

The impact of E10

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Summary

Under the Government's Renewable Transport Fuel Obligation fuel suppliers have added a biofuel element to the fuel they supply to road users.

Currently both diesel and petrol - both regular (95 Research Octane Number or RON) and super/premium (98 RON) - are likely to contain up to 7% bio component in the form of biodiesel and bioethanol. Hence why the fuels drivers buy at the pumps is generically known as either B7 (7% bio diesel) or E5 (5% bio petrol).

Since 2013, suppliers have been allowed to sell petrol containing up to 10% biofuels in anticipation of a 2020 date when 9.75% of transport fuels consumed must come from renewable sources. This type of petrol is generically known as E10.

However, to date, no E10 petrol is being sold on forecourts in the UK - although it is available in some nearby countries like Germany and France.

This is in large part because there are concerns that E10 will cause engine damage to older vehicles. To try to estimate the scale of the problem associated with E10 petrol the RAC Foundation has taken publicly available E10 vehicle compatibility data - often supplied by manufacturers - and matched it with DVLA registration data to see how many and which vehicles are likely to be affected, and where those vehicles are registered, both today and in the future.

Our analysis suggests that:

- In Great Britain, in June 2014, there were 1369196 petrol cars that were E10 incompatible on the road.
- In June 2017 there were 868517 petrol cars that were E10 incompatible on the road.
- In June 2020 an estimated 634309 petrol cars will be E10 incompatible on the road.

In 2017, the manufacturers with the highest number of E10 incompatible cars on the road in were:

Make	E10 incompatible
ROVER	91624
MG	75827
VOLKSWAGEN	61398
OTHER BRITISH	57794
NISSAN	55139
MAZDA	46040
FORD	37578
TOYOTA	36646
PEUGEOT	27217
AUSTIN	26368

By 2020, it is estimated that the list will have changed somewhat:

Make	E10 incompatible
MG	65575
OTHER BRITISH	50203
ROVER	47136

Make	E10 incompatible
VOLKSWAGEN	44847
FORD	38041
MAZDA	30661
NISSAN	27010
AUSTIN	25806
TRIUMPH	24744
MORRIS	23181

In terms of miles travelled by these cars, it is estimated that in 2017 2534757877 vehicle miles travelled were not E10 compatible, of which 2324642630 would have been done by the 624842 cars not yet eligible for the historic VED exemption. By 2020, this decreases to 1303817072 vehicle miles travelled; 1075463313 miles travelled by cars not yet “historic”.

What follows is a detailed technical paper on this modelling exercise.

Methods

Data used

This report describes how the impact of a switch to E10 is modelled using data on GB licenced petrol and LPG cars (i.e., cars that use petrol), and presents the results of that analysis.

Bespoke DfT tables of DVLA data are used (taken from end of June 2014, 2015, 2016 and 2017). This is the number of petrol/LPG cars currently licenced in each upper tier local authority, for each unique make, generic model, specific model, engine capacity and fuel type at each of those points in time.

Cleaning

The DVLA data is known to have errors, most notably category errors, where a bus is listed as a car, or similar. There are also some clear errors of listed engine capacity. It is therefore important to clean the data, and remove the most obvious category errors (models or manufacturers that cannot be considered “cars”). Some errors will remain, most probably in the engine capacity field, where the range suggests some likely errors (from 0cc to 99999cc), and in vehicles made by manufacturers who produce both cars and motorcycles (e.g., BMW, Honda, Suzuki, Triumph). There may be other errors with incorrectly registered dates of manufacture.

After cleaning, 24.99 million observations remain - or 99.964%. This amounts to 18.88 million vehicles in June 2017, or 99.988%. As an example of the extent of cleaning, 2290 vehicles were removed from the June 2017 data. Some errors will remain, of course.

E10 coding

Using consumer information from France, Germany, Finland and ACEA, each vehicle was categorised as either E10 compatible (“TRUE”) or incompatible (“FALSE”). E10 incompatible, in this case, includes vehicles where there is no information available. This might be because the manufacturer is no longer a functioning business, or because it is a very small company. Compatibility was determined using a risk-averse strategy - only cars explicitly compatible were classed as such. Date of first registration was taken as a proxy for date of manufacture, and kit car manufacturers were classified as E10 incompatible. Where a vehicle modification was recommended by the manufacturer to ensure compatibility, it was assumed the vehicle owner would get such a modification to their vehicle. As much as possible, this coding of E10 compatibility replicates sensible decisions based on what information an owner would have available (e.g., from the V5) and would reasonably

be expected to understand. [It should be noted that information on the Seat Ibiza was conflicting/ambiguous; this paper assumes all Ibizas are compatible from 2002.]

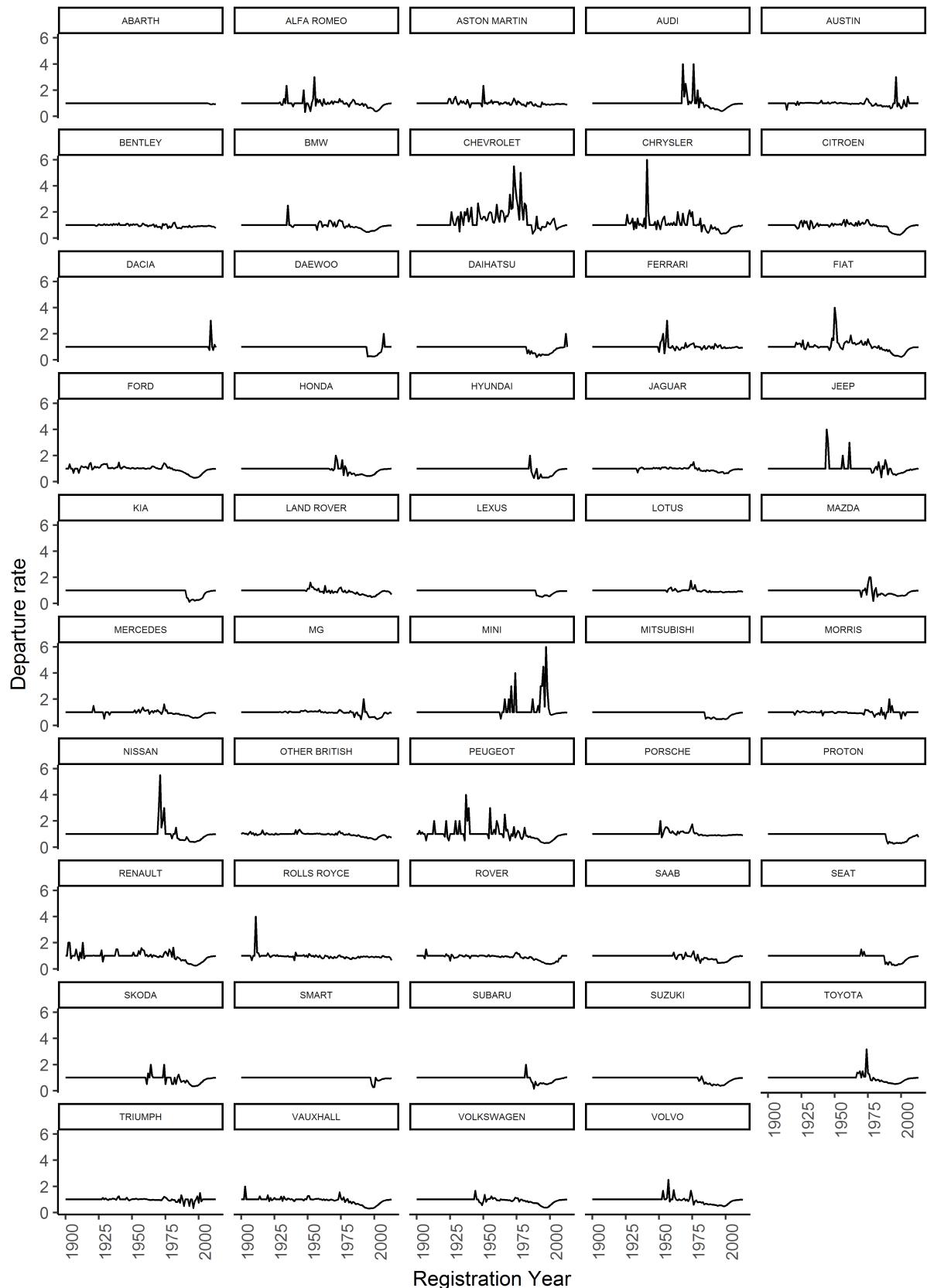
It should be noted that in the entire coding/analysis process is outlined in *E10script.R*, and the precise method used is available for comment or review. In this file, each line should not be considered individually, but rather as a set for each Make. For example, where compatibility was explained as “all vehicles are compatible with the exception of certain models”, this was coded as per the statement - if one were to read the first line alone (all vehicles are compatible), one would misunderstand that manufacturer’s cars. The percentage of remaining unknown rows (unique LA/Make/Model/Year/Displacement combinations) from the DfT/DVLA data is 0% (if the script has run successfully this number should be zero).

The E10 compatibility data is then matched to the vehicle licensing data from the DfT/DVLA, and then summary tables of distribution of E10 compatibility are produced.

2020 estimates

The tables below set out the degree of E10 compatibility in the GB petrol-using car parc at five points in time (June 2014, June 2015, June 2016, June 2017 and an estimate of June 2020). The June 2020 figures are estimated using the specific rates of departure from the GB parc from 2014 to 2017 on a make-and-year basis. In other words, the estimate applies a different rate of departure for a Land Rover and for a Vauxhall, and a different rate for a 1 year old Land Rover over the next three years than for a 5 year old Land Rover over the same period. Here is an illustration of departure rates for the 50 most popular petrol Makes in 2017:

Departure rates for the Top 50 most common Makes, 2017



There are two things worth noting from above: (i) different makes have noticeably different patterns in their departure rates and (ii) as cars get older, the likelihood that they will no longer be in the parc in three years very often *decreases*. In fact, older vehicles are often more likely to *enter* rather than leave the parc (in the graphs, this is where the rate is greater than 1). Older vehicles do not depart the parc at a rate that trends down to zero; rather, a fluctuating number are likely to remain.

If you apply these departure rates each Make-Year combination in the parc to those cars that are E10 compatible, the resultant 2020 estimate is the number of *2017-and-earlier* E10 compatible cars still on the road. As a result, neither an estimate for E10 compatible cars in 2020 nor the related parc percentages are given, and the number may be displayed as a decimal.

Other British is not a make itself, but an amalgam of niche and rare UK manufacturers. Therefore, where it appears in the tables below, it has been moved to the bottom (regardless of table ranking).

Results

E10 compatibility using DfT/DVLA data

Table 3: E10 incompatibility of cars, by LA

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Cornwall	19778	152531	12384	8786
Wiltshire	15829	154452	10952	8254
Birmingham	18610	289890	10194	6550
Shropshire	9261	90223	6590	5113
Cheshire East	9346	125301	6240	4914
Leeds	9905	197637	5854	4219
Bromley	8535	101805	5592	4041
Bristol, City of	10305	138822	6119	4038
New Forest	7314	65158	5147	3976
Wealden	6501	58362	4851	3833
Central Bedfordshire	7124	95980	4963	3825
East Riding of Yorkshire	7749	99548	4954	3784
South Gloucestershire	7999	96583	5142	3751
Herefordshire, County of	6720	55496	4785	3682
South Somerset	7033	53745	4845	3613
County Durham	7481	126941	4531	3438
Cheshire West and Chester	6960	107248	4449	3402
Sheffield	8509	126333	4748	3298
Dudley	8017	95850	4723	3217
Croydon	8122	97515	4802	3212
North Somerset	6756	69679	4386	3178
Horsham	5279	51884	4009	3167
Aylesbury Vale	5689	62601	4028	3163
Stratford-on-Avon	5024	45449	3808	3099
Barnet	6885	96858	4375	3066
Kirklees	6479	109070	4123	3063
Isle of Wight	6734	47442	4477	3062
Chichester	4993	40958	3780	3053
Wycombe	5629	60152	3895	2988
Bradford	7108	111387	4128	2987
South Oxfordshire	4996	48450	3637	2870
Waverley	4855	44881	3558	2822

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Medway	6734	82744	4057	2762
West Berkshire	4896	57746	3473	2738
Braintree	4735	49247	3406	2708
Enfield	6106	79021	3836	2687
South Norfolk	4681	43798	3394	2674
East Devon	5426	45578	3698	2658
Wychavon	4760	46665	3400	2649
Maidstone	4965	52670	3393	2649
Guildford	4811	48284	3386	2633
Arun	5796	55487	3753	2629
East Hampshire	4375	42730	3268	2592
Elmbridge	4485	50805	3305	2586
Richmond upon Thames	4972	50300	3413	2568
South Cambridgeshire	4709	52247	3259	2533
Chelmsford	4535	59546	3198	2527
Teignbridge	5514	41612	3640	2523
Mid Sussex	4837	52073	3333	2511
Poole	5512	52770	3476	2505
Solihull	5522	95226	3436	2501
King's Lynn and West Norfolk	4654	43125	3225	2493
Stockport	5951	92653	3523	2466
Wandsworth	4969	50671	3314	2463
Suffolk Coastal	4502	43388	3152	2443
Hillingdon	6031	89881	3537	2441
Northumberland	4834	86720	3140	2440
Coventry	6845	80757	3715	2438
Mid Suffolk	4103	32105	3067	2436
Windsor and Maidenhead	4597	52054	3158	2436
Huntingdonshire	4861	57975	3222	2431
East Lindsey	4756	40076	3162	2421
Milton Keynes	5488	128302	3378	2416
Basingstoke and Deane	4729	57176	3163	2412
Westminster	3703	30925	2805	2405
Reigate and Banstead	4603	53875	3205	2403
Bournemouth	5894	56788	3604	2400
Bath and North East Somerset	4994	54863	3266	2400
Wokingham	4548	59401	3109	2397
Brighton and Hove	5675	61273	3494	2390
Stroud	4729	38397	3173	2370
Ealing	5608	73200	3448	2351
Cherwell	4443	49951	3041	2325
City of Edinburgh	5456	114013	3193	2323
Sevenoaks	4125	42279	2924	2313
Vale of White Horse	4191	42177	3016	2295
Fife	5174	106818	3065	2289
Harrogate	3718	48934	2732	2283
Winchester	3933	38069	2856	2263
Wakefield	5173	87488	3126	2256
Havering	4554	76609	3017	2251
Kensington and Chelsea	3229	25033	2580	2248
Aberdeenshire	3862	71427	2699	2232
Wirral	5853	93684	3212	2227

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Breckland	4251	40401	2948	2214
Mole Valley	3732	35907	2803	2206
Mendip	4288	35978	2970	2196
Southend-on-Sea	4661	55007	3041	2195
Colchester	4449	55912	2928	2194
Tendring	4514	46928	2970	2188
Plymouth	6034	65916	3437	2186
North Norfolk	3998	32726	2879	2185
Test Valley	3909	41891	2766	2171
East Hertfordshire	3912	50842	2741	2164
Bedford	4274	68237	2902	2161
Dacorum	4215	51629	2819	2146
Sedgemoor	4395	37081	2911	2116
Torbay	5534	40810	3287	2110
Ashford	3933	38706	2753	2099
Sutton	5041	61351	3115	2096
Charnwood	4251	51125	2785	2087
Bexley	4914	72157	2966	2076
West Oxfordshire	3848	35322	2719	2075
Tunbridge Wells	3786	37292	2659	2064
Rother	3807	32498	2708	2063
Doncaster	4897	73081	2894	2057
Cotswold	3432	29462	2523	2044
West Dorset	4196	33136	2788	2038
Broadland	4021	44289	2724	2035
Canterbury	4152	42512	2808	2018
Walsall	5263	70252	3023	2014
Carmarthenshire	4446	49274	2721	2000
Tonbridge and Malling	3879	43464	2602	1990
Hounslow	4865	61682	2925	1985
South Kesteven	3725	41750	2580	1982
St Edmundsbury	3400	33361	2474	1978
Powys	3995	35415	2630	1976
Warwick	3879	44190	2595	1971
Swindon	5081	83847	2922	1968
Malvern Hills	3425	26226	2516	1964
North Hertfordshire	3607	45179	2526	1960
South Northamptonshire	3110	30592	2373	1951
Chiltern	3339	35974	2454	1933
Wigan	5539	90816	2927	1925
Tandridge	3331	32055	2469	1922
East Dorset	3659	34704	2540	1919
Cardiff	5248	86096	2890	1909
Redbridge	4333	66579	2722	1904
Southampton	5170	61210	2944	1898
Highland	3660	56729	2386	1884
Epping Forest	3289	45688	2354	1875
Sefton	4553	75421	2674	1870
Swale	3996	44009	2587	1851
Uttlesford	2890	30280	2219	1841
Taunton Deane	3864	34668	2574	1833
Northampton	4671	63763	2708	1826

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Swansea	4931	73476	2624	1823
Babergh	3153	31079	2296	1820
Harrow	4612	67171	2717	1813
Basildon	3848	58471	2504	1812
Lambeth	4207	42805	2646	1811
Hart	3170	35727	2306	1806
Rotherham	4607	66810	2592	1796
Brent	4598	59166	2714	1782
Derby	4688	66747	2645	1776
Leicester	5621	103909	2940	1776
Forest of Dean	3428	25405	2375	1773
Havant	3784	39558	2439	1766
Bromsgrove	3562	32763	2352	1762
St Albans	3482	50275	2327	1738
Kingston upon Thames	3775	44079	2459	1733
Merton	4071	47496	2526	1730
South Hams	3345	27277	2347	1717
Manchester	5291	91568	2732	1713
Thanet	3994	39419	2486	1709
Wolverhampton	4773	62976	2602	1708
Sandwell	5310	73544	2736	1701
North Lincolnshire	3655	45815	2265	1667
Eastleigh	3527	45120	2270	1666
Pembrokeshire	3306	33163	2230	1665
Lewisham	4366	53606	2585	1662
Trafford	3987	69613	2343	1662
Fareham	3396	41087	2208	1661
Wyre Forest	3526	33033	2303	1644
Waveney	3486	36440	2300	1635
Peterborough	4079	74046	2383	1634
Barnsley	3961	60323	2349	1630
Worthing	3723	35606	2337	1580
Lichfield	3031	34106	2047	1580
Camden	2834	28367	2027	1574
Lewes	3230	32321	2121	1573
Flintshire	3598	48008	2167	1573
Stoke-on-Trent	4356	65408	2301	1568
Woking	3296	35561	2148	1563
North Dorset	2978	22016	2056	1562
Warrington	3556	64762	2137	1561
South Holland	3334	27327	2133	1550
Telford and Wrekin	3845	47325	2188	1550
Bolton	4132	73853	2259	1540
Newark and Sherwood	3026	33820	1992	1537
Tewkesbury	2968	29653	2051	1536
North Devon	3356	27353	2144	1535
Greenwich	3732	52281	2269	1529
Maldon	2488	22894	1849	1527
North Kesteven	2995	34423	2023	1525
Stafford	3027	39790	1978	1522
Amber Valley	3336	38057	2033	1520
Southwark	3503	38638	2188	1519

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Portsmouth	4042	59402	2331	1517
Hinckley and Bosworth	3135	35670	2077	1499
Dover	3244	32962	2062	1490
Waltham Forest	3593	51261	2229	1485
Fenland	3051	28036	1998	1484
Shepway	3317	31600	2070	1482
Runnymede	2850	29219	1977	1472
Surrey Heath	2899	34222	1946	1470
York	3236	51690	2000	1464
South Staffordshire	2914	36388	1912	1456
Daventry	2547	26611	1835	1455
Cheltenham	3248	35006	2068	1450
Bracknell Forest	3099	56842	1988	1450
Rochford	2634	31646	1835	1447
Mid Devon	3032	23383	2006	1439
Calderdale	3256	53253	1941	1437
Haringey	3542	40302	2125	1436
Rugby	2957	33275	1941	1433
Harborough	2611	29483	1821	1432
Thurrock	2973	50593	1924	1416
Spelthorne	3089	36437	1951	1409
Liverpool	4024	89366	2193	1402
Hambleton	2216	26279	1665	1401
Nottingham	4237	57785	2175	1397
South Bucks	2358	26341	1751	1394
Tameside	3927	61718	2129	1386
Gwynedd	2987	26889	1825	1376
Staffordshire Moorlands	2569	29925	1736	1368
West Lindsey	2550	27435	1763	1365
Hammersmith and Fulham	2478	26004	1766	1363
Welwyn Hatfield	2686	37109	1834	1359
South Lakeland	2493	30050	1709	1357
East Northamptonshire	2518	29391	1771	1357
Derbyshire Dales	2187	21113	1622	1356
Rushcliffe	2504	34918	1702	1348
East Cambridgeshire	2636	26506	1790	1335
North East Derbyshire	2523	30811	1727	1330
North West Leicestershire	2536	30863	1747	1328
South Lanarkshire	2889	85839	1691	1314
East Staffordshire	2616	31534	1747	1305
Glasgow City	4025	120186	1999	1303
Three Rivers	2554	33220	1693	1303
Monmouthshire	2558	27871	1741	1296
Wyre	2908	34139	1809	1277
Castle Point	2525	32011	1693	1274
Conwy	3070	33426	1786	1257
Dumfries and Galloway	2714	37735	1667	1256
Nuneaton and Bedworth	3212	38893	1796	1234
Perth and Kinross	2195	39533	1526	1232
Ipswich	3251	37745	1871	1227
Newcastle-under-Lyme	2676	36454	1631	1218
Bassetlaw	2480	31790	1584	1214

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Wrexham	2902	37962	1698	1208
Sunderland	3147	65584	1668	1199
West Lancashire	2376	33292	1554	1188
Norwich	3173	32756	1837	1184
Reading	3026	42551	1797	1183
Bury	3103	61996	1710	1182
Rhondda Cynon Taf	3483	63899	1827	1181
Erewash	2858	35767	1655	1174
Vale of Glamorgan	2767	39253	1653	1174
Blaby	2564	32570	1602	1173
Gloucester	3403	42850	1852	1170
Lancaster	2905	34980	1660	1167
South Derbyshire	2313	30619	1498	1160
Stockton-on-Tees	3009	52555	1603	1158
Chorley	2574	33060	1579	1157
Hertsmere	2458	37418	1568	1156
South Ribble	2736	33983	1615	1145
Exeter	3069	34178	1804	1144
Torridge	2482	19514	1576	1141
Luton	2943	51563	1691	1141
Oldham	3037	55033	1686	1138
Caerphilly	2945	48600	1650	1130
Kingston upon Hull, City of	3613	57585	1770	1126
Kettering	2466	31994	1541	1113
Denbighshire	2449	25914	1528	1113
Islington	2187	23476	1521	1107
Rochdale	2995	53107	1606	1102
Oxford	2786	29166	1665	1099
Brentwood	1838	30045	1349	1098
Eastbourne	2748	31259	1628	1090
Gedling	2505	35519	1492	1079
West Devon	2107	16174	1438	1075
Gravesham	2423	31088	1523	1073
Hackney	2501	27190	1560	1070
Ceredigion	2199	16485	1454	1069
Scarborough	2348	29049	1428	1064
Newcastle upon Tyne	2542	53674	1481	1058
North East Lincolnshire	2902	42764	1587	1055
Dartford	2408	33932	1454	1054
Ashfield	2664	34969	1513	1051
Aberdeen City	2217	59486	1327	1050
Newport	2808	41163	1591	1049
Broxtowe	2468	33099	1444	1023
North Tyneside	2494	53282	1458	1022
Blackpool	3177	36582	1616	1019
High Peak	2206	26972	1370	1016
Redditch	2524	26155	1468	1014
Worcester	2497	34168	1492	1014
Fylde	2196	26078	1376	1010
Salford	3003	57143	1592	1005
Hastings	2479	25855	1511	992
Allerdale	2017	26048	1295	986

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Rushmoor	2418	59669	1439	983
Scottish Borders	2039	30750	1246	981
Angus	1746	31974	1208	981
Epsom and Ewell	2108	27502	1360	980
Great Yarmouth	2481	27572	1436	976
Cannock Chase	2455	30087	1371	965
Wellingborough	2041	24126	1339	964
North Lanarkshire	2597	85424	1327	961
Selby	1749	24902	1190	960
Forest Heath	2371	23247	1375	960
Preston	2577	32452	1403	959
Crawley	2469	33582	1469	958
Gateshead	2211	45144	1280	945
Chesterfield	2222	31990	1308	934
Slough	2769	62631	1469	932
North Warwickshire	1840	21010	1253	930
St. Helens	2638	52100	1413	926
Broxbourne	2088	33427	1273	916
Purbeck	1833	16000	1225	903
Melton	1525	15901	1098	900
Redcar and Cleveland	2284	37288	1252	896
Bridgend	2306	42205	1252	889
Newham	2595	42753	1453	888
Cambridge	2153	25578	1287	884
Mansfield	2260	30712	1303	878
Boston	1948	18005	1190	874
Weymouth and Portland	2129	19174	1274	869
Tower Hamlets	1885	27242	1251	866
Adur	2059	20533	1264	865
Eden	1461	13362	1016	844
Gosport	2139	24751	1267	840
Christchurch	1847	18675	1206	838
Ribble Valley	1367	17811	1029	827
West Lothian	1929	51816	1067	810
Watford	1889	37993	1186	803
Barking and Dagenham	2286	40267	1222	796
Neath Port Talbot	2120	39415	1145	791
Ryedale	1447	15541	960	790
Carlisle	1802	27604	1062	784
Darlington	1691	27388	1024	767
Isle of Anglesey	1724	17841	1030	764
Moray	1377	24644	938	761
Bolsover	1699	21727	1048	757
Falkirk	1877	47855	1027	736
Blackburn with Darwen	2092	32123	1088	726
Tamworth	1863	23141	1060	711
Torfaen	1977	27180	1079	710
Craven	1260	16383	859	689
Lincoln	1819	22552	1022	688
West Somerset	1532	10603	989	682
East Lothian	1429	29807	877	673
Argyll and Bute	1411	22797	844	645

Local Authority	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020
Rutland	1122	11612	772	643
South Ayrshire	1573	32791	851	643
Renfrewshire	1578	59141	858	630
Stevenage	1618	27873	947	629
Pendle	1420	20728	848	620
South Tyneside	1569	35028	865	610
Stirling	1249	26848	778	610
Harlow	1705	27260	904	604
Richmondshire	1043	12724	718	584
Halton	1748	35418	890	575
East Dunbartonshire	1141	34433	719	568
Midlothian	1243	26166	724	568
Middlesbrough	1566	31647	806	555
Rossendale	1192	19128	734	549
East Ayrshire	1372	31870	737	542
North Ayrshire	1632	37181	768	537
Oadby and Wigston	1327	18036	767	530
Copeland	1238	19008	713	513
Burnley	1217	20784	679	485
Corby	1354	19150	719	467
Hyndburn	1316	20168	677	466
Barrow-in-Furness	1173	17975	661	460
Dundee City	1417	35817	648	453
East Renfrewshire	884	28886	549	430
Hartlepool	1066	22018	596	424
Knowsley	1233	33801	656	419
Blaenau Gwent	1154	17578	567	373
Clackmannanshire	791	15660	417	311
West Dunbartonshire	816	23352	406	284
Inverclyde	810	21760	395	271
Orkney Islands	517	5766	318	257
Merthyr Tydfil	687	13977	359	235
Na h-Eileanan Siar	412	7403	252	193
Shetland Islands	284	5953	206	176
City of London	181	1292	132	118
Isles of Scilly	78	311	49	34

Table 4: Number of cars that are E10 incompatible, by Make (where 5000+ est. in 2020)

Make	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020 (est.)
MG	106070	18139	75827	65575
ROVER	195735	0	91624	47136
VOLKSWAGEN	71842	1227117	61398	44847
FORD	40057	2842086	37578	38041
MAZDA	72551	378141	46040	30661
NISSAN	121291	900013	55139	27010
AUSTIN	27548	17	26368	25806
TRIUMPH	24796	0	24943	24744
MORRIS	24625	0	23789	23181
TOYOTA	66310	1147963	36646	22255

Make	Incompatible 2014	Compatible 2017	Incompatible 2017	Incompatible 2020 (est.)
JAGUAR	16325	121741	16466	16537
PORSCHE	16101	98078	15278	14860
MERCEDES	18203	476016	16150	14160
PEUGEOT	77915	885012	27217	12221
ALFA ROMEO	28929	39564	15211	10866
FIAT	53857	593672	21173	9989
BENTLEY	9272	13494	8734	8172
LOTUS	8644	4240	8116	7619
CITROEN	25714	531372	10805	7473
ROLLS ROYCE	7771	2125	7240	6730
TVR	7261	0	6721	6122
AUDI	13329	533726	9681	5930
MORGAN	5741	0	6177	5928
DAEWOO	45769	1158	18038	5472
OTHER BRITISH	68392	0	57794	50203

Table 5: Number of cars that are E10 incompatible, by Make and Model (where 2000+ est. in 2020)

Make & Model	Compatible 2017	Incompatible 2017	Incompatible 2020 (est.)
VOLKSWAGEN GOLF	395798	42213	28066
MG MGB	1	20800	20890
MAZDA MX-5	72908	27056	18162
NISSAN MICRA	313681	33500	15785
MORRIS MINOR	0	13206	12796
ROVER 25	0	25107	9879
MG MGF	4	10527	9352
AUSTIN MODEL MISSING	6	8932	9096
FORD ESCORT	9212	8765	8947
ROVER MINI	0	11634	7614
MG TF	2916	11825	7568
MG MIDGET	2	7325	7477
FORD MODEL MISSING	10970	6457	6955
AUSTIN MINI	2	7474	6728
PORSCHE 911	35044	6815	6622
ROLLS ROYCE MODEL MISSING	108	6464	6012
VOLKSWAGEN BEETLE	53910	5767	5517
ROVER 75	0	13309	5482
MORRIS MODEL MISSING	0	5288	5255
MG MODEL MISSING	164	4904	5015
JAGUAR E TYPE	18	4849	4989
ROVER 45	0	12230	4813
MG ZR	2424	7459	4748
TRIUMPH STAG	0	4845	4743
MERCEDES 200	1846	4870	4726
ROVER 200 SERIES	0	7447	4485
BENTLEY MODEL MISSING	629	4589	4477
VOLKSWAGEN MODEL MISSING	3277	4573	4464
SKODA FABIA	162000	11242	4006
MAZDA 323	3547	5882	3876
NISSAN MODEL MISSING	7238	6909	3762

Make & Model	Compatible 2017	Incompatible 2017	Incompatible 2020 (est.)
TOYOTA COROLLA	111047	6015	3717
FORD CORTINA	5	3421	3663
TRIUMPH SPITFIRE	0	3549	3608
FERRARI MODEL MISSING	251	3545	3572
AUSTIN HEALEY MODEL MISSING	5	3305	3545
FORD CAPRI	3	3461	3529
JAGUAR MODEL MISSING	1802	3343	3446
MAZDA MODEL MISSING	1950	5156	3440
PEUGEOT 106	16145	7723	3298
TRIUMPH TR6	0	3314	3192
TOYOTA MR2	9930	4686	3127
MERCEDES 300	2379	3228	3096
LOTUS ELISE	2050	3418	3029
JAGUAR XJ SERIES	19801	3273	3004
MORRIS MINI	0	2820	2695
CITROEN 2CV	3	2806	2689
PORSCHE MODEL MISSING	1921	2460	2676
DAEWOO MATIZ	328	9364	2639
FIAT PUNTO	182479	7937	2601
TOYOTA RAV4	63363	4579	2592
PEUGEOT 205	6	3398	2555
FORD FIESTA	1257076	2711	2522
PEUGEOT 306	6385	6394	2520
PORSCHE 944	4	2741	2499
SEAT AROSA	80	6845	2421
TVR CHIMERA	0	2639	2392
MG ZS	844	3757	2387
LOTUS ELAN	1	2513	2382
AUDI A3	141029	4172	2337
ROVER 400 SERIES	0	4003	2330
ALFA ROMEO SPIDER	1267	2746	2307
TOYOTA STARLET	4535	4054	2305
TOYOTA CELICA	18877	3682	2295
RILEY MODEL MISSING	0	2310	2291
TRIUMPH HERALD	0	2303	2279
TRIUMPH MODEL MISSING	0	2205	2203
TOYOTA CARINA	98	3634	2196
FORD SIERRA	670	2488	2181
mitsubishi shogun	5645	4442	2181
FORD ANGLIA	2	2095	2141
ALFA ROMEO 147	2364	3699	2141
VOLKSWAGEN POLO	555059	3251	2132
MG ZT	684	3305	2102
MORGAN 4/4	0	2160	2070
NISSAN ALMERA	63695	4722	2069
PERODUA MYVI	0	2728	2068
AUSTIN SEVEN	8	2013	2046
NISSAN PRIMERA	16002	4474	2013
OTHER BRITISH MODEL MISSING	0	57794	50203

Table 6: Number of cars that are E10 incompatible, by year of manufacture

Year of Manufacture	Incompatible 2014	Compatible 2017	Incompatible in 2017	Incompatible 2020 (est.)
2017	NA	733027	668	606
2016	NA	1286103	1542	1428
2015	NA	1243517	1451	1342
2014	473	1098529	748	584
2013	930	1035921	781	694
2012	1264	911798	1140	1003
2011	1538	856402	1429	1235
2010	1877	968425	1653	1310
2009	2228	1022929	1956	1414
2008	2734	1021722	2303	1427
2007	4316	1181458	3550	2011
2006	18304	1118571	15661	10131
2005	25872	1075888	19508	10582
2004	104068	1004501	65511	31637
2003	95933	922485	50586	23251
2002	87762	766750	41975	20451
2001	89574	548475	42700	21559
2000	70475	350382	32596	17634
1999	130071	197937	54320	25805
1998	94331	119990	40234	21925
1997	83694	68115	38346	22554
1996	56980	39379	26766	18346
1995	40508	26516	20141	14136
1994	30969	16464	16509	11317
1993	22638	12862	13134	9270
1992	17206	10654	11396	8053
1991	27084	6059	19488	14025
1990	23161	6204	16759	13507
1989	20515	3355	15454	13123
1988	13295	2295	10252	8778
1987	10122	1469	8077	7363
1986	8333	1016	6810	6116
1985	7216	669	6257	5957
1984	5719	468	5016	4668
1983	5929	407	5297	5137
1982	4463	269	4032	4004
1981	4563	202	4318	4229
1980	5400	194	5230	5754
1979	5926	196	5712	6928
1978	5709	135	5536	7106
1977	4730	83	4648	5128
1976	4136	109	4563	4403
1975	4329	186	5175	5077
1974	6176	189	7724	7575
1973	11556	348	12620	12354
1972	16291	365	15554	15616
1971	12012	215	11658	11572
1970	11250	136	11066	11204
1969	10342	131	10263	10337
1968	11016	160	10985	10814

Year of Manufacture	Incompatible 2014	Compatible 2017	Incompatible in 2017	Incompatible 2020 (est.)
1967	10166	115	10143	10144
1966	8847	141	9063	9060
1965	8021	124	8205	8267
1964	7720	201	7630	7572
1963	7081	232	6996	7397
1962	5814	215	5751	6051
1961	5861	129	5820	5993
1960	6569	142	6504	6866
1959	6698	124	7122	7575
1958	5267	74	5556	5846
1957	4285	60	4484	4625
1956	4020	88	4251	4378
1955	5116	49	5358	5622
1954	4545	62	4748	4976
1953	3997	23	4135	4279
1952	2786	13	2864	2989
1951	2375	18	2469	2603
1950	2019	25	2099	2188
1949	1971	17	2060	2156
1948	1846	29	1914	2135
1947	1591	33	1671	1785
1946	1087	25	1132	1136
1945	83	0	93	103
1944	81	0	102	112
1943	94	0	111	119
1942	114	0	119	126
1941	96	0	123	132
1940	280	7	295	311
1939	1774	61	1833	1862
1938	2701	73	2736	2753
1937	3668	68	3750	3816
1936	3681	60	3733	3779
1935	3679	50	3751	3816
1934	4034	40	4081	4180
1933	2976	30	3049	3154
1932	2266	11	2325	2376
1931	1682	7	1731	1777
1930	1871	12	1956	2020
1929	1789	10	1891	1898
1928	1510	6	1544	1562
1927	1148	12	1174	1139
1926	1012	20	1046	1088
1925	755	27	753	733
1924	618	32	619	621
1923	449	16	453	484
1922	249	9	248	251
1921	515	14	511	520
1920	97	8	101	112
1919	42	0	48	50
1918	32	0	31	31
1917	42	0	43	43
1916	44	0	46	50

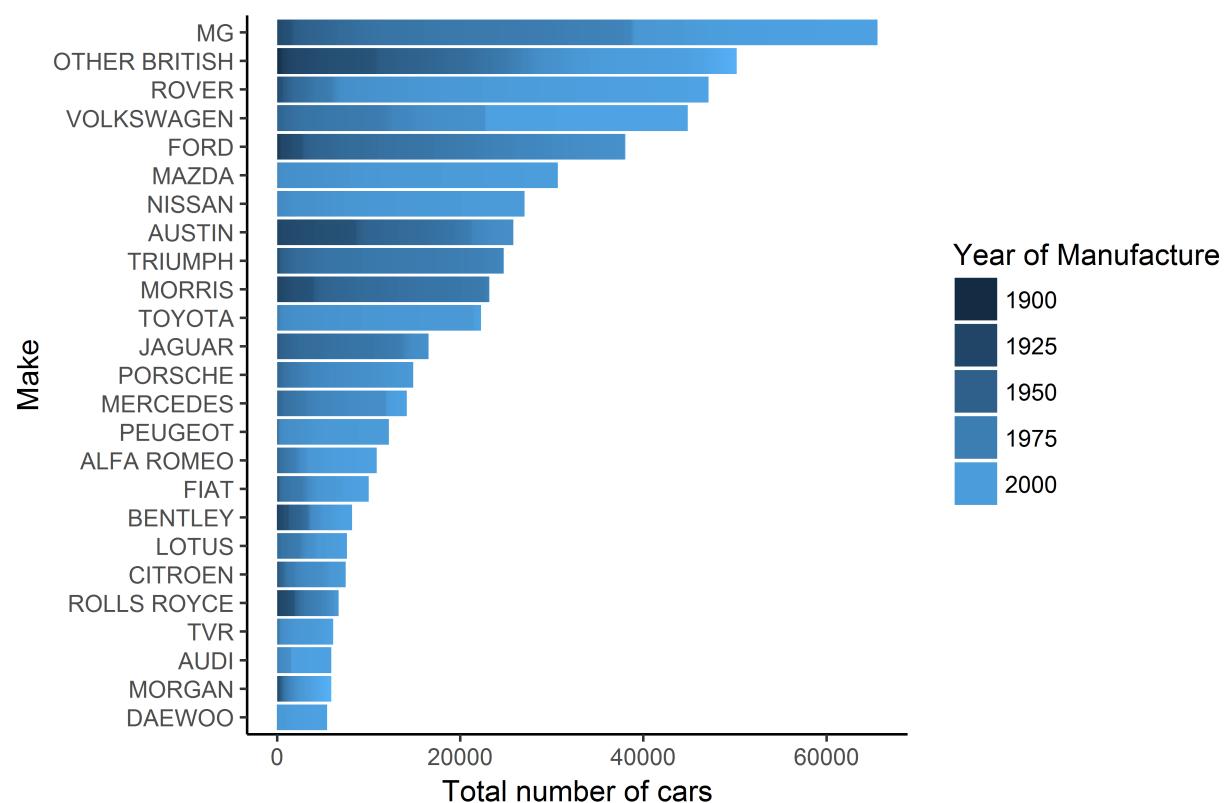
Year of Manufacture	Incompatible 2014	Compatible 2017	Incompatible in 2017	Incompatible 2020 (est.)
1915	106	0	117	129
1914	136	5	135	117
1913	122	3	130	135
1912	98	2	99	98
1911	72	0	80	88
1910	53	0	49	50
1909	42	0	44	43
1908	32	0	32	32
1907	28	0	32	34
1906	34	0	31	34
1905	31	1	29	30
1904	126	1	133	133
1903	114	2	108	108
1902	55	0	64	64
1901	37	0	38	38
1900	28	0	27	27

There are small numbers of vehicles which are listed as E10 compatible going back as far as the very early days of motoring. Vehicles listed as E10 compatible from before 1940 are almost exclusively Vauxhalls, with a small number of BMWs. Unlike most manufacturers in this dataset, the classification of these manufacturers does not include a date before which all vehicles should be taken as E10 incompatible. As a result some very old BMWs and Vauxhalls are listed as E10 compatible, while other vehicles from those years are overwhelmingly E10 incompatible. It is not clear if what has been issued by Vauxhall and BMW is precise, accurate advice: the results here simply reflect the manufacturer advice whether right or wrong.

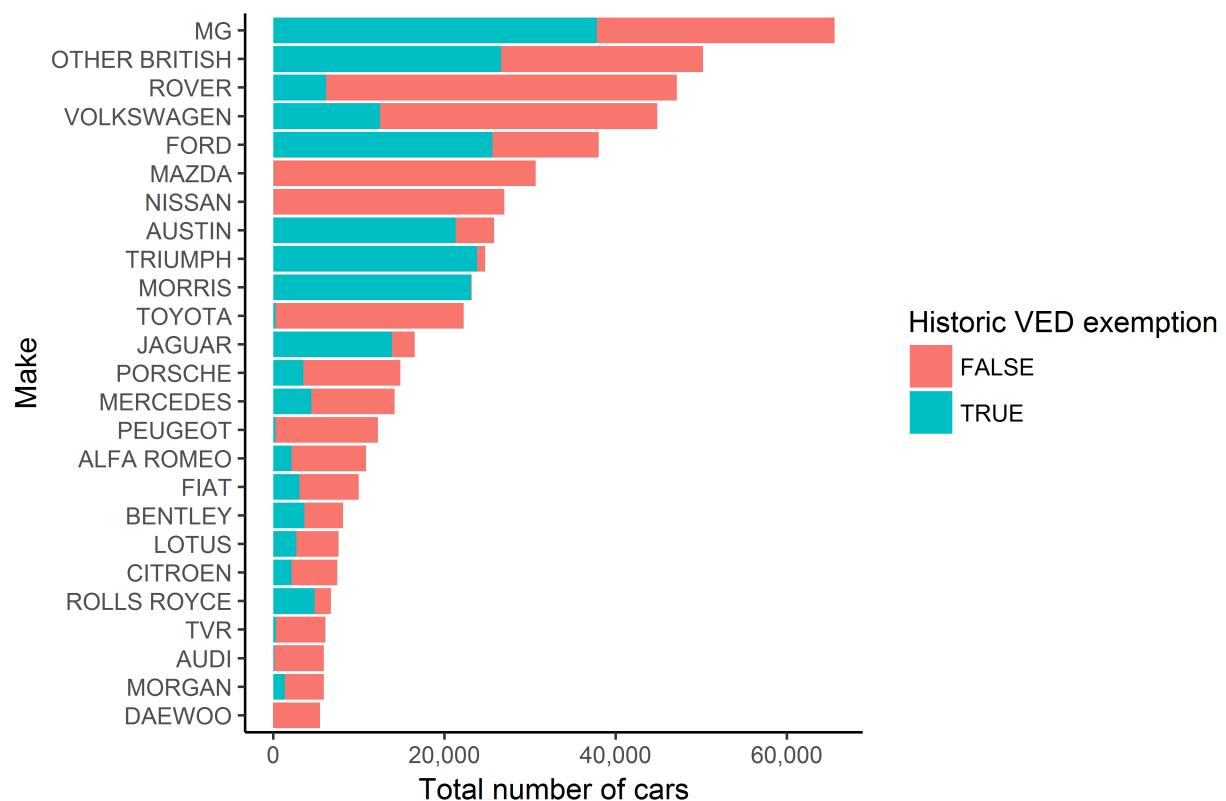
Table 7: Number of cars that are E10 compatible ('14-'17 and est. 2020)

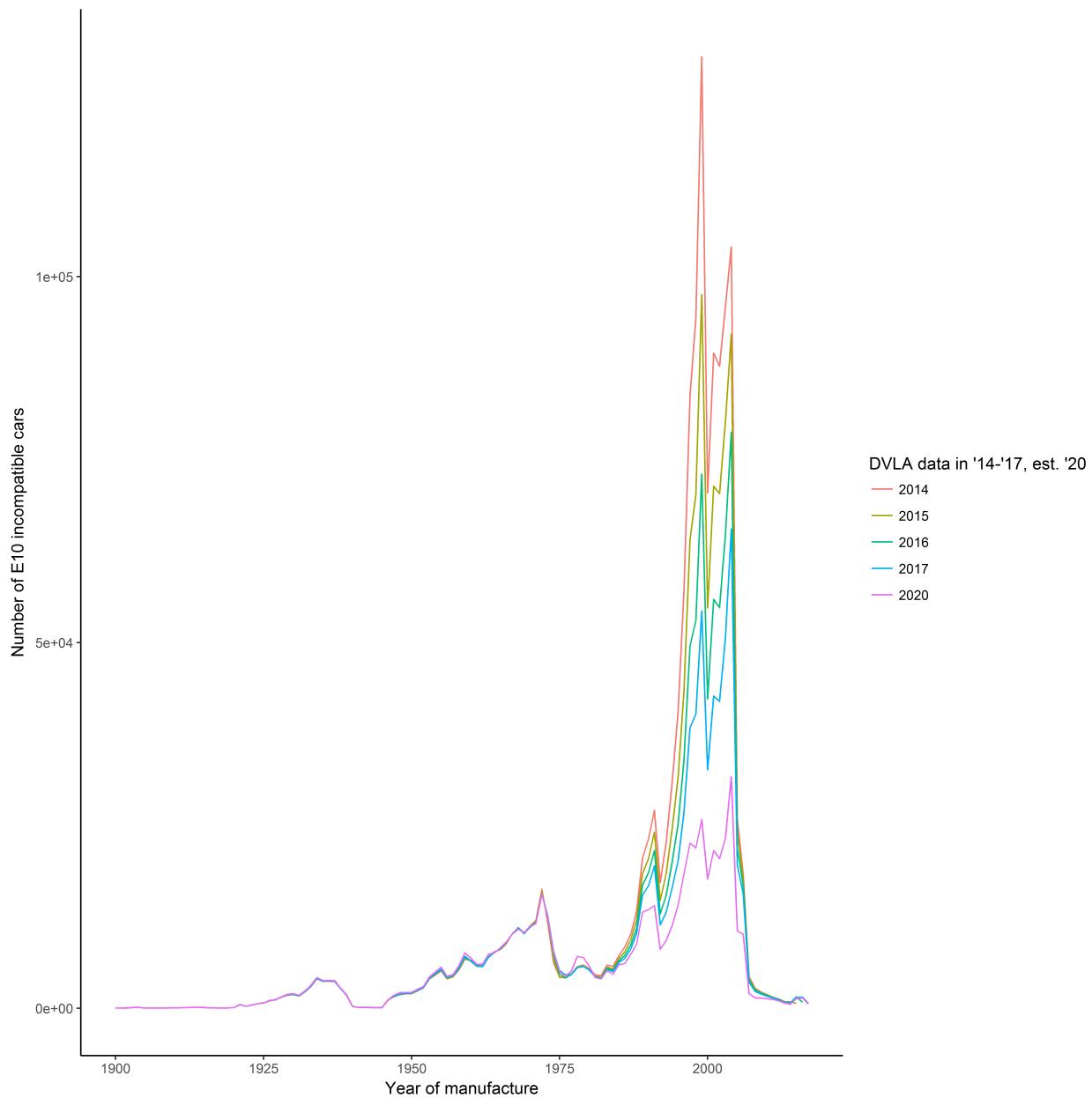
Year of DVLA data	E10 compatible	E10 incompatible
2014	17378340	1369196
2015	17420938	1165699
2016	17499359	1001715
2017	17666186	868517
2020	NA	634309

Top 25 E10 incompatible Makes, by year of first reg. (est. 2020)

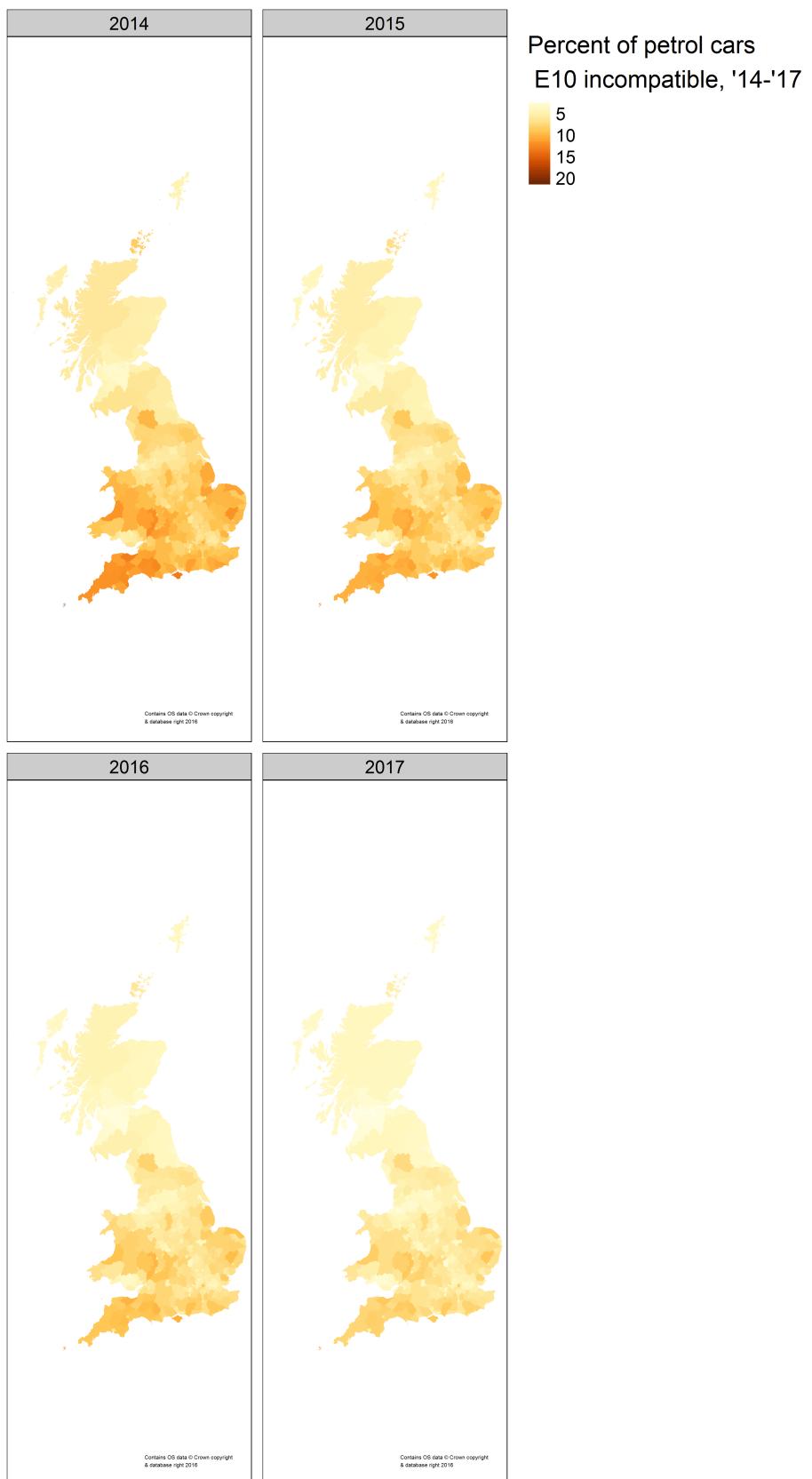


Top 25 E10 incompatible Makes, by VED (est. 2020)









E10 compatibility using MOT-based mileage estimates

Table 8: Vehicle miles travelled by E10 incompatible cars, by LA

Local Authority	2014	2015	2016	2017	2020
Aberdeen City	8598675	6252047	4736265	3672895	2154102
Aberdeenshire	12900942	9590611	7877305	6360644	3784241
Adur	8384570	6551493	5202334	4090919	2002473
Allerdale	7057304	5345003	4062453	3331635	1776640
Amber Valley	12837114	9550385	7594107	5616637	2859636
Angus	6144138	4656703	3821997	2991633	1740606
Argyll and Bute	5295868	3976754	2860131	2294063	1173423
Arun	22065381	17823970	14412126	11549911	5709096
Ashfield	10871124	8522160	6404024	4658983	2104216
Ashford	14155127	11338193	9281057	7562494	4136664
Aylesbury Vale	19899808	15974618	13047393	10485098	5827163
Babergh	11116436	8999665	7313172	6048222	3366761
Barking and Dagenham	8989116	6777480	5282075	3894951	1884156
Barnet	25389616	20386601	16832978	13263817	6773149
Barnsley	15788701	12093276	9196165	7099023	3451345
Barrow-in-Furness	4514528	3401043	2496043	1867834	983322
Basildon	15044445	11929211	9248063	7403441	3770794
Basingstoke and Deane	17064104	13652395	10872180	8738394	4854872
Bassetlaw	9398109	7113373	5535104	4289473	2205321
Bath and North East Somerset	19229018	15580231	12715423	9941296	5009710
Bedford	16334555	13254762	10685329	8259892	4316788
Bexley	17797626	13854915	10879867	8562164	4274800
Birmingham	77849680	58458527	46213868	34813949	15559975
Blaby	10021049	7661252	6049095	4591424	2336237
Blackburn with Darwen	8478247	6030618	4437410	3484421	1712088
Blackpool	12787628	9678221	6849369	5312500	2377893
Blaenau Gwent	5138641	4031619	2901869	1991144	967687
Bolsover	6746381	5292170	4381809	3215357	1568626
Bolton	16535247	12674402	9394122	6987412	3548368
Boston	7463961	5882432	4401351	3321494	1662747
Bournemouth	24098709	19330530	15641093	11938728	5657512
Bracknell Forest	11876966	9307468	7530011	6148801	3176709
Bradford	29546155	22530774	16823321	12816778	6743779
Brantree	16579972	13087949	10956236	8733316	5029126
Breckland	15776778	12805624	10428718	8084423	4232481
Brent	18298425	14130193	11562235	8913644	4321497
Brentwood	6495408	5212307	4147355	3453447	2107717
Bridgend	9645564	7416022	5659636	3949746	2056564
Brighton and Hove	23098788	18739561	14841350	12011354	5905270
Bristol, City of	44230187	35128307	29176057	22219481	10088108
Broadland	15156038	11914920	9404266	7771690	4014180
Bromley	29600386	23364845	19377453	15371840	8023076
Bromsgrove	12421872	9863365	8031268	6177877	3026802
Broxbourne	8734658	6587781	5172789	4028040	2079643
Broxtowe	9935541	7400506	5747690	4453596	2101995
Burnley	4810499	3641384	2847729	2021524	1069189
Bury	12424393	9177658	6906972	5386237	2740005
Caerphilly	12788138	10110581	7638286	5519203	2732150

Local Authority	2014	2015	2016	2017	2020
Calderdale	12761036	9626103	7203335	5690289	3065536
Cambridge	9431639	7248860	5838838	4403264	2238551
Camden	9343779	7276979	6280343	5283028	2976108
Cannock Chase	9479353	7022274	5521448	4003201	2000819
Canterbury	15540030	12785799	10178233	8185369	4201660
Cardiff	22915596	18142652	13806413	10309254	4950113
Carlisle	6723780	4951652	3707176	2902806	1573225
Carmarthenshire	17507123	13907822	10625428	8180476	4229788
Castle Point	9303492	7340694	5880678	4693847	2479958
Central Bedfordshire	26408139	20972525	17001763	13523043	7322561
Ceredigion	8476677	7081570	5481751	4399610	2411022
Charnwood	16201927	12544817	9778855	7802472	3971682
Chelmsford	16110368	12646464	10382575	8450904	4779632
Cheltenham	13295817	10823867	9080752	6847659	3393733
Cherwell	16267174	12819124	10184661	8490157	4503289
Cheshire East	32233781	24470377	19302421	15588493	8898531
Cheshire West and Chester	24658520	18763162	14505315	11560248	6453901
Chesterfield	8943336	6971431	5382297	3878188	1901885
Chichester	16117835	13192496	11081530	9262833	5461616
Chiltern	11177189	9253261	7801648	6478230	3671061
Chorley	9471758	7416133	5558477	4318661	2288733
Christchurch	7262605	5724330	4770167	3790692	1811355
City of Edinburgh	22897283	16487764	12708256	9641001	5138360
City of London	445256	392564	351666	274320	186283
Clackmannanshire	3148832	2156113	1592145	1156612	585555
Colchester	17017909	13733378	11106576	8601128	4566348
Conwy	12576077	9909343	7518545	5645582	2852856
Copeland	4667611	3502470	2608701	2029308	1048047
Corby	5803523	4304192	3345119	2483741	1074689
Cornwall	77338805	61853782	49661156	37465275	18259268
Cotswold	11711071	9416575	8174604	6565751	3628255
County Durham	27849474	20614309	15438206	12297080	6617643
Coventry	27923065	21398681	16590695	12118802	5463045
Craven	4348923	3414247	2689520	2202407	1221595
Crawley	10495221	8452918	6545237	5140213	2465951
Croydon	30444481	23821458	19434001	15033600	7141096
Dacorum	16335482	12720494	10208928	8225429	4476242
Darlington	6211328	4892943	3540926	2656158	1487505
Dartford	9157997	7185485	5735991	4379159	2315532
Daventry	8699597	7021393	5547158	4643268	2476886
Denbighshire	9615613	7522858	5762666	4497796	2350911
Derby	20145519	15690378	11481269	8552306	3971662
Derbyshire Dales	6853656	5551133	4477675	3657253	2055740
Doncaster	19359072	14505561	11296717	8551014	4461543
Dover	12359850	9549477	7804487	6032472	3016160
Dudley	31942553	24703138	19163797	14936044	6910554
Dumfries and Galloway	10299978	7887788	5831592	4535345	2364028
Dundee City	6136836	3942824	2953391	2033880	1018514
Ealing	20983512	16805270	13652734	10881749	5399139
East Ayrshire	5612575	3999595	2950860	2163535	1073826
East Cambridgeshire	10037322	8043402	6532998	5196669	2695023
East Devon	20493062	16444179	14013394	10681987	5451647

Local Authority	2014	2015	2016	2017	2020
East Dorset	13228217	10847794	8931700	7173244	3747573
East Dunbartonshire	4421615	3247110	2468628	1959134	1142021
East Hampshire	14519507	11913206	9966174	8240906	4733626
East Hertfordshire	14475876	11465290	9146307	7319241	4080913
East Lindsey	17503456	13872903	10873111	8378104	4288463
East Lothian	5488373	4039426	3106886	2373409	1262227
East Northamptonshire	9536470	7475390	6173070	4739981	2426372
East Renfrewshire	3448094	2529465	1874007	1554396	875569
East Riding of Yorkshire	29598984	22871311	18388251	13548771	7322534
East Staffordshire	9645129	7509392	6080701	4770416	2426890
Eastbourne	10885719	8608404	6773083	5210594	2486460
Eastleigh	13157592	10414493	8374411	6643498	3513333
Eden	4543354	3552077	2767965	2146727	1316293
Elmbridge	15225651	12289698	10778803	9129439	5218510
Enfield	22307858	17672407	14312291	11459444	5598735
Epping Forest	11699420	9373193	7767562	6257484	3547091
Epsom and Ewell	8044524	6313452	5135679	4124298	2155250
Erewash	11469737	8500112	6430583	5005863	2426985
Exeter	13006738	10270377	8412850	6346842	2851283
Falkirk	7744467	5467901	4163797	3282585	1743749
Fareham	12401972	9690787	7791556	5935483	3320409
Fenland	11973832	9128047	7432346	5761702	3018144
Fife	20065776	14799526	11265221	8706112	4486441
Flintshire	14432947	11496854	8635070	6525235	3291860
Forest Heath	10625776	8196567	6317196	4839059	2488585
Forest of Dean	12507528	10163286	8723297	6804225	3471235
Fylde	7944441	6199526	4835435	3771572	2019522
Gateshead	8659485	6569739	4876640	3739997	1874960
Gedling	9830498	7655817	5944103	4559446	2265110
Glasgow City	18263790	12900293	9761719	7138023	3398144
Gloucester	15028764	11731429	9397568	6787645	2983520
Gosport	8505042	6736443	5076502	4121231	1947259
Gravesham	9293934	7339180	5758546	4571220	2230473
Great Yarmouth	10216802	8089929	6291453	4562667	2129406
Greenwich	14002367	11147875	8932455	7106489	3428853
Guildford	16503517	13640427	11133393	9337967	5068021
Gwynedd	11410885	9018097	6990085	5314122	2861822
Hackney	9649089	7683620	6094154	5085311	2520521
Halton	7196462	5119927	3754438	2810724	1366379
Hambleton	6594130	5462831	4410663	3494468	2083389
Hammersmith and Fulham	8517388	7239512	6021457	4916087	2706947
Harborough	9029845	7257548	5795140	4740542	2565688
Haringey	13432066	10659482	8695998	6922374	3379257
Harlow	7493024	5655586	4278021	3026319	1465887
Harrogate	11919059	9114476	7435275	6090971	3756414
Harrow	17585102	13913911	11032160	8562514	4308477
Hart	10934931	8944920	7118028	6023781	3478907
Hartlepool	4185936	3028858	2378906	1719406	818197
Hastings	9898882	7666381	6187272	4944824	2287983
Havant	14418291	11142233	8829174	7148700	3671999
Havering	15261520	12054782	9876306	7884762	4205153
Herefordshire, County of	22979426	18722303	15227120	12253437	6326788

Local Authority	2014	2015	2016	2017	2020
Hertsmere	9864442	7593202	6101404	4808941	2588216
High Peak	8500133	6673280	5146702	3960442	1976387
Highland	13453083	9937074	7715860	6099597	3350289
Hillingdon	22410936	17248636	13867339	10576919	5142476
Hinckley and Bosworth	11902866	9412725	7460692	5997861	3030320
Horsham	17825018	14624091	12112532	10397384	6029996
Hounslow	17963807	14367212	11470732	9036886	4477975
Huntingdonshire	18536037	14137165	12014742	9288983	5196697
Hyndburn	5218738	3866598	2887923	2047696	1025965
Inverclyde	3614663	2477741	1691998	1221573	646861
Ipswich	14538132	10893631	8668505	6590027	3139547
Isle of Anglesey	6777650	5293325	4040418	3067694	1612308
Isle of Wight	25392660	20952981	16976552	13558702	6749391
Isles of Scilly	292272	190613	168267	145275	58840
Islington	7555930	6113329	5257390	4419062	2297000
Kensington and Chelsea	8737198	7125490	6465867	5403339	3617956
Kettering	9648406	7654959	5951577	4462001	2270737
King's Lynn and West Norfolk	16892975	13295196	10805332	8518149	4568096
Kingston upon Hull, City of	15894922	11694460	8529582	6232079	2826440
Kingston upon Thames	13465618	10883960	8962980	7059909	3489709
Kirklees	25239995	19099334	14954498	11777808	6233815
Knowsley	5011600	3765022	2730322	2064718	982883
Lambeth	15992323	12693378	10237230	8011637	4044841
Lancaster	11018182	8330694	6035907	4768446	2439873
Leeds	39523736	29692569	23047601	17749801	9457513
Leicester	25606493	19521760	14924801	11203393	4882229
Lewes	11874739	9784796	7533834	6043247	3225648
Lewisham	16600527	12989397	10714439	8377487	3967209
Lichfield	10558139	8124905	6616441	5220754	2700407
Lincoln	7960952	6165879	4786451	3338937	1571486
Liverpool	16230941	12068884	9206312	7126172	3490067
Luton	13281126	10674071	8324208	6356879	3349047
Maidstone	16810965	13848717	10729192	8853178	4894931
Maldon	8093608	6450465	5289543	4216789	2546945
Malvern Hills	11047008	9074717	7582787	6107988	3346472
Manchester	22828577	17072477	12600812	9692085	4538386
Mansfield	9685853	7215528	5770427	4264089	1898688
Medway	26949111	21076997	16599552	13044290	6295944
Melton	4945993	3945090	3222416	2542839	1369346
Mendip	16014962	13196020	10994850	8651496	4403485
Merthyr Tydfil	3089691	2210890	1631524	1279401	597249
Merton	14844319	11731132	9815692	7553716	3846991
Mid Devon	11284303	9210967	7742000	6096454	2891895
Mid Suffolk	14854190	11911648	9791040	8185614	4673566
Mid Sussex	17339554	14066161	11459133	9463189	5109445
Middlesbrough	6431349	4662015	3400925	2498815	1174161
Midlothian	4757691	3278382	2489691	1919635	1079250
Milton Keynes	21869842	16739941	13021707	10431381	5339880
Mole Valley	12643690	9988134	8584054	7333732	4184504
Monmouthshire	9860422	7809018	6447306	5129619	2763456
Moray	4711399	3663042	2728318	2195656	1250324
Na h-Eileanan Siar	1553958	1129161	875643	717406	382102

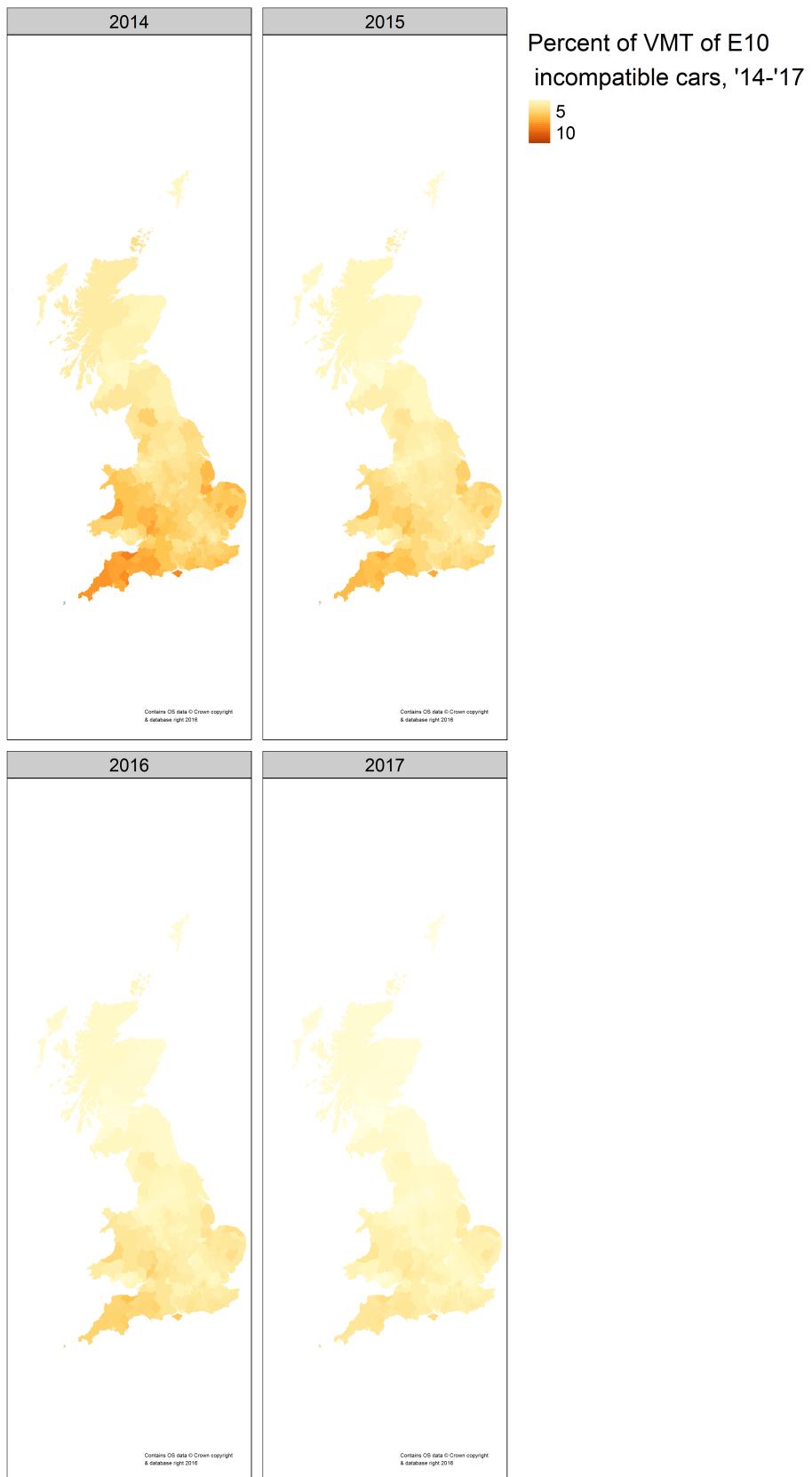
Local Authority	2014	2015	2016	2017	2020
Neath Port Talbot	9117127	6995583	5468654	3765832	1879845
New Forest	24931529	20191979	16477229	13490827	7451476
Newark and Sherwood	11085349	8494020	6820383	5342193	2725093
Newcastle upon Tyne	10293925	7936876	6036557	4572309	2355098
Newcastle-under-Lyme	9966685	7624572	5809142	4420348	2301447
Newham	10736783	8050380	6652777	5203917	2379901
Newport	12229512	9886137	7335214	5596235	2700585
North Ayrshire	6997327	4740314	3463233	2325887	1131517
North Devon	13202773	10348349	8646115	6536924	3147803
North Dorset	10585694	8653168	7281072	5690587	2971113
North East Derbyshire	9421116	7253624	5946440	4759778	2442777
North East Lincolnshire	12269806	9290396	7036663	5127835	2395234
North Hertfordshire	13513868	10294443	8309924	6714974	3634127
North Kesteven	11246444	8709069	6837731	5458186	2817669
North Lanarkshire	11264860	7853836	5664548	4183436	2091240
North Lincolnshire	13817025	10393769	8009291	6224666	3248318
North Norfolk	14895464	11870341	9711063	7930942	4225747
North Somerset	26241460	20736675	17170849	13311830	6827910
North Tyneside	9998332	7689375	5791427	4570469	2326274
North Warwickshire	6503635	5186837	4144924	3214884	1641957
North West Leicestershire	9297251	7262248	5905080	4636297	2413866
Northampton	19880945	15210511	11574120	9001858	4133885
Northumberland	17143502	13271628	10337323	8233520	4623183
Norwich	13744166	10595250	8267556	6411429	2883989
Nottingham	19001148	14187405	10391524	7675838	3389007
Nuneaton and Bedworth	12651233	9822641	7692399	5461269	2466316
Oadby and Wigston	5321591	4037768	3171750	2368890	1113076
Oldham	12335130	9248650	6941286	5326738	2639314
Orkney Islands	1763880	1247354	975484	731386	429192
Oxford	11402022	9311783	7410611	5863986	2826701
Pembrokeshire	12418168	10251975	8047402	6434238	3299791
Pendle	5409036	4053157	3320616	2469617	1277121
Perth and Kinross	7556974	5558555	4366763	3704866	2211780
Peterborough	17387836	13444992	10329408	7631035	3768504
Plymouth	26474590	20459125	16184016	12390067	5699685
Poole	21555272	16869382	13927321	10429773	5404332
Portsmouth	16664894	13064521	10143612	7997245	3762748
Powys	14849225	11918301	9606515	7482802	3920977
Preston	10148146	7744951	5961461	4306266	2165185
Purbeck	6726846	5699892	4596832	3497267	1781876
Reading	12585280	9847654	8035367	6325302	2981480
Redbridge	16006744	12704223	10534001	8233350	4141006
Redcar and Cleveland	8831519	6631201	4948780	3665500	1790401
Redditch	9868986	7293160	6013484	4421378	2071416
Reigate and Banstead	16637141	13629578	10917015	9206278	4992281
Renfrewshire	6561713	4704358	3411699	2584444	1322293
Rhondda Cynon Taf	15459543	11956833	8961137	6498644	3087044
Ribble Valley	4427992	3611378	2940004	2393909	1403357
Richmond upon Thames	16913575	13808493	11380713	9051439	4939628
Richmondshire	3592290	2675899	2270303	1678814	991566
Rochdale	12261689	9234719	6865855	4971347	2506822
Rochford	9104035	7191442	5954444	4798625	2681686

Local Authority	2014	2015	2016	2017	2020
Rossendale	4464113	3549320	2783211	2078427	1144853
Rother	13157574	11100268	8752297	7250637	3885710
Rotherham	18573073	13648411	10731662	8060672	4072119
Rugby	10965332	8627671	6878686	5528644	2695674
Runnymede	10406354	8270676	6878988	5522587	3009862
Rushcliffe	9087267	7098148	5670967	4349255	2461657
Rushmoor	9780726	7859561	6102936	4694006	2381440
Rutland	3682889	2953269	2163319	1759552	988097
Ryedale	4755157	3695090	2839399	2135881	1238540
Salford	12562314	9232445	7009110	5358956	2530658
Sandwell	22703920	17016441	13359107	9724381	4170982
Scarborough	8918177	6834685	5056911	3864861	2073833
Scottish Borders	7590959	5414625	4002399	3129351	1756279
Sedgemoor	16824294	13751521	11385500	8700739	4269882
Sefton	16988359	13107068	10030718	7751028	3926092
Selby	5980549	4705676	3567290	2901329	1699763
Sevenoaks	13979293	11583697	9400786	7679241	4246429
Sheffield	34657287	26019004	19431299	15053196	7671136
Shepway	12636593	9895667	7926766	6104768	3130716
Shetland Islands	958464	646814	586512	451978	282306
Shropshire	31722419	25292448	20576253	16593353	8686844
Slough	11950451	9521698	7531798	5541001	2590965
Solihull	20379851	15501176	12517840	9583744	4790049
South Ayrshire	6359914	4448026	3117367	2400340	1278113
South Bucks	7867025	6584751	5431048	4600986	2644535
South Cambridgeshire	17283537	13698585	11333507	8809616	4820531
South Derbyshire	8616994	6610625	5107399	3990087	2046594
South Gloucestershire	30868233	24522954	19893548	15714925	8047108
South Hams	12648957	10480305	8762220	6942715	3512293
South Holland	12906252	10053022	7783358	6132691	2895582
South Kesteven	13735528	10693928	8440621	6782333	3502549
South Lakeland	8162984	6667948	5291649	4135557	2339075
South Lanarkshire	11285308	7851339	5888219	4521760	2534963
South Norfolk	16634118	13609965	11028209	8989625	4972328
South Northamptonshire	10429123	8197419	6706787	5652215	3337684
South Oxfordshire	16670354	13677887	11477296	9663657	5488984
South Ribble	10453607	8000316	6224906	4653415	2453335
South Somerset	25764235	21006586	17371551	13855181	7034653
South Staffordshire	10348203	8100443	6489519	4867949	2618926
South Tyneside	6293959	4575353	3297447	2620905	1329830
Southampton	21503092	16597939	13015506	10018609	4625666
Southend-on-Sea	18195450	14606657	11901423	9126416	4672747
Southwark	12855662	10205080	8334222	6807552	3432644
Spelthorne	11915398	9448275	7424027	5979459	3020325
St Albans	13555236	10748534	8711833	6896064	3720721
St Edmundsbury	12327132	9641399	7928054	6433230	3567873
St. Helens	10332708	7722400	5943382	4354313	2092999
Stafford	10898024	8709166	6659374	5124630	2703362
Staffordshire Moorlands	8777756	6864544	5258191	4365896	2311738
Stevenage	7168758	5742685	4482471	3272050	1647993
Stirling	4615621	3433878	2534669	2056090	1133633
Stockport	22680558	17420364	13697854	10681627	5444818

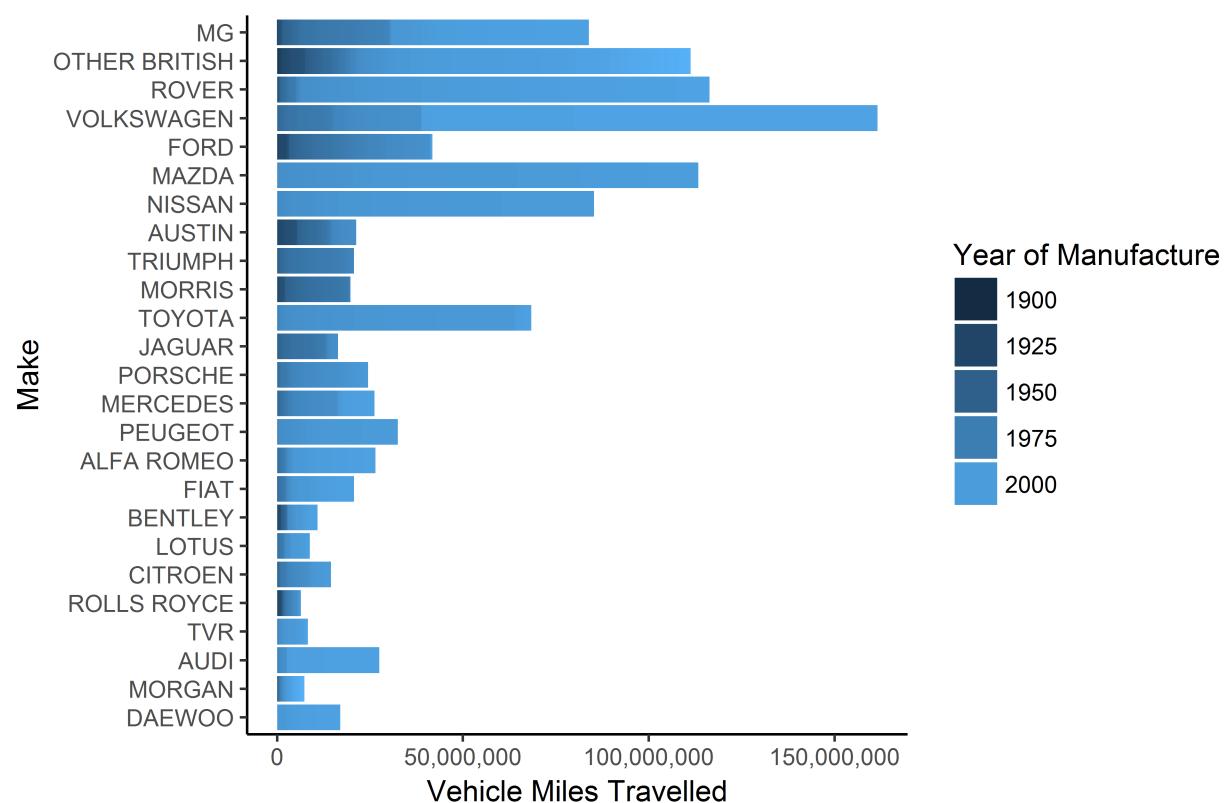
Local Authority	2014	2015	2016	2017	2020
Stockton-on-Tees	11915968	8461017	6274696	4637106	2362289
Stoke-on-Trent	18115521	13334344	10151556	7404747	3347213
Stratford-on-Avon	16244233	12814014	10743485	8847758	4940832
Stroud	17552508	13998929	11837916	9202821	4717911
Suffolk Coastal	16109273	13028594	10762899	8391797	4712636
Sunderland	12327606	8979235	6713477	4922460	2407722
Surrey Heath	10336398	8394515	6725065	5607794	3019423
Sutton	18208846	14548636	11758511	9314639	4506115
Swale	15328556	12211352	9517656	7640418	3897352
Swansea	20753202	15904440	11897997	8764222	4330326
Swindon	21567821	16717350	13517645	9863730	4817552
Tameside	16119704	12441250	8923433	6888988	3213964
Tamworth	7362287	5549770	4332731	3333804	1471928
Tandridge	11408358	9257614	7705221	6742479	3752855
Taunton Deane	14924452	12092267	10225042	7883199	3962126
Teignbridge	21711680	17780709	14355145	11378612	5528328
Telford and Wrekin	15120289	11214810	8622990	6627053	3175087
Tendring	16988012	13447365	10646187	8592292	4363471
Test Valley	13537803	11117372	8868793	7417931	4044336
Tewkesbury	10927239	9172584	7565274	6151457	3167415
Thanet	15673910	12412417	9765672	7643411	3705909
Three Rivers	9716297	7717785	6365405	4844435	2706824
Thurrock	11855077	9386125	7587155	5875450	3034230
Tonbridge and Malling	13800294	10971886	8877544	7046935	3774048
Torbay	22957074	18163732	14442306	10838150	5061641
Torfaen	8673408	6733183	4971477	3763091	1815315
Torridge	9600488	7639148	6080861	4705097	2336435
Tower Hamlets	7265886	6002982	5101309	4150317	2049508
Trafford	15457064	11920038	8943875	7166479	3763434
Tunbridge Wells	13193239	10858844	8882535	7089129	3961388
Uttlesford	9532306	7605045	6319578	5213436	3062939
Vale of Glamorgan	11034411	8679147	6915172	5305960	2725716
Vale of White Horse	14691649	11937101	9912668	8063436	4415018
Wakefield	20159694	15438111	11755905	9044329	4531050
Walsall	21336609	15766089	12659315	9463739	4263446
Waltham Forest	13815430	10929430	9164462	7141209	3488559
Wandsworth	17563545	14362255	11769250	9511523	5058720
Warrington	13235645	10164738	7915745	6105744	3316861
Warwick	14167975	10940123	8689667	7004997	3703393
Watford	8300913	6447681	5220375	4200545	2052753
Waveney	13697520	10928790	8539586	6890765	3407121
Waverley	16012092	13278273	11246954	9205103	5325841
Wealden	21362418	17633131	15000595	12208209	6878813
Wellingborough	7943779	6150356	5018359	3892920	1892001
Welwyn Hatfield	10643316	8768098	7071053	5526218	2884458
West Berkshire	16863347	13859348	11758791	9249846	5301944
West Devon	7848804	6288046	5214858	4094390	2109315
West Dorset	15507251	12701363	10243207	8196074	4026770
West Dunbartonshire	3599560	2365405	1878149	1344169	643635
West Lancashire	8243463	6533639	5042746	4116460	2215574
West Lindsey	9080731	7017786	5559373	4409243	2410968
West Lothian	8075932	5732357	4228676	3116267	1619021

Local Authority	2014	2015	2016	2017	2020
West Oxfordshire	13492645	10984196	8807001	7293905	4063438
West Somerset	6004448	4661015	3920793	2984821	1442224
Westminster	10520321	8769927	7374178	6236376	3953803
Weymouth and Portland	8791998	6718722	5335768	4331331	2128710
Wigan	22444417	16721961	12291224	9254933	4500643
Wiltshire	59280935	47187848	39686791	31517288	16404869
Winchester	12977932	10899729	8955887	7389258	4164148
Windsor and Maidenhead	16657605	13766563	11158002	9005761	5070372
Wirral	22685806	16942171	12614865	9579781	4909767
Woking	12885191	10719590	8696837	6717291	3578382
Wokingham	16234828	13378088	10603432	8682212	4954846
Wolverhampton	19914343	15115997	11739634	8620800	3933907
Worcester	9942761	7665053	6385463	4746932	2161383
Worthing	15015511	12240971	9530044	7689435	3693958
Wrexham	11949952	9399615	7089354	5419934	2732637
Wychavon	15964233	12740615	10617055	8493975	4501383
Wycombe	20154769	16239080	13417688	10909406	6081529
Wyre	10834707	8553468	6602573	5069445	2632799
Wyre Forest	12972002	10222201	8292568	6305917	3065258
York	12314183	9434315	7494926	5873326	3037117

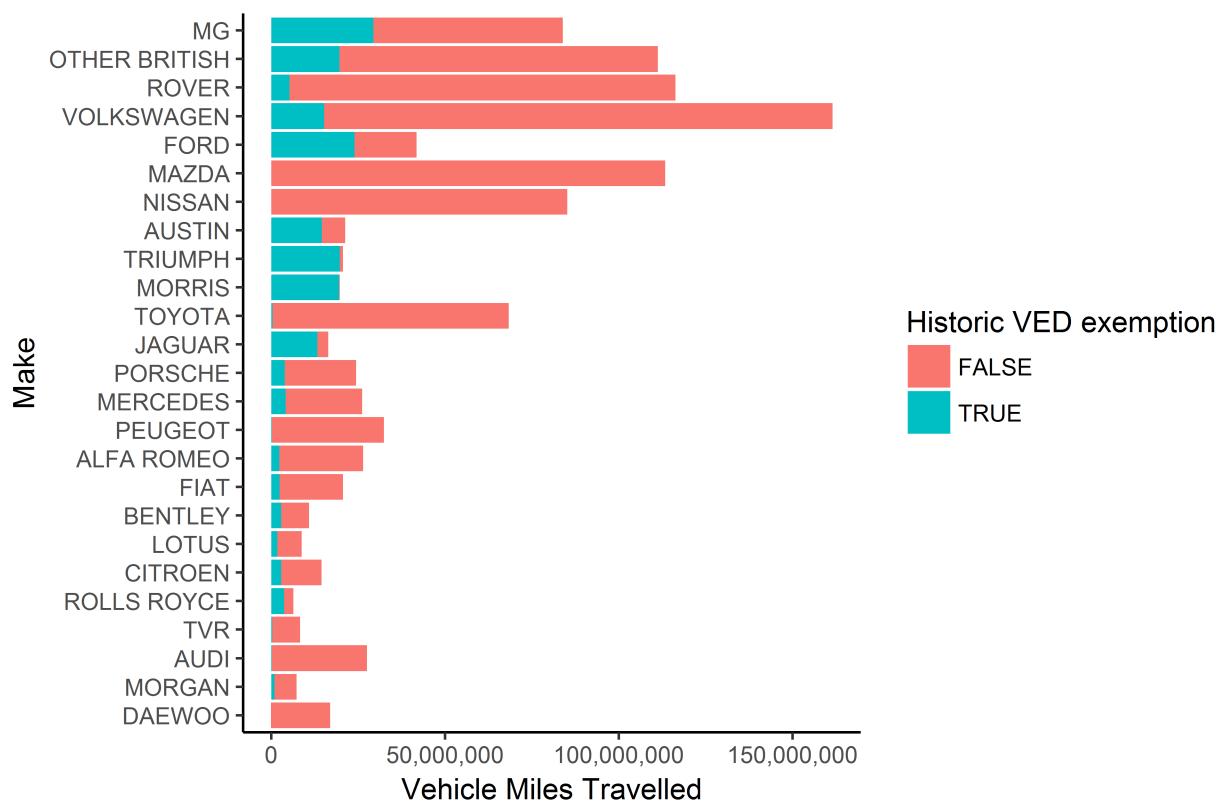




Top 25 E10 incompatible Makes by count, by year of first reg. (est)



Top 25 E10 incompatible Makes by count, by VED (est. 2020)



Further work

There are clear spatial distribution patterns in the above maps, but one would need to look at the DVLA data at a more granular level (Lower Super Output Area) to see if there are any socio-economic or geographic factors related to high levels of non E10 compatible vehicles.