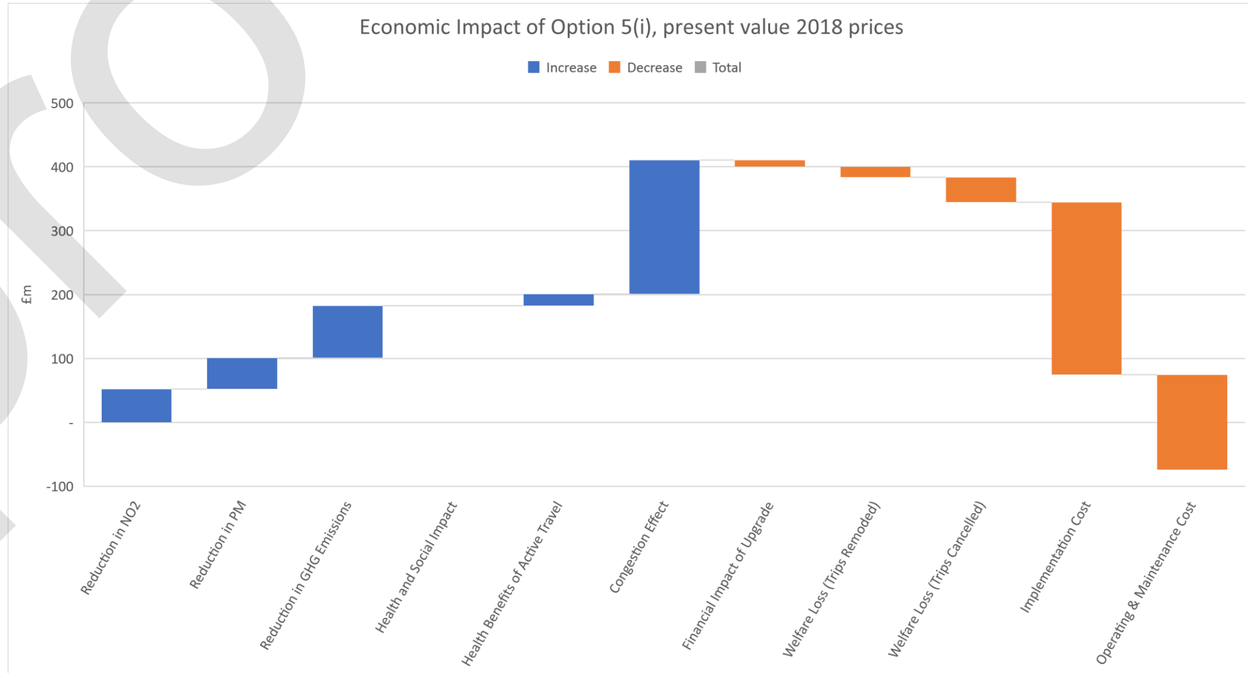
Version 2

Discounted		
Economic Impact	£	£m
Reduction in NO2	52,331,683	52
Reduction in PM	48,720,415	49
Reduction in GHG Emissions	81,631,490	82
Health and Social Impact		
Health Benefits of Active Travel	18,092,642	18
Congestion Effect	209,727,698	210
Financial Impact of Upgrade	- 10,159,513	- 10
Welfare Loss (Trips Remoded)	- 16,774,791	- 17
Welfare Loss (Trips Cancelled)	- 39,193,323	- 39
Implementation Cost	- 270,157,234	- 270
Operating & Maintenance Cost	- 148,364,452	- 148

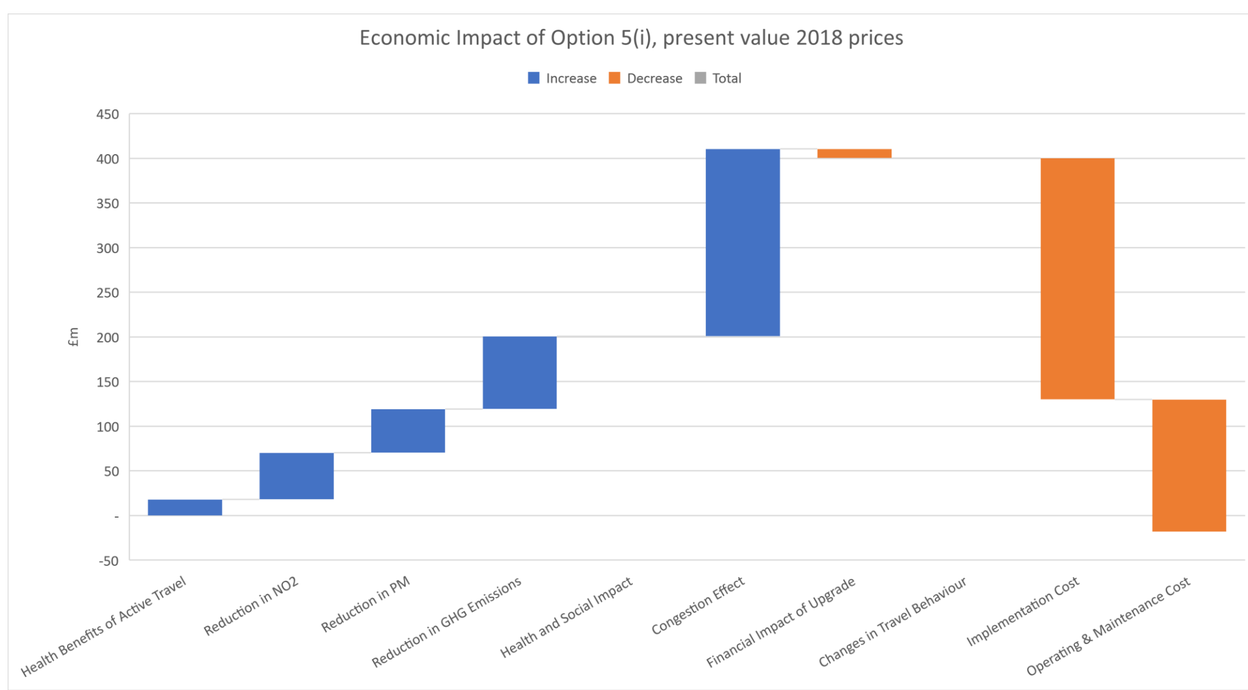


Version 3 - without revenue

Discounted		
Economic Impact	£	£m
Reduction in NO2	52,331,683	52
Reduction in PM	48,720,415	49
Reduction in GHG Emissions	81,631,490	82
Health and Social Impact		
Health Benefits of Active Travel	18,092,642	18
Congestion Effect	209,727,698	210
Financial Impact of Upgrade	- 10,159,513	- 10
Welfare Loss (Trips Remoded)	- 16,774,791	- 17
Welfare Loss (Trips Cancelled)	- 39,193,323	- 39
Implementation Cost	- 270,157,234	- 270
Operating & Maintenance Cost	- 148,364,452	- 148



Discounted		
Economic Impact	£	£m
Health Benefits of Active Travel	18,092,642	18
Reduction in NO2	52,331,683	52
Reduction in PM	48,720,415	49
Reduction in GHG Emissions	81,631,490	82
Health and Social Impact		
Congestion Effect	209,727,698	210
Financial Impact of Upgrade	- 10,159,513	- 10
Changes in Travel Behaviour		
Implementation Cost	- 270,157,234	- 270
Operating & Maintenance Cost	- 148,364,452	- 148



Approved

No. of Vehicles Upgrades

No. of Vehicles Upgrades	Cars	PHVs	Taxis	Vans	HGVs	Bus/Coaches*	Total
Option 8	-	1,965	2,127	32,277	6,962	2,221	45,553

Welfare Loss due to Cancelled Trips and Trips Re-moded, PV 2018 prices

Welfare Impact	Trips Re-moded	Trips Cancelled	Total
			0
Option 8	17	39	56

Travel Time Savings and VOC

	Travel Time Savings	Vehicle Operating Costs	Total
Option 8	136	73	210

Health and Environmental Impact, PV 2018 prices

	NOx Tonnes Saved (2021)	PM Tonnes Saved (2021)	Monetised AQ Impact (2021)	Monetised AQ Impact (2021-2030)
Option 8	1,419	52	14	101

GHG Emissions, £, PV 2018 prices

Options	Tonnes CO_2e	GHG emission impact, £m
Option 8	1,398,819	82

Upgrade Impact, £m, PV 2018 prices

Options	Welfare Loss	Benefits from VRF	Fuel switch	Transaction cost	Loss of asset value	Total (by vehicle type)
Option 8	- 87	117	- 1	- 0	- 40	**- 10**

User Charges, £m, PV 2018 prices

		Option 8	
User Charges, £m		-234	

Implementation cost of the options, £m, present value 2018 prices

		Option 8	
Total Implementation Cost		270	

O&M costs of the options, £m, present value 2018 prices

		Option 8	
Total O&M Cost		148	

Active Travel Health Benefits, £m, present value 2018 prices

Health Benefits	£m
Option 8	18

Health and Social Care Cost Savings, present value 2018 prices

Options	£m
Option 8	0

Summary of the total costs and benefits of the GM CAP, £m, present value 2018 prices

Primary/Secondary Success Factors	Impact		Option 8	
Health and Environmental Impacts				
• Reduction in NO2 Emissions	NO2 Reduction		52	
• Strategic fit with local strategies and plans	PM Reduction		49	
• Value for Money	Avoided Health and Social Cost		0	
	GHG Emission Reduction		82	
User Costs and Benefits				
• Strategic fit with local strategies and plans • Value for Money	Health Benefits of Active Travel		18	
	Welfare Loss (Trips Remoded)		-17	
	Welfare Loss (Trips Cancelled)		-39	
• Value for Money	Vehicle Upgrade *includes cost of upgrade, loss of asset value, transaction cost and fuel switch costs, less any financial subsidy from the funding measures*		-10	
	User Charges			
	Congestion Effects *Includes travel time and vehicle operating costs*		210	
	Present Value of Benefits (PVB)		**344**	
Cost to the Public Sector				
• Affordability	Implementation Cost		270	
• Value for Money	Operating and Maintenance		148	
	Revenue			
	Present Value of Costs (PVC)		**419**	
	Net Present Value (NPV)		**-74**	

This is the first mention of these options in the chapter – useful if they could be mentioned in the section around para 1.2.5

Summary of the total costs and benefits incurred by GM, present value 2018 prices

Impact		Option 8	
NO2 Reduction		52	
PM Reduction		49	
Avoided Health and Social Cost		0	
GHG Emission Reduction		82	
Health Benefits of Active Travel		18	
Congestion Effects *Includes travel time and vehicle operating costs*		210	
Total beneficial effects		411	
Changes in Travel Behaviour (welfare loss)		-17	
Vehicle Upgrade *includes cost of upgrade, loss of asset value, transaction cost and fuel switch costs, less any financial subsidy from the funding measures*		-10	
User Charges		0	
Total costs / disbenefits		-27	
Net Present Value (NPV)		**£384**	

Approved

Nox savings per £

This worksheet presents the the abatement cost of every Nox tonne saved

	2021-2030
Total Nox Saved	11,274
Total Cost PV	£ 184,542,704
Nox/£	**£ 16,369**

Approved