

Accident frequency, feature by feature

Post-pandemic STATS19 injury collisions per 100,000 vehicle miles. All available GLM candidates retained for your review.

JOINT CATEGORICAL MODEL

40

Frozen England & Wales bands

SEPARATE EXTENSIONS

10

Raw-value models on available data

NO NUMERIC INPUT

12

Explicitly unavailable to fit

The fitted frequency model

The joint development fit uses 185,755 collisions and 540.6 billion vehicle miles across 32,789 LSOAs in 2022-2023. Its exposure-weighted fitted frequency is 0.03436 collisions per 100,000 miles.

The inclusive joint model reduces 2023 held-out Poisson deviance by 16.50% against the previous rich baseline refitted on the same observations (95% interval 14.90% to 18.15%). This is a retrospective comparison, not independent claims validation.

Your decision, informed by joint effects

1. Inspect the relativity curve

Every factor adjusts for the other 39 banded features and core controls. RR 1.20 means a 20% higher conditional frequency than that feature's stated reference.

2. Compare contribution and overlap

The drop-one test refits the model without that feature. Small gain can reflect shared information. Correlation, support and uncertainty help explain why.

3. Choose keep, drop or simplify

No feature was dropped or merged automatically. Record decisions on the interactive page or on these pages. Every proposed change requires a full refit and renewed validation.

Deciles stay national: the band reference is all 35,672 England & Wales LSOAs. Complete-case model fitting uses fewer areas; it does not recalculate the bands.

This report supports collision-location research. It does not establish causality, individual driver risk, insurer claim frequency or a production rating tariff.

Frequency, relativities and validation

Poisson GLM with an exposure offset

Expected collisions = (vehicle miles / 100,000) x exp(core terms + all feature effects).
The coefficient of the exposure offset is fixed at 1. All eligible zero-collision rows remain in the model. No penalty or automatic variable selection is applied.

Reference: D5 for ordinary national deciles and Z0 for structural-zero bands. Z0 is followed by positive-value deciles P1-P10. Bands increase with feature value, not necessarily collision risk. Raw diagnostic curves have RR = 1 at the stated development median. Reference RR is fixed by definition, not a claim of certain absolute frequency.

Validation of the full joint model

Evaluation	Rows	Deviance gain	95% interval	Observed / expected
2022 fit -> 2023 test	32,789	16.50%	14.90 to 18.15%	0.951
10 region holdouts, pooled	65,578	19.42%	14.97 to 23.68%	1.085
2024 diagnostic	34,515	16.11%	14.55 to 17.86%	0.943
2025 diagnostic	34,515	15.84%	14.17 to 17.61%	0.933
Matched counted-route sensitivity	5,051	1.27%	-3.61 to 6.34%	0.967

The comparator is the frozen rich Poisson baseline, refitted on the identical cohort. Its different representation makes this a non-nested predictive comparison. 2024/2025 have already been inspected and are diagnostics, not untouched validation. Regional held-out calibration varies; inspect the detailed evidence before using a score.

Uncertainty has a specific scope

Coefficient intervals use a finite-sample cluster sandwich over 162 permanent source-area/authority unions. Pearson dispersion is 1.86, so ordinary Poisson standard errors would be inadequate. Intervals are conditional on the fitted specification and exposure; source, allocation, selection and future calibration uncertainty are not included.

Validation intervals use 1,000 paired fixed-prediction block resamples. They do not refit the model inside each resample. An interval spanning zero is inconclusive evidence of incremental gain; an adjacent-band interval spanning RR 1 is not proof that the bands are equivalent.

Core controls: year, Wales x year, sum-zero region, urban/rural, four allocation-quality shares and estimated-major-mileage share. The primary design has 378 identified coefficients. With fewer clusters than coefficients, no full-model omnibus Wald significance claim is made.

The counted-route sensitivity uses physically matched collision and mileage scope. Its gain is much less certain than the national allocation-based result. Benchmark and road-length exposure refits, year-specific relativities and all support tables are available on the review page.

Conditional contribution: 1-20

Sorted by the 2023 drop-one deviance gain. This measures extra information after the other 39 features; it is not a causal ranking or an automatic selection rule.

Rank	Feature	Gain	95% interval	Page
1	Motorway share of mapped road length	+1.704%	+1.138% to +2.295%	7
2	Public transport access-site density near roads	+1.620%	+1.227% to +2.010%	8
3	Minor/local share of mapped road length	+0.533%	+0.263% to +0.786%	9
4	Road-weighted NO2	+0.393%	+0.066% to +0.699%	10
5	Walking connectivity	+0.268%	+0.028% to +0.518%	11
6	Public transport connectivity	+0.256%	+0.115% to +0.388%	12
7	A-road share of mapped road length	+0.231%	+0.035% to +0.426%	13
8	Road-weighted heavy-rain days	+0.221%	-0.030% to +0.502%	14
9	Road-weighted air-frost days	+0.205%	-0.057% to +0.468%	15
10	Personal insolvency rate authority context	+0.200%	-0.060% to +0.481%	16
11	Road-weighted PM2.5	+0.199%	-0.003% to +0.389%	17
12	Cycling connectivity	+0.197%	+0.066% to +0.344%	18
13	Cycling commuting share	+0.151%	-0.004% to +0.309%	19
14	Junctions per mapped road kilometre	+0.143%	+0.050% to +0.238%	20
15	No qualifications	+0.143%	-0.007% to +0.298%	21
16	Road-weighted summer days >25°C	+0.130%	-0.080% to +0.348%	22
17	Working mainly at or from home	+0.107%	-0.023% to +0.244%	23
18	Commutes of 20 km or more	+0.106%	+0.006% to +0.199%	24
19	Residents aged 65+	+0.086%	-0.001% to +0.180%	25
20	Mapped road sinuosity	+0.081%	+0.004% to +0.161%	26

Gain = $1 - \text{deviance}(\text{full model}) / \text{deviance}(\text{refitted model without this feature})$. A negative gain means removal improved this particular temporal test. Conditional gains do not sum to the full-model gain. Their ranking can change after your proposed drops or simplifications.

A feature can have a pronounced adjusted relativity and little incremental predictive gain because other features carry similar information. Use its curve, support and overlap together before making a decision.

Conditional contribution: 21-40

Sorted by the 2023 drop-one deviance gain. This measures extra information after the other 39 features; it is not a causal ranking or an automatic selection rule.

Rank	Feature	Gain	95% interval	Page
21	Bankruptcy rate authority context	+0.073%	-0.150% to +0.310%	27
22	Social rented households	+0.066%	+0.001% to +0.132%	28
23	Flats and converted/commercial accommodation	+0.062%	-0.048% to +0.187%	29
24	Residents aged 0-14	+0.062%	-0.020% to +0.142%	30
25	Overcrowded households	+0.052%	-0.016% to +0.110%	31
26	Roundabout nodes per mapped road kilometre	+0.051%	-0.024% to +0.130%	32
27	Households without a car or van	+0.050%	-0.067% to +0.167%	33
28	Population density	+0.045%	-0.018% to +0.109%	34
29	Private rented households	+0.044%	-0.073% to +0.155%	35
30	Car/van driver commuting share	+0.038%	-0.051% to +0.127%	36
31	Terraced housing	+0.033%	-0.063% to +0.135%	37
32	Walking commuting share	+0.027%	-0.041% to +0.098%	38
33	Residents aged 15-24	+0.025%	-0.054% to +0.103%	39
34	Households with 3+ cars or vans	+0.022%	-0.024% to +0.075%	40
35	Unemployment among economically active adults	+0.021%	-0.063% to +0.110%	41
36	Owner occupied households	+0.021%	-0.064% to +0.100%	42
37	Households with 2+ cars or vans	+0.016%	-0.018% to +0.050%	43
38	Driving connectivity	+0.013%	-0.059% to +0.094%	44
39	Cars/vans per household lower bound	+0.009%	-0.018% to +0.037%	45
40	Level 4+ qualifications	-0.028%	-0.068% to +0.015%	46

Gain = $1 - \text{deviance}(\text{full model}) / \text{deviance}(\text{refitted model without this feature})$. A negative gain means removal improved this particular temporal test. Conditional gains do not sum to the full-model gain. Their ranking can change after your proposed drops or simplifications.

A feature can have a pronounced adjusted relativity and little incremental predictive gain because other features carry similar information. Use its curve, support and overlap together before making a decision.

Ten additional numeric features

Each is added separately to all 40 primary features. Both candidate and comparator are refitted on that feature's available-data cohort. There is no joint 50-feature model and no new national decile assignment.

Feature	LSOAs	Gain	95% interval	Page
Non-vehicle recorded-crime intensity	24,892	+1.196%	+0.932% to +1.516%	47
Road length at 30 mph or below	1,513	+0.708%	-0.458% to +1.901%	48
Criminal damage and arson intensity	24,892	+0.586%	+0.375% to +0.812%	49
Burglary intensity	24,892	+0.293%	+0.101% to +0.479%	50
Road length at 20 mph or below	1,513	+0.292%	-0.383% to +0.977%	51
Road-length share above 8% terrain-gradient proxy	32,789	+0.203%	+0.105% to +0.297%	52
Road-weighted terrain-gradient proxy	32,789	+0.202%	+0.032% to +0.365%	53
Vehicle-crime intensity	24,892	+0.161%	+0.026% to +0.297%	54
Lagged Claimant Count rate, ages 16-64 (2021)	31,017	+0.135%	+0.011% to +0.251%	55
Annual Claimant Count rate change, ages 16-64 (2021 minus 2020)	31,017	+0.023%	-0.024% to +0.076%	56

What these models can establish

They test whether the numeric source adds collision-frequency information on its observed cohort. Cross-feature gains below are not directly comparable as a national ranking when cohorts differ. Neither a small p-value nor a positive gain repairs incomplete coverage or an unvalidated measurement.

Knots are estimated within training data; tied quantiles reduce complexity. Most extensions have 4 degrees of freedom, but steep-road share and ≤ 20 mph have 3, and ≤ 30 mph is linear (1). Crime intensities and mean terrain gradient use $\log(1 + \text{raw value})$; others use raw units. Dashed curves are separate linear sensitivities. Printed raw values are evaluation points, not deciles.

The 12 remaining candidates have no numeric observations and therefore cannot be fitted responsibly. They are listed after the feature pages, with the source or definition gap that prevents a GLM.

How to choose a simpler model

Keep

Retain a feature when its conditional curve, temporal contribution, exposure sensitivity and measurement quality justify its complexity. A strong univariate association is not enough to identify its unique contribution.

Simplify

Consider adjacent bands with similar conditional effects and adequate support, or a prespecified smoother trend. Specify the exact grouping, for example D1-D3 / D4-D7 / D8-D10. Keep any structural-zero category explicit. Overlapping intervals alone do not establish equality.

Drop

Consider removal where its conditional contribution is small or unstable, source measurement is unsuitable, or another feature carries the same information more reliably. A negative one-year gain is evidence to discuss, not an automatic decision.

Refit and reassess

Your choices are proposals. Refit the full model, re-estimate every remaining relativity, compare calibration and deviance, and repeat exposure and geographic sensitivity. Do not average old relativities for merged bands or simply divide out dropped factors.

Interpretation safeguards that matter here

The observation is an LSOA-year collision location. Socio-demographic composition of the area is not the personal profile of drivers involved in collisions.

Compositional features such as road shares, tenure and vehicle availability overlap. A coefficient is a conditional model contrast, not a feasible intervention that changes one composition component while everything else stays fixed.

All source editions and national bands are retrospective and mixed-vintage. Their historical availability at a 2022 forecast origin has not been certified. Current speed limits are especially unsuitable as a historical causal exposure.

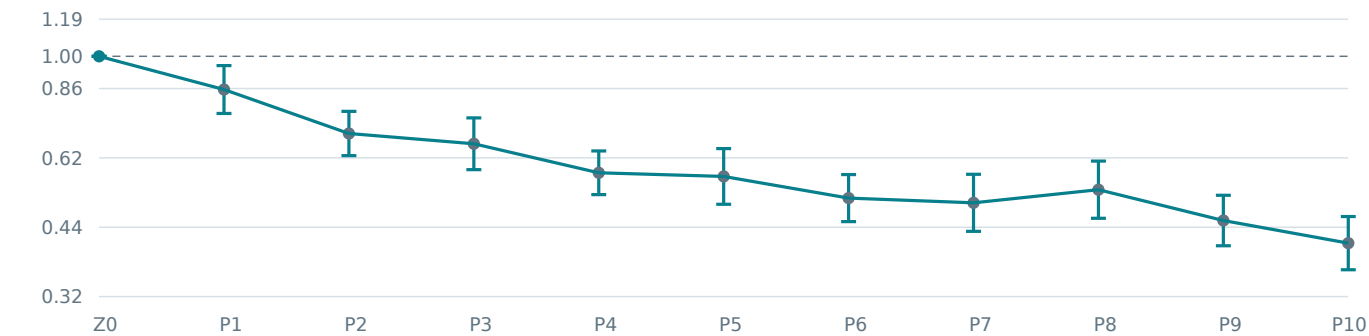
Band tables show actual observed minima and maxima, rounded for printing. They are not cutoff rules. Ties can create unequal or absent bands. An asterisk means fewer than 100 rows, 100 collisions or 10 clusters; empty bands are not estimable. The national lookup is authoritative.

Raw and fitted development frequencies within each included categorical band coincide up to rounding because the unpenalised Poisson score equations balance each fitted category. These within-sample rates are not validation evidence.

Motorway share of mapped road length

Road layout | Reference Z0 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
Z0	0.00 - 0.00	1.000 [1.000, 1.000]	30,891	166,144	386.51	0.0430
P1	0.02 - 1.81	0.854 [0.763, 0.957]	191	1,629	6.73	0.0242
P2	1.81 - 3.62	0.694 [0.624, 0.770]	187	1,508	8.75	0.0172
P3	3.63 - 5.34	0.661 [0.584, 0.747]	199	2,071	14.07	0.0147
P4	5.34 - 7.14	0.576 [0.519, 0.638]	188	1,863	14.31	0.0130
P5	7.14 - 8.84	0.566 [0.496, 0.646]	187	1,926	14.88	0.0129
P6	8.86 - 10.50	0.511 [0.457, 0.571]	189	1,885	15.19	0.0124
P7	10.50 - 12.52	0.499 [0.436, 0.572]	183	1,943	17.38	0.0112
P8	12.53 - 15.19	0.531 [0.464, 0.609]	190	2,010	17.68	0.0114
P9	15.20 - 19.80	0.459 [0.407, 0.518]	191	2,197	18.57	0.0118
P10	19.82 - 64.72	0.412 [0.364, 0.468]	193	2,579	26.54	0.0097

2023 conditional drop-one gain: +1.704% (95% interval +1.138% to +2.295%)

Adjusted GVIF: 1.10 | Conditional Wald p: 2.68e-76 | BH q (40-feature family): 5.36e-75. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

P1 / Z0: 0.854 [0.763, 0.957]	P6 / P5: 0.902 [0.756, 1.077]
P2 / P1: 0.812 [0.710, 0.929]	P7 / P6: 0.978 [0.855, 1.118]
P3 / P2: 0.952 [0.837, 1.084]	P8 / P7: 1.064 [0.914, 1.239]
P4 / P3: 0.871 [0.761, 0.998]	P9 / P8: 0.864 [0.763, 0.978]
P5 / P4: 0.983 [0.834, 1.159]	P10 / P9: 0.898 [0.800, 1.008]

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Minor/local share of mapped road length: -0.26; Population density: -0.18

Zero group plus positive-value deciles. Physical road length, not mileage.

Frozen source: os-roads | observed 2026-04

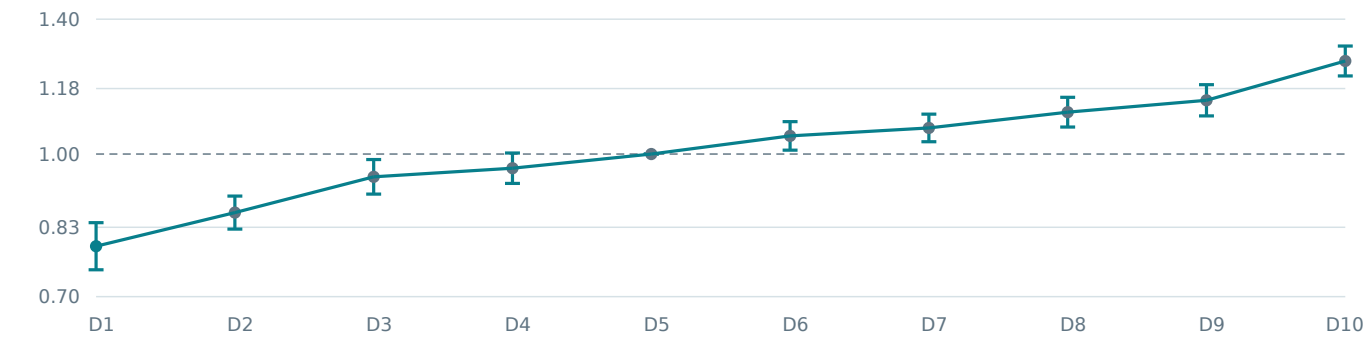
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Public transport access-site density near roads

Traffic and activity | Reference D5 | Unit: sites per eligible road km | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 0.38	0.793 [0.747, 0.841]	3,307	17,594	88.62	0.0199
D2	0.38 - 0.61	0.863 [0.828, 0.900]	3,287	20,213	103.35	0.0196
D3	0.61 - 0.81	0.944 [0.904, 0.986]	3,248	18,585	75.18	0.0247
D4	0.81 - 1.01	0.965 [0.929, 1.003]	3,279	17,065	58.58	0.0291
D5	1.01 - 1.21	1.000 [1.000, 1.000]	3,282	16,269	46.27	0.0352
D6	1.21 - 1.42	1.047 [1.010, 1.085]	3,271	16,909	41.36	0.0409
D7	1.42 - 1.66	1.068 [1.031, 1.106]	3,258	16,779	36.62	0.0458
D8	1.66 - 1.97	1.111 [1.070, 1.153]	3,277	17,786	32.94	0.0540
D9	1.97 - 2.44	1.145 [1.101, 1.191]	3,265	19,172	30.53	0.0628
D10	2.44 - 37.84	1.264 [1.217, 1.312]	3,315	25,383	27.17	0.0934

2023 conditional drop-one gain: +1.620% (95% interval +1.227% to +2.010%)

Adjusted GVIF: 1.06 | Conditional Wald p: 2.36e-98 | BH q (40-feature family): 9.45e-97. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.088 [1.038, 1.141]	D7 / D6: 1.020 [0.982, 1.060]
D3 / D2: 1.094 [1.059, 1.130]	D8 / D7: 1.040 [1.001, 1.082]
D4 / D3: 1.022 [0.982, 1.063]	D9 / D8: 1.030 [0.992, 1.070]
D5 / D4: 1.036 [0.997, 1.077]	D10 / D9: 1.104 [1.065, 1.144]
D6 / D5: 1.047 [1.010, 1.085]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Households without a car or van: +0.35; Cars/vans per household | lower bound: -0.34

Retrospective spatial context; no2022 as-of eligibility. National bands require separate F6 coverage and missing-rank gates.

Frozen source: f2-source | observed 2026-10-13 GIAS/NaPTAN snapshots; Welsh school register2026-04-23; roadsApril2026

YOUR DECISION

☐ Keep

☐ Drop

☐ Simplify

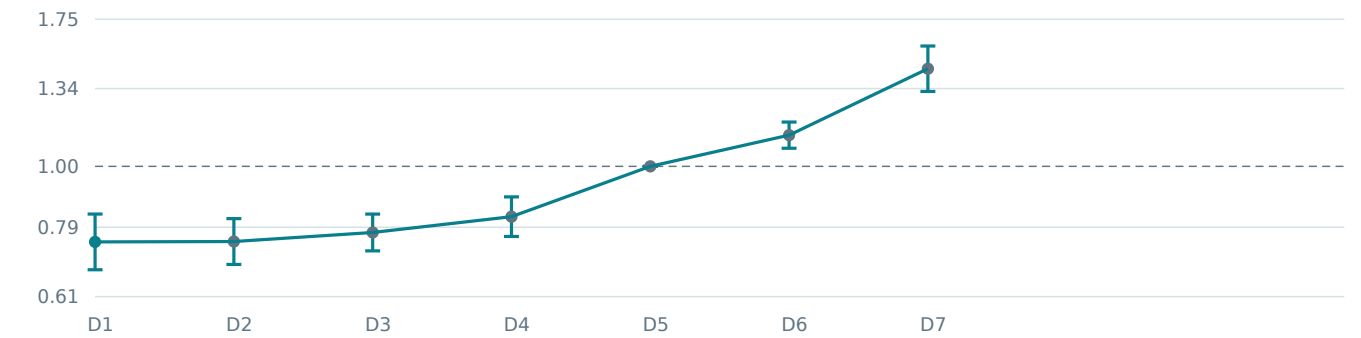
☐ Undecided

Proposed grouping / notes:

Minor/local share of mapped road length

Road layout | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	26.11 - 79.52	0.751 [0.676, 0.835]	3,282	39,534	144.73	0.0273
D2	79.52 - 84.93	0.752 [0.690, 0.820]	3,294	28,629	91.50	0.0313
D3	84.93 - 88.59	0.778 [0.726, 0.835]	3,273	23,946	75.61	0.0317
D4	88.59 - 91.48	0.826 [0.767, 0.891]	3,266	20,608	63.13	0.0326
D5	91.48 - 94.42	1.000 [1.000, 1.000]	3,260	18,546	54.36	0.0341
D6	94.42 - 98.06	1.126 [1.071, 1.183]	3,300	16,072	39.00	0.0412
D7	98.06 - 100.00	1.448 [1.328, 1.578]	13,114	38,420	72.29	0.0531
D8*	n/a - n/a	Not estimable	0	0	0.00	n/a
D9*	n/a - n/a	Not estimable	0	0	0.00	n/a
D10*	n/a - n/a	Not estimable	0	0	0.00	n/a

2023 conditional drop-one gain: +0.533% (95% interval +0.263% to +0.786%)

Adjusted GVIF: 2.04 | Conditional Wald p: 4.74e-33 | BH q (40-feature family): 6.32e-32. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.001 [0.942, 1.064]	D7 / D6: 1.286 [1.185, 1.396]
D3 / D2: 1.035 [0.973, 1.101]	
D4 / D3: 1.062 [1.000, 1.127]	
D5 / D4: 1.210 [1.123, 1.304]	
D6 / D5: 1.126 [1.071, 1.183]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): A-road share of mapped road length: -0.97; Motorway share of mapped road length: -0.26

B, minor, local and access-road functions, including restricted access. Not traffic-weighted.

Frozen source: os-roads | observed 2026-04

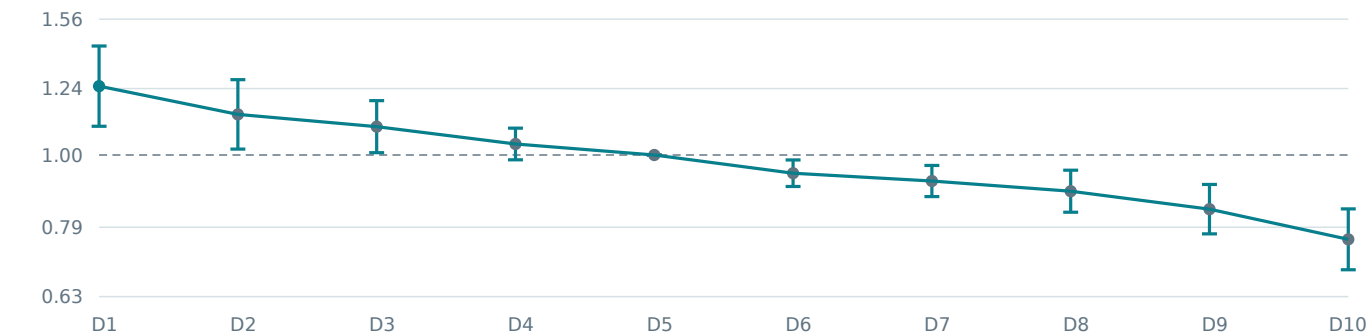
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-weighted NO2

Air quality | Reference D5 | Unit: $\mu\text{g}/\text{m}^3$ | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	1.20 - 6.09	1.253 [1.099, 1.429]	3,220	16,354	71.01	0.0230
D2	6.09 - 7.58	1.142 [1.020, 1.280]	3,209	15,853	61.65	0.0257
D3	7.58 - 8.53	1.097 [1.008, 1.195]	3,185	15,458	56.49	0.0274
D4	8.53 - 9.40	1.037 [0.984, 1.092]	3,182	14,442	53.58	0.0270
D5	9.40 - 10.25	1.000 [1.000, 1.000]	3,159	14,141	51.73	0.0273
D6	10.25 - 11.14	0.942 [0.902, 0.984]	3,249	14,695	50.38	0.0292
D7	11.14 - 12.21	0.918 [0.873, 0.966]	3,263	17,231	50.76	0.0339
D8	12.21 - 13.39	0.888 [0.829, 0.951]	3,397	19,814	45.81	0.0433
D9	13.39 - 15.13	0.837 [0.772, 0.908]	3,423	23,135	51.19	0.0452
D10	15.13 - 28.04	0.759 [0.687, 0.838]	3,502	34,632	48.02	0.0721

2023 conditional drop-one gain: +0.393% (95% interval +0.066% to +0.699%)

Adjusted GVIF: 1.27 | Conditional Wald p: 2.19e-05 | BH q (40-feature family): 9.75e-05. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.912 [0.855, 0.973]	D7 / D6: 0.975 [0.932, 1.019]
D3 / D2: 0.961 [0.911, 1.013]	D8 / D7: 0.967 [0.917, 1.020]
D4 / D3: 0.945 [0.887, 1.007]	D9 / D8: 0.943 [0.892, 0.997]
D5 / D4: 0.965 [0.916, 1.016]	D10 / D9: 0.906 [0.844, 0.972]
D6 / D5: 0.942 [0.902, 0.984]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Driving connectivity: +0.79; Cycling connectivity: +0.76

Road-weighted assessed annual ambient concentrations, $\geq 99\%$ mapped-road coverage; April 2026 OS geometry. 2025 CMAQ-Urban replaces PCM, so years are not pooled into one trend. These are model estimates, not individual or roadside-monitor exposure.

Frozen source: Defra 2025 assessed annual 1 km concentrations | observed 2025; 2022-2024 sensitivity files separate

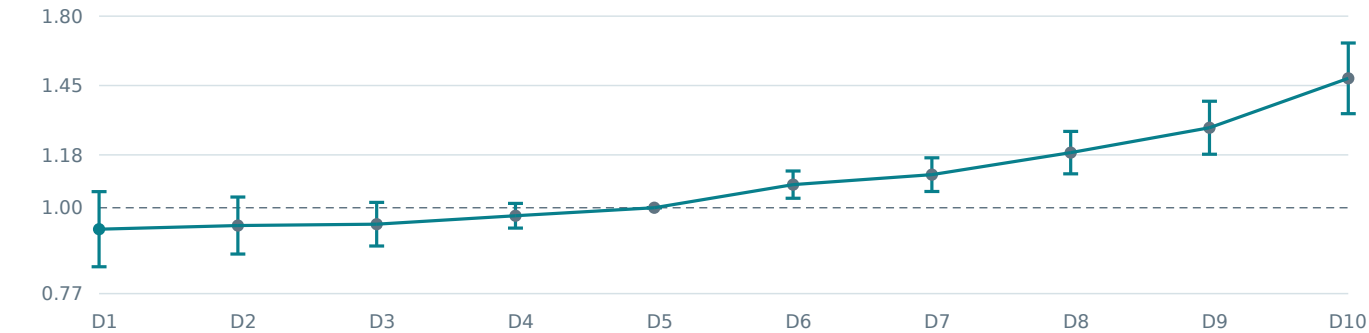
YOUR DECISION☐ Keep☐ Drop☐ Simplify☐ Undecided

Proposed grouping / notes:

Walking connectivity

Transport accessibility | Reference D5 | Unit: score / 100 | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	1.69 - 34.41	0.936 [0.835, 1.051]	3,207	29,017	171.76	0.0169
D2	34.42 - 48.46	0.947 [0.868, 1.033]	3,222	16,457	87.20	0.0189
D3	48.47 - 55.67	0.951 [0.889, 1.017]	3,252	11,962	57.30	0.0209
D4	55.68 - 60.59	0.976 [0.940, 1.013]	3,230	10,946	41.44	0.0264
D5	60.60 - 64.53	1.000 [1.000, 1.000]	3,264	11,695	36.16	0.0323
D6	64.54 - 68.00	1.073 [1.029, 1.119]	3,287	13,033	33.29	0.0392
D7	68.01 - 71.55	1.107 [1.051, 1.165]	3,286	15,065	32.21	0.0468
D8	71.56 - 75.56	1.184 [1.109, 1.263]	3,269	18,125	30.34	0.0597
D9	75.57 - 80.91	1.278 [1.178, 1.386]	3,359	22,951	27.52	0.0834
D10	80.92 - 99.10	1.487 [1.334, 1.656]	3,413	36,504	23.40	0.1560

2023 conditional drop-one gain: +0.268% (95% interval +0.028% to +0.518%)

Adjusted GVIF: 1.44 | Conditional Wald p: 3.56e-09 | BH q (40-feature family): 2.85e-08. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.011 [0.948, 1.079]	D7 / D6: 1.031 [0.988, 1.076]
D3 / D2: 1.004 [0.955, 1.056]	D8 / D7: 1.070 [1.024, 1.117]
D4 / D3: 1.026 [0.966, 1.090]	D9 / D8: 1.079 [1.031, 1.129]
D5 / D4: 1.025 [0.987, 1.064]	D10 / D9: 1.163 [1.096, 1.235]
D6 / D5: 1.073 [1.029, 1.119]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Public transport connectivity: +0.92; Cycling connectivity: +0.91

Modelled access to destinations, not trips or flows. Q4 2024 workbook reference; mixed 2023-2025 inputs and NTS 2011-2020 preferences. Scores from different modes are not directly comparable. Published 29 September 2025.

Frozen source: dft-connectivity-2025 | observed Q4 2024 reference; mixed source vintages

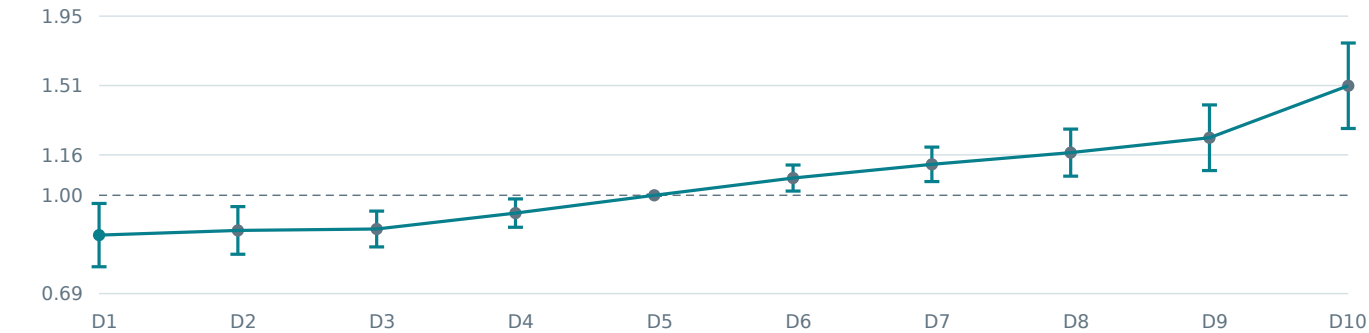
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Public transport connectivity

Transport accessibility | Reference D5 | Unit: score / 100 | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	1.98 - 41.49	0.862 [0.766, 0.970]	3,195	26,450	155.12	0.0171
D2	41.50 - 53.98	0.877 [0.803, 0.959]	3,234	16,953	88.88	0.0191
D3	53.99 - 59.83	0.882 [0.825, 0.943]	3,206	11,273	51.76	0.0218
D4	59.84 - 64.15	0.936 [0.888, 0.987]	3,179	11,043	45.19	0.0244
D5	64.16 - 67.61	1.000 [1.000, 1.000]	3,222	11,730	39.50	0.0297
D6	67.62 - 70.88	1.066 [1.016, 1.120]	3,243	13,326	36.00	0.0370
D7	70.89 - 74.42	1.122 [1.053, 1.197]	3,260	14,892	33.80	0.0441
D8	74.43 - 78.69	1.173 [1.074, 1.280]	3,315	18,652	34.79	0.0536
D9	78.70 - 84.98	1.239 [1.097, 1.401]	3,389	24,226	32.88	0.0737
D10	84.99 - 98.74	1.505 [1.283, 1.765]	3,546	37,210	22.70	0.1639

2023 conditional drop-one gain: +0.256% (95% interval +0.115% to +0.388%)

Adjusted GVIF: 1.63 | Conditional Wald p: 8.98e-07 | BH q (40-feature family): 4.49e-06. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.018 [0.953, 1.087]	D7 / D6: 1.052 [1.007, 1.100]
D3 / D2: 1.005 [0.951, 1.063]	D8 / D7: 1.045 [0.993, 1.099]
D4 / D3: 1.061 [1.006, 1.119]	D9 / D8: 1.057 [0.997, 1.120]
D5 / D4: 1.069 [1.014, 1.127]	D10 / D9: 1.214 [1.117, 1.319]
D6 / D5: 1.066 [1.016, 1.120]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cycling connectivity: +0.96; Driving connectivity: +0.92

Modelled access to destinations, not trips or flows. Q4 2024 workbook reference; mixed 2023-2025 inputs and NTS 2011-2020 preferences. Scores from different modes are not directly comparable. Published 29 September 2025.

Frozen source: dft-connectivity-2025 | observed Q4 2024 reference; mixed source vintages

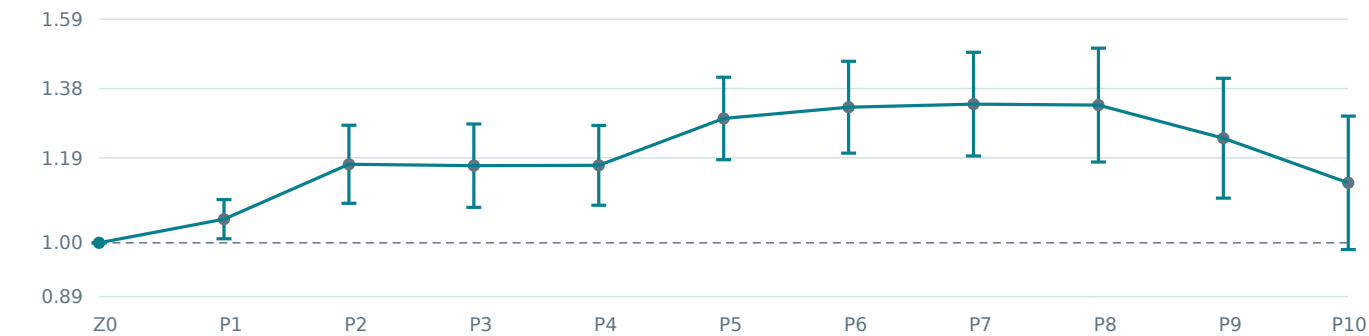
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

A-road share of mapped road length

Road layout | Reference Z0 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
Z0	0.00 - 0.00	1.000 [1.000, 1.000]	11,953	34,499	81.68	0.0422
P1	4.73e-05 - 2.45	1.050 [1.008, 1.094]	2,098	8,811	24.87	0.0354
P2	2.45 - 4.77	1.177 [1.085, 1.275]	2,087	10,618	31.40	0.0338
P3	4.77 - 6.71	1.173 [1.076, 1.279]	2,064	11,899	39.76	0.0299
P4	6.71 - 8.46	1.174 [1.081, 1.275]	2,078	12,660	43.41	0.0292
P5	8.46 - 10.27	1.293 [1.188, 1.409]	2,080	13,223	45.62	0.0290
P6	10.27 - 12.26	1.324 [1.204, 1.456]	2,081	14,888	49.73	0.0299
P7	12.26 - 14.56	1.332 [1.197, 1.483]	2,081	15,905	51.22	0.0311
P8	14.56 - 17.54	1.330 [1.182, 1.496]	2,082	17,716	55.29	0.0320
P9	17.54 - 21.99	1.242 [1.097, 1.406]	2,084	19,398	56.49	0.0343
P10	21.99 - 73.89	1.132 [0.986, 1.300]	2,101	26,138	61.14	0.0427

2023 conditional drop-one gain: +0.231% (95% interval +0.035% to +0.426%)

Adjusted GVIF: 1.53 | Conditional Wald p: 7.03e-10 | BH q (40-feature family): 7.03e-09. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

P1 / Z0: 1.050 [1.008, 1.094]	P6 / P5: 1.024 [0.982, 1.067]
P2 / P1: 1.120 [1.039, 1.208]	P7 / P6: 1.006 [0.955, 1.060]
P3 / P2: 0.997 [0.944, 1.053]	P8 / P7: 0.998 [0.932, 1.068]
P4 / P3: 1.001 [0.951, 1.053]	P9 / P8: 0.934 [0.890, 0.980]
P5 / P4: 1.102 [1.026, 1.183]	P10 / P9: 0.912 [0.862, 0.964]

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Minor/local share of mapped road length: -0.97; Roundabout nodes per mapped road kilometre: +0.24

Zero group plus positive-value deciles. OS function field.

Frozen source: os-roads | observed 2026-04

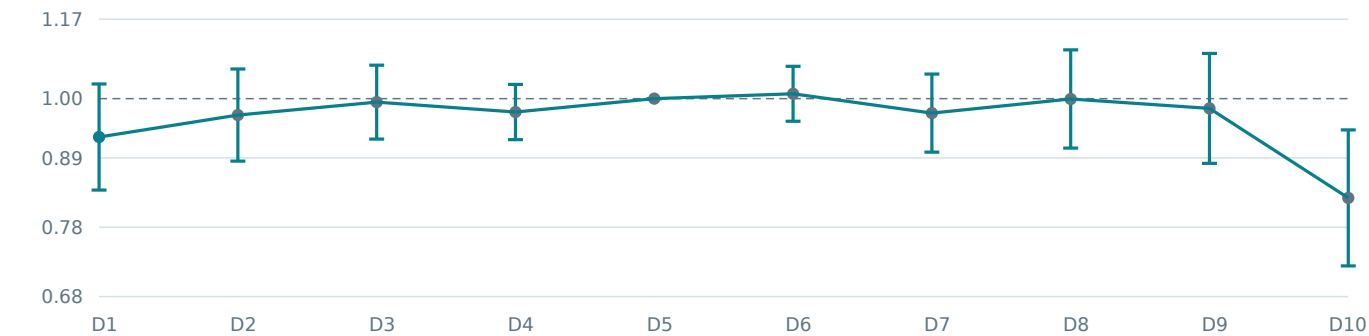
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-weighted heavy-rain days

Weather | Reference D5 | Unit: days/year | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	9.40 - 13.20	0.928 [0.836, 1.029]	3,504	20,555	57.15	0.0360
D2	13.20 - 14.15	0.968 [0.885, 1.060]	3,480	24,554	48.59	0.0505
D3	14.15 - 14.93	0.993 [0.924, 1.068]	3,433	23,359	47.33	0.0494
D4	14.93 - 15.90	0.974 [0.923, 1.028]	3,348	20,485	55.71	0.0368
D5	15.90 - 17.20	1.000 [1.000, 1.000]	3,306	17,756	59.02	0.0301
D6	17.20 - 19.25	1.010 [0.957, 1.065]	3,226	16,731	53.65	0.0312
D7	19.25 - 22.02	0.972 [0.901, 1.049]	3,038	15,035	52.93	0.0284
D8	22.02 - 25.26	0.999 [0.908, 1.100]	2,828	15,919	45.06	0.0353
D9	25.26 - 31.75	0.981 [0.881, 1.092]	3,150	16,426	53.38	0.0308
D10	31.75 - 89.95	0.824 [0.721, 0.941]	3,476	14,935	67.79	0.0220

2023 conditional drop-one gain: +0.221% (95% interval -0.030% to +0.502%)

Adjusted GVIF: 1.21 | Conditional Wald p: 0.019 | BH q (40-feature family): 0.031. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.044 [0.978, 1.114]	D7 / D6: 0.963 [0.901, 1.030]
D3 / D2: 1.026 [0.963, 1.092]	D8 / D7: 1.028 [0.953, 1.109]
D4 / D3: 0.981 [0.931, 1.033]	D9 / D8: 0.982 [0.911, 1.058]
D5 / D4: 1.027 [0.973, 1.083]	D10 / D9: 0.840 [0.758, 0.930]
D6 / D5: 1.010 [0.957, 1.065]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Road-weighted summer days >25°C: -0.58; Road-weighted PM2.5: -0.46

HadUK station-interpolated climate estimate, road-length weighted. Exact source threshold and 1991-2020 period preserved; missing road coverage remains unavailable. Higher value is more weather exposure, not established collision risk. 307 LSOAs fail the 99% road-coverage requirement and remain unavailable. Exact source and geometry gates passed; F6 national missing-rank sensitivity and concentrated-missingness review pending.

Frozen source: f5-source | observed 1991-2020

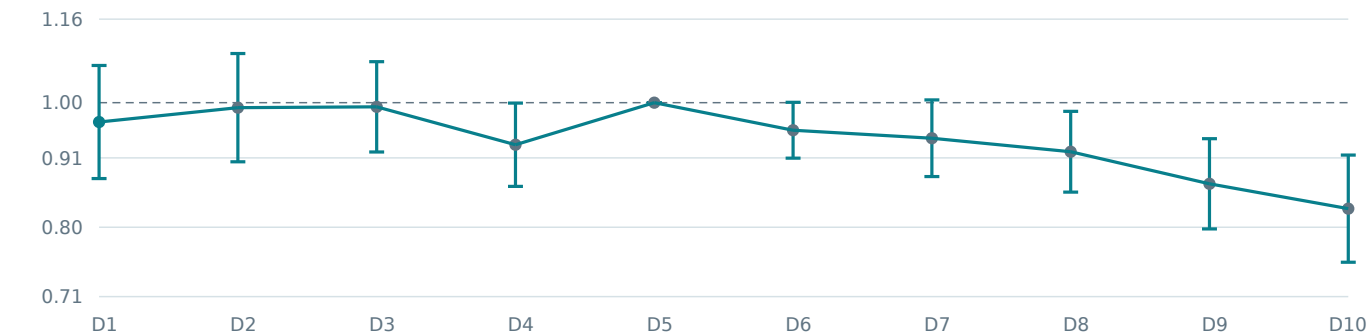
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-weighted air-frost days

Weather | Reference D5 | Unit: days/year | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	5.37 - 22.67	0.967 [0.876, 1.067]	3,452	24,426	33.17	0.0736
D2	22.67 - 28.09	0.991 [0.902, 1.090]	3,428	22,178	31.05	0.0714
D3	28.09 - 31.64	0.993 [0.918, 1.074]	3,239	20,659	40.37	0.0512
D4	31.64 - 35.18	0.929 [0.864, 0.999]	3,104	16,927	44.77	0.0378
D5	35.18 - 37.81	1.000 [1.000, 1.000]	3,185	17,772	48.45	0.0367
D6	37.81 - 40.24	0.953 [0.908, 1.001]	3,332	18,211	55.51	0.0328
D7	40.24 - 42.49	0.940 [0.879, 1.005]	3,264	16,464	59.07	0.0279
D8	42.49 - 44.95	0.918 [0.855, 0.985]	3,132	15,826	64.93	0.0244
D9	44.95 - 48.26	0.868 [0.802, 0.939]	3,290	15,850	72.22	0.0219
D10	48.26 - 90.95	0.831 [0.757, 0.913]	3,363	17,442	91.06	0.0192

2023 conditional drop-one gain: +0.205% (95% interval -0.057% to +0.468%)

Adjusted GVIF: 1.15 | Conditional Wald p: 0.009 | BH q (40-feature family): 0.018. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.025 [0.946, 1.111]	D7 / D6: 0.986 [0.933, 1.043]
D3 / D2: 1.001 [0.929, 1.079]	D8 / D7: 0.977 [0.933, 1.022]
D4 / D3: 0.936 [0.875, 1.001]	D9 / D8: 0.946 [0.898, 0.996]
D5 / D4: 1.076 [1.001, 1.157]	D10 / D9: 0.958 [0.897, 1.022]
D6 / D5: 0.953 [0.908, 1.001]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Public transport connectivity: -0.47; Cycling connectivity: -0.46

1991-2020 normal, public 2 km HadUK-Grid v1.1.0.0. At least 99% mapped road coverage. Not road ice or annual 2022-2025 weather.

Frozen source: metoffice-frost | observed 1991-2020

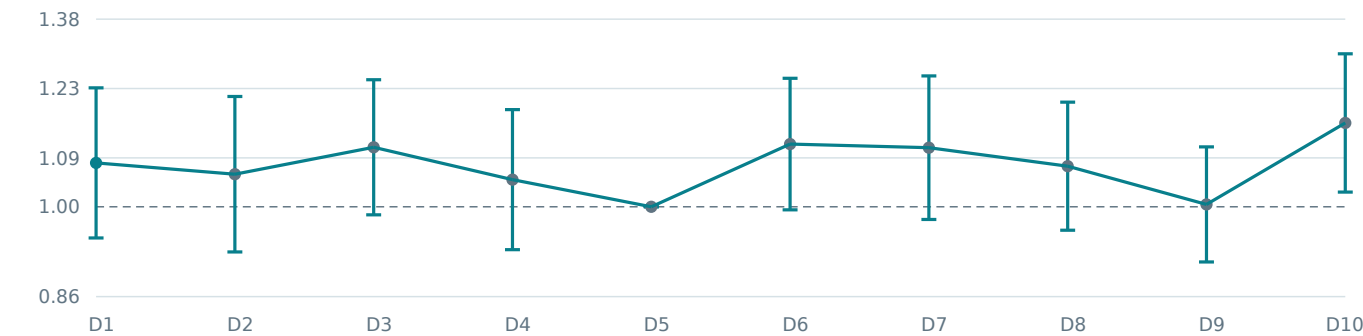
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Personal insolvency rate | authority context

Financial context | Reference D5 | Unit: events/10,000 adults/year | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	9.37 - 16.21	1.079 [0.947, 1.229]	3,487	28,374	39.90	0.0711
D2	16.26 - 20.14	1.058 [0.925, 1.210]	3,250	23,171	56.67	0.0409
D3	20.16 - 22.21	1.109 [0.986, 1.246]	3,515	21,281	63.79	0.0334
D4	22.23 - 23.71	1.048 [0.928, 1.183]	3,473	17,750	66.40	0.0267
D5	23.78 - 25.34	1.000 [1.000, 1.000]	2,820	13,906	51.34	0.0271
D6	25.37 - 26.84	1.115 [0.995, 1.249]	3,363	17,017	56.91	0.0299
D7	26.89 - 28.63	1.108 [0.978, 1.254]	3,269	17,132	51.40	0.0333
D8	28.70 - 31.95	1.073 [0.960, 1.199]	3,072	15,495	52.12	0.0297
D9	32.01 - 35.29	1.004 [0.909, 1.109]	3,453	16,073	58.01	0.0277
D10	35.40 - 63.00	1.156 [1.026, 1.303]	3,087	15,556	44.08	0.0353

2023 conditional drop-one gain: +0.200% (95% interval -0.060% to +0.481%)

Adjusted GVIF: 1.19 | Conditional Wald p: 0.148 | BH q (40-feature family): 0.174. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.981 [0.876, 1.097]	D7 / D6: 0.994 [0.893, 1.106]
D3 / D2: 1.048 [0.923, 1.190]	D8 / D7: 0.968 [0.869, 1.080]
D4 / D3: 0.945 [0.840, 1.064]	D9 / D8: 0.936 [0.859, 1.019]
D5 / D4: 0.954 [0.845, 1.077]	D10 / D9: 1.152 [1.044, 1.271]
D6 / D5: 1.115 [0.995, 1.249]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Road-weighted summer days >25°C: -0.54; Working mainly at or from home: -0.53

Published 2025 rate inherited from 316 lower-tier reporting areas, with no within-area variation. Provisional because the publisher used mid-2024 adults. City of London is combined with Westminster; Isles of Scilly with Cornwall. National LSOA-weighted ties remain together; authority-weighted sensitivity is supplied.

Frozen source: Insolvency Service 2025 location workbook | observed 2025 events; mid-2024 adult denominator

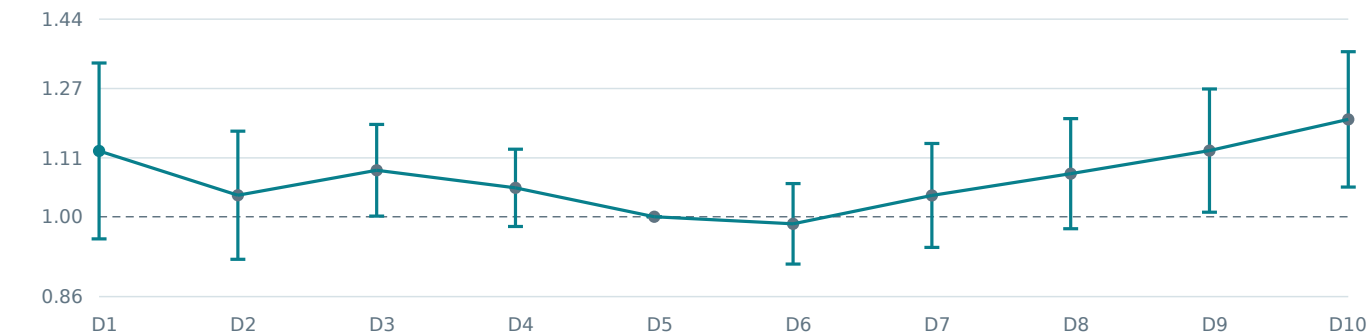
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-weighted PM2.5

Air quality | Reference D5 | Unit: $\mu\text{g}/\text{m}^3$ | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	3.46 - 6.13	1.129 [0.960, 1.328]	3,407	15,031	64.69	0.0232
D2	6.13 - 6.88	1.040 [0.925, 1.171]	3,132	13,735	50.42	0.0272
D3	6.88 - 7.31	1.089 [1.001, 1.186]	3,232	15,785	50.43	0.0313
D4	7.31 - 7.61	1.055 [0.982, 1.133]	3,114	15,500	51.45	0.0301
D5	7.61 - 7.93	1.000 [1.000, 1.000]	3,011	15,398	59.17	0.0260
D6	7.93 - 8.19	0.987 [0.916, 1.063]	3,118	15,685	62.68	0.0250
D7	8.19 - 8.43	1.040 [0.945, 1.145]	3,349	18,120	62.16	0.0292
D8	8.43 - 8.64	1.083 [0.978, 1.198]	3,441	20,298	50.84	0.0399
D9	8.64 - 8.86	1.130 [1.008, 1.266]	3,499	23,753	41.97	0.0566
D10	8.86 - 10.55	1.197 [1.056, 1.356]	3,486	32,450	46.81	0.0693

2023 conditional drop-one gain: +0.199% (95% interval -0.003% to +0.389%)

Adjusted GVIF: 1.34 | Conditional Wald p: 0.006 | BH q (40-feature family): 0.013. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.922 [0.840, 1.012]	D7 / D6: 1.054 [0.992, 1.120]
D3 / D2: 1.047 [0.950, 1.154]	D8 / D7: 1.041 [0.990, 1.095]
D4 / D3: 0.968 [0.902, 1.039]	D9 / D8: 1.043 [0.977, 1.115]
D5 / D4: 0.948 [0.883, 1.018]	D10 / D9: 1.059 [0.984, 1.140]
D6 / D5: 0.987 [0.916, 1.063]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Road-weighted summer days >25°C: +0.86; Road-weighted NO2: +0.54

Road-weighted assessed annual ambient concentrations, >=99% mapped-road coverage; April 2026 OS geometry. 2025 CMAQ-Urban replaces PCM, so years are not pooled into one trend. These are model estimates, not individual or roadside-monitor exposure.

Frozen source: Defra 2025 assessed annual 1 km concentrations | observed 2025; 2022-2024 sensitivity files separate

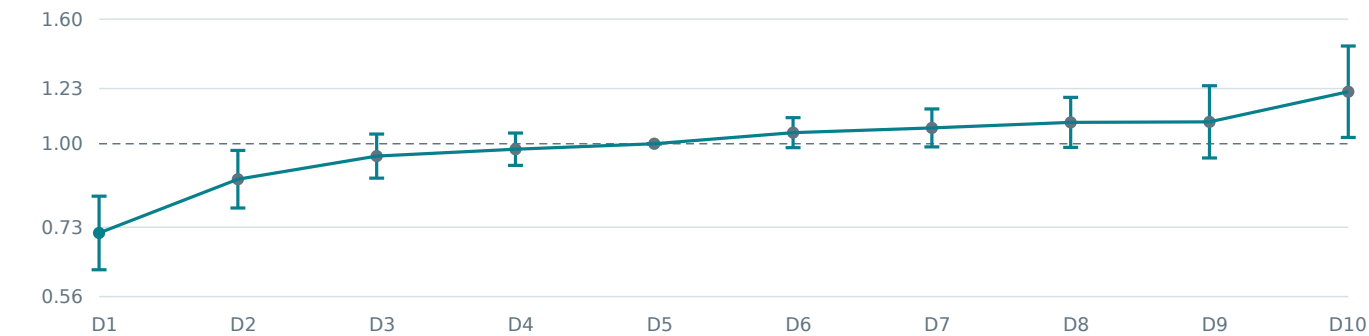
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Cycling connectivity

Transport accessibility | Reference D5 | Unit: score / 100 | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	8.83 - 49.70	0.715 [0.623, 0.821]	3,221	25,653	148.57	0.0173
D2	49.71 - 59.03	0.875 [0.785, 0.975]	3,252	17,125	88.53	0.0193
D3	59.04 - 63.87	0.955 [0.879, 1.037]	3,220	12,315	57.20	0.0215
D4	63.88 - 67.32	0.980 [0.922, 1.041]	3,196	11,465	46.31	0.0248
D5	67.33 - 70.19	1.000 [1.000, 1.000]	3,209	12,273	41.70	0.0294
D6	70.20 - 72.91	1.043 [0.985, 1.103]	3,278	14,001	37.14	0.0377
D7	72.92 - 75.71	1.061 [0.988, 1.140]	3,321	15,727	34.14	0.0461
D8	75.72 - 78.86	1.084 [0.986, 1.190]	3,333	18,439	33.04	0.0558
D9	78.87 - 83.48	1.086 [0.948, 1.244]	3,321	23,396	31.48	0.0743
D10	83.49 - 99.39	1.216 [1.024, 1.444]	3,438	35,361	22.52	0.1570

2023 conditional drop-one gain: +0.197% (95% interval +0.066% to +0.344%)

Adjusted GVIF: 1.61 | Conditional Wald p: 7.84e-08 | BH q (40-feature family): 5.23e-07. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.224 [1.146, 1.307]	D7 / D6: 1.018 [0.973, 1.065]
D3 / D2: 1.091 [1.032, 1.153]	D8 / D7: 1.021 [0.972, 1.072]
D4 / D3: 1.026 [0.970, 1.086]	D9 / D8: 1.002 [0.931, 1.078]
D5 / D4: 1.021 [0.961, 1.085]	D10 / D9: 1.120 [1.024, 1.225]
D6 / D5: 1.043 [0.985, 1.103]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Public transport connectivity: +0.96; Driving connectivity: +0.93

Modelled access to destinations, not trips or flows. Q4 2024 workbook reference; mixed 2023-2025 inputs and NTS 2011-2020 preferences. Scores from different modes are not directly comparable. Published 29 September 2025.

Frozen source: dft-connectivity-2025 | observed Q4 2024 reference; mixed source vintages

YOUR DECISION

☐ Keep

☐ Drop

☐ Simplify

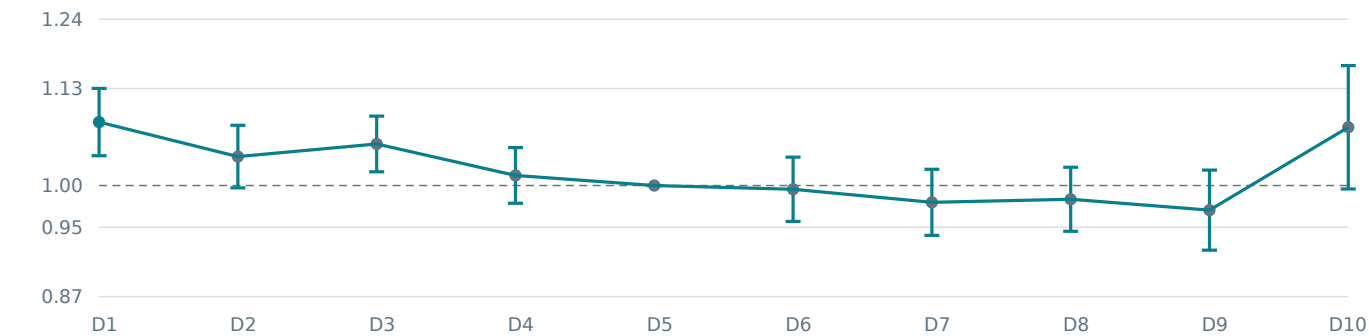
☐ Undecided

Proposed grouping / notes:

Cycling commuting share

Commuting baseline | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 0.66	1.085 [1.039, 1.134]	3,267	16,895	75.34	0.0224
D2	0.66 - 1.01	1.038 [0.997, 1.081]	3,261	17,365	75.77	0.0229
D3	1.01 - 1.32	1.055 [1.018, 1.094]	3,216	17,655	68.53	0.0258
D4	1.32 - 1.67	1.013 [0.977, 1.050]	3,291	17,931	63.00	0.0285
D5	1.67 - 2.06	1.000 [1.000, 1.000]	3,274	17,641	60.70	0.0291
D6	2.06 - 2.56	0.995 [0.955, 1.037]	3,274	17,010	52.98	0.0321
D7	2.56 - 3.23	0.979 [0.938, 1.021]	3,310	17,633	45.67	0.0386
D8	3.23 - 4.26	0.982 [0.943, 1.024]	3,258	17,514	39.24	0.0446
D9	4.26 - 6.59	0.969 [0.920, 1.020]	3,316	20,141	34.85	0.0578
D10	6.59 - 45.87	1.078 [0.996, 1.168]	3,322	25,970	24.52	0.1059

2023 conditional drop-one gain: +0.151% (95% interval -0.004% to +0.309%)

Adjusted GVIF: 1.10 | Conditional Wald p: 3.05e-05 | BH q (40-feature family): 1.18e-04. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.956 [0.916, 0.998]	D7 / D6: 0.983 [0.942, 1.026]
D3 / D2: 1.016 [0.973, 1.061]	D8 / D7: 1.004 [0.962, 1.048]
D4 / D3: 0.960 [0.928, 0.994]	D9 / D8: 0.986 [0.946, 1.028]
D5 / D4: 0.987 [0.952, 1.023]	D10 / D9: 1.113 [1.044, 1.187]
D6 / D5: 0.995 [0.955, 1.037]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Car/van driver commuting share: -0.54; Walking connectivity: +0.46

Census 2021 lockdown/furlough context. Resident participation, not current travel, hybrid-working frequency or observed road flows. Share among residents travelling away from home, not cyclist pressure in this LSOA.

Frozen source: ts061 | observed 2021-03-21

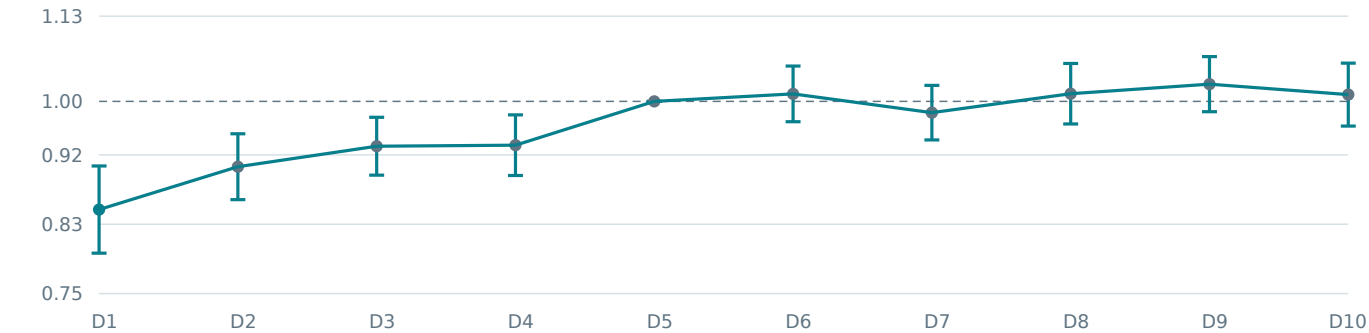
YOUR DECISION☐ Keep☐ Drop☐ Simplify☐ Undecided

Proposed grouping / notes: _____

Junctions per mapped road kilometre

Road layout | Reference D5 | Unit: junctions/km | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 2.94	0.852 [0.798, 0.909]	3,248	31,682	194.47	0.0163
D2	2.94 - 4.07	0.908 [0.864, 0.953]	3,255	20,668	93.40	0.0221
D3	4.07 - 4.73	0.936 [0.896, 0.977]	3,255	16,427	53.62	0.0306
D4	4.74 - 5.25	0.937 [0.896, 0.980]	3,286	14,682	38.21	0.0384
D5	5.25 - 5.68	1.000 [1.000, 1.000]	3,311	14,926	32.49	0.0459
D6	5.68 - 6.11	1.011 [0.970, 1.054]	3,279	14,780	28.17	0.0525
D7	6.11 - 6.56	0.983 [0.944, 1.024]	3,266	14,737	26.38	0.0559
D8	6.56 - 7.13	1.011 [0.967, 1.058]	3,271	15,813	24.29	0.0651
D9	7.13 - 8.08	1.026 [0.985, 1.069]	3,270	18,968	24.17	0.0785
D10	8.08 - 19.40	1.010 [0.964, 1.058]	3,348	23,072	25.41	0.0908

2023 conditional drop-one gain: +0.143% (95% interval +0.050% to +0.238%)

Adjusted GVIF: 1.17 | Conditional Wald p: 3.06e-07 | BH q (40-feature family): 1.75e-06. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.066 [1.007, 1.127]	D7 / D6: 0.973 [0.932, 1.014]
D3 / D2: 1.031 [0.983, 1.081]	D8 / D7: 1.028 [0.990, 1.068]
D4 / D3: 1.002 [0.960, 1.044]	D9 / D8: 1.014 [0.976, 1.054]
D5 / D4: 1.067 [1.020, 1.116]	D10 / D9: 0.985 [0.945, 1.026]
D6 / D5: 1.011 [0.970, 1.054]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Population density: +0.63; Walking connectivity: +0.57

OS junction nodes only. Pseudo nodes, road ends and roundabout nodes excluded.

Frozen source: os-roads | observed 2026-04

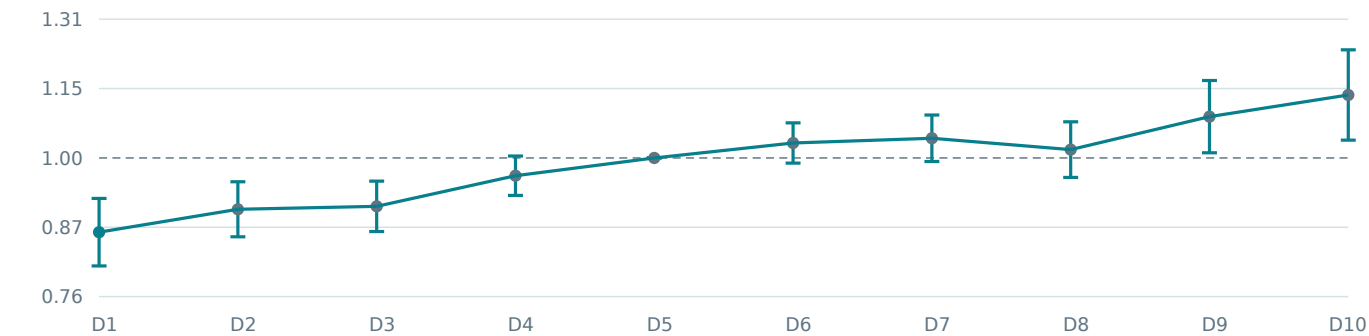
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

No qualifications

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.85 - 9.55	0.865 [0.810, 0.924]	3,212	20,706	46.46	0.0446
D2	9.55 - 12.08	0.904 [0.857, 0.954]	3,294	20,560	75.32	0.0273
D3	12.08 - 14.00	0.910 [0.866, 0.956]	3,251	18,785	74.18	0.0253
D4	14.00 - 15.83	0.966 [0.929, 1.004]	3,300	19,841	71.98	0.0276
D5	15.83 - 17.68	1.000 [1.000, 1.000]	3,285	18,782	63.47	0.0296
D6	17.68 - 19.64	1.030 [0.990, 1.071]	3,284	18,028	54.11	0.0333
D7	19.65 - 21.91	1.039 [0.993, 1.088]	3,295	17,361	45.50	0.0382
D8	21.91 - 24.59	1.016 [0.963, 1.073]	3,302	17,039	43.47	0.0392
D9	24.59 - 28.35	1.084 [1.010, 1.164]	3,304	16,443	33.79	0.0487
D10	28.35 - 51.65	1.131 [1.035, 1.236]	3,262	18,210	32.34	0.0563

2023 conditional drop-one gain: +0.143% (95% interval -0.007% to +0.298%)

Adjusted GVIF: 1.21 | Conditional Wald p: 1.38e-04 | BH q (40-feature family): 4.61e-04. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.046 [0.997, 1.097]	D7 / D6: 1.009 [0.972, 1.048]
D3 / D2: 1.006 [0.963, 1.051]	D8 / D7: 0.978 [0.933, 1.025]
D4 / D3: 1.062 [1.013, 1.113]	D9 / D8: 1.067 [1.014, 1.122]
D5 / D4: 1.035 [0.996, 1.076]	D10 / D9: 1.043 [0.992, 1.097]
D6 / D5: 1.030 [0.990, 1.071]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Level 4+ qualifications: -0.83; Working mainly at or from home: -0.81

Residents aged 16+. Not age-adjusted; age composition is a separate control.

Frozen source: ts067 | observed 2021-03-21

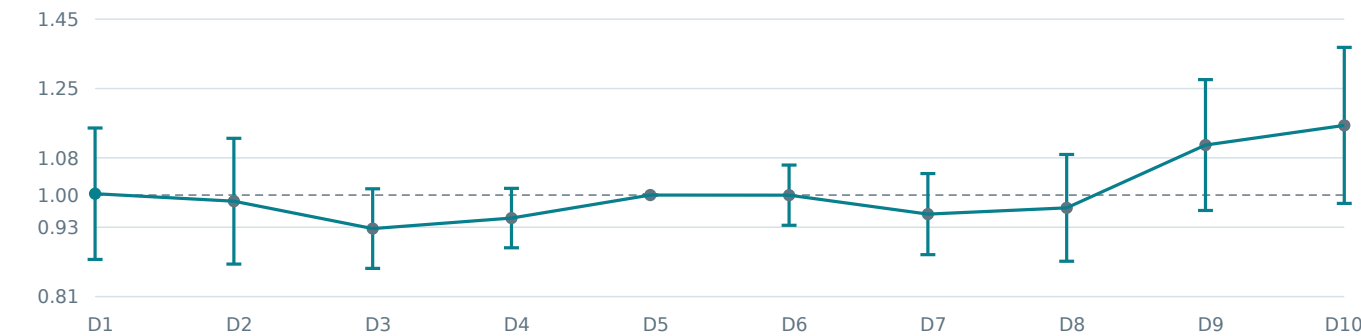
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-weighted summer days >25°C

Weather | Reference D5 | Unit: days/year | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.08 - 5.32	1.003 [0.872, 1.153]	3,498	15,678	59.08	0.0265
D2	5.32 - 7.59	0.987 [0.863, 1.128]	3,292	15,446	48.36	0.0319
D3	7.59 - 9.54	0.931 [0.856, 1.013]	3,185	14,404	47.13	0.0306
D4	9.54 - 11.26	0.952 [0.894, 1.014]	3,037	14,589	56.30	0.0259
D5	11.26 - 13.08	1.000 [1.000, 1.000]	3,029	16,419	54.82	0.0300
D6	13.08 - 14.88	1.000 [0.938, 1.066]	2,992	17,239	65.47	0.0263
D7	14.88 - 17.50	0.960 [0.881, 1.047]	3,327	17,438	71.00	0.0246
D8	17.50 - 20.37	0.973 [0.869, 1.090]	3,400	17,374	63.66	0.0273
D9	20.37 - 24.44	1.112 [0.968, 1.278]	3,497	22,671	48.86	0.0464
D10	24.44 - 28.97	1.160 [0.982, 1.369]	3,532	34,497	25.94	0.1330

2023 conditional drop-one gain: +0.130% (95% interval -0.080% to +0.348%)

Adjusted GVIF: 1.40 | Conditional Wald p: 0.075 | BH q (40-feature family): 0.094. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.984 [0.900, 1.076]	D7 / D6: 0.961 [0.903, 1.021]
D3 / D2: 0.943 [0.854, 1.042]	D8 / D7: 1.013 [0.940, 1.093]
D4 / D3: 1.023 [0.949, 1.102]	D9 / D8: 1.143 [1.040, 1.256]
D5 / D4: 1.050 [0.986, 1.119]	D10 / D9: 1.043 [0.953, 1.140]
D6 / D5: 1.000 [0.938, 1.066]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Road-weighted PM2.5: +0.86; Road-weighted heavy-rain days: -0.58

Observed 1991-2020 mean annual days strictly >25°C, road-weighted using April 2026 mapped roads; >=99% road coverage. This is not the planned >=25°C threshold or annual post-pandemic heat. Public HadUK-Grid v1.1.0.0; geometry matched all 63,296 frozen frost-grid cells.

Frozen source: Met Office observed summer-days 2 km grid | observed 1991-2020 climate normal

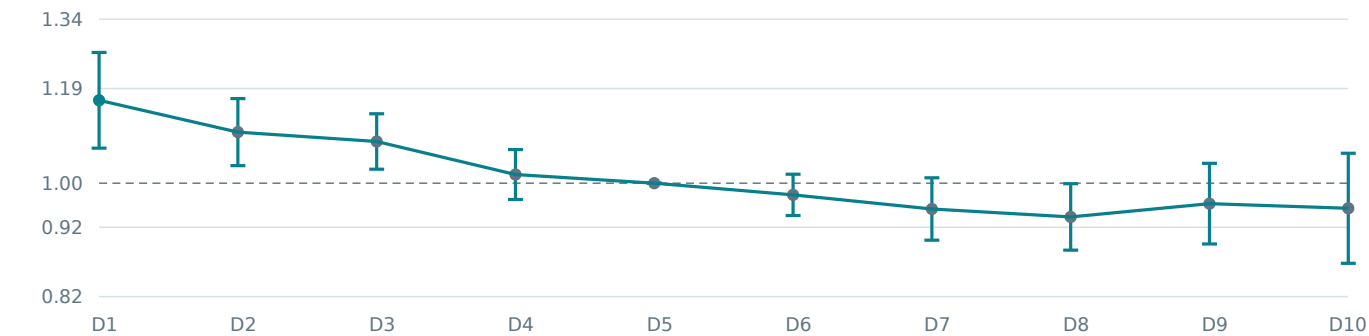
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Working mainly at or from home

Commuting baseline | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	3.10 - 14.93	1.161 [1.065, 1.266]	3,217	14,773	27.20	0.0543
D2	14.93 - 18.71	1.096 [1.032, 1.165]	3,275	16,178	33.93	0.0477
D3	18.71 - 22.05	1.078 [1.026, 1.133]	3,309	16,573	37.17	0.0446
D4	22.05 - 25.26	1.016 [0.971, 1.062]	3,291	16,051	44.49	0.0361
D5	25.26 - 28.59	1.000 [1.000, 1.000]	3,274	16,568	50.46	0.0328
D6	28.59 - 32.18	0.979 [0.943, 1.016]	3,294	17,528	58.35	0.0300
D7	32.18 - 36.18	0.955 [0.902, 1.010]	3,273	18,459	66.13	0.0279
D8	36.18 - 41.04	0.941 [0.886, 0.999]	3,273	20,966	85.60	0.0245
D9	41.04 - 47.91	0.964 [0.896, 1.036]	3,252	22,096	84.40	0.0262
D10	47.91 - 76.80	0.956 [0.866, 1.055]	3,331	26,563	52.89	0.0502

2023 conditional drop-one gain: +0.107% (95% interval -0.023% to +0.244%)

Adjusted GVIF: 1.23 | Conditional Wald p: 0.023 | BH q (40-feature family): 0.034. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.944 [0.899, 0.992]	D7 / D6: 0.975 [0.931, 1.021]
D3 / D2: 0.983 [0.945, 1.023]	D8 / D7: 0.986 [0.946, 1.027]
D4 / D3: 0.942 [0.907, 0.979]	D9 / D8: 1.024 [0.980, 1.070]
D5 / D4: 0.985 [0.941, 1.030]	D10 / D9: 0.992 [0.933, 1.054]
D6 / D5: 0.979 [0.943, 1.016]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Level 4+ qualifications: +0.87; No qualifications: -0.81

Census 2021 lockdown/furlough context. Resident participation, not current travel, hybrid-working frequency or observed road flows. Denominator is all employed residents aged 16+ in TS061.

Frozen source: ts061 | observed 2021-03-21

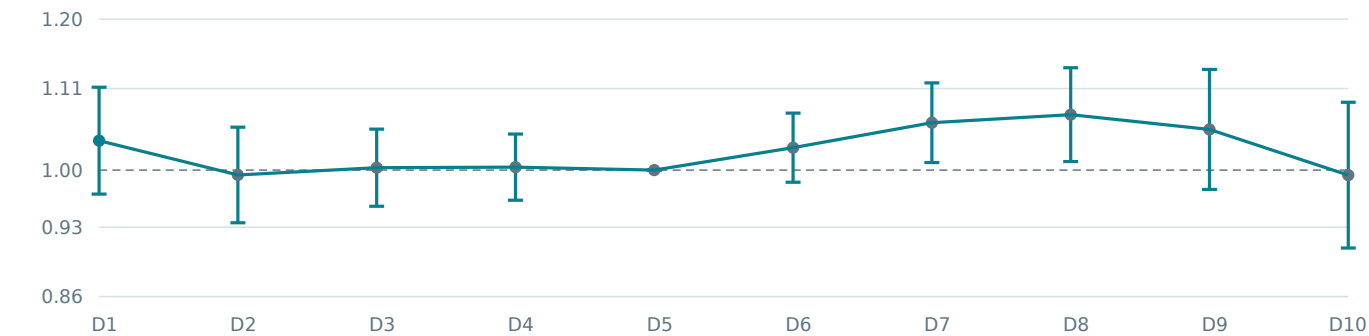
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Commutes of 20 km or more

Commuting baseline | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.80 - 5.88	1.037 [0.971, 1.108]	3,346	26,260	24.17	0.1086
D2	5.89 - 7.74	0.994 [0.937, 1.054]	3,265	19,728	32.97	0.0598
D3	7.74 - 9.58	1.003 [0.956, 1.052]	3,277	17,889	35.95	0.0498
D4	9.58 - 11.48	1.004 [0.963, 1.046]	3,250	16,455	38.92	0.0423
D5	11.49 - 13.64	1.000 [1.000, 1.000]	3,312	15,873	41.96	0.0378
D6	13.64 - 16.19	1.028 [0.985, 1.073]	3,297	15,901	51.02	0.0312
D7	16.19 - 19.08	1.060 [1.009, 1.114]	3,305	16,607	56.78	0.0292
D8	19.09 - 22.62	1.071 [1.011, 1.135]	3,272	17,231	65.75	0.0262
D9	22.63 - 27.92	1.051 [0.976, 1.132]	3,232	18,545	78.09	0.0237
D10	27.92 - 68.20	0.994 [0.908, 1.087]	3,233	21,266	115.01	0.0185

2023 conditional drop-one gain: +0.106% (95% interval +0.006% to +0.199%)

Adjusted GVIF: 1.15 | Conditional Wald p: 0.012 | BH q (40-feature family): 0.021. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.959 [0.901, 1.019]	D7 / D6: 1.031 [0.983, 1.082]
D3 / D2: 1.009 [0.957, 1.064]	D8 / D7: 1.010 [0.973, 1.048]
D4 / D3: 1.001 [0.963, 1.040]	D9 / D8: 0.982 [0.934, 1.032]
D5 / D4: 0.996 [0.956, 1.038]	D10 / D9: 0.945 [0.906, 0.986]
D6 / D5: 1.028 [0.985, 1.073]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cycling connectivity: -0.72; Public transport connectivity: -0.69

Census 2021 lockdown/furlough context. Resident participation, not current travel, hybrid-working frequency or observed road flows. Straight-line distance. Denominator includes only the eight known distance bands; excludes home/offshore/no fixed place/outside UK.

Frozen source: ts058 | observed 2021-03-21

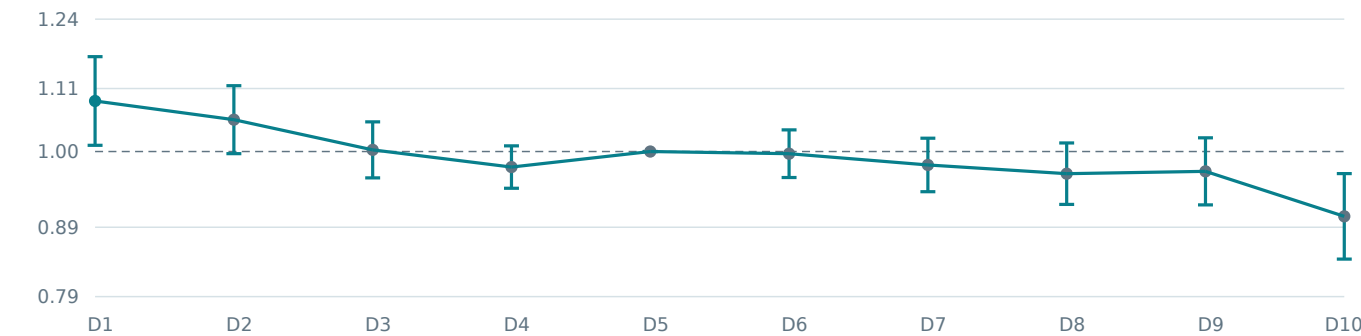
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Residents aged 65+

Baseline controls | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.07 - 8.49	1.084 [1.010, 1.164]	3,350	28,018	30.89	0.0907
D2	8.49 - 11.32	1.052 [0.997, 1.111]	3,376	23,883	32.35	0.0738
D3	11.32 - 13.76	1.003 [0.959, 1.049]	3,313	19,620	38.16	0.0514
D4	13.76 - 16.15	0.975 [0.943, 1.009]	3,294	16,572	41.62	0.0398
D5	16.15 - 18.50	1.000 [1.000, 1.000]	3,311	15,816	46.54	0.0340
D6	18.50 - 20.91	0.997 [0.959, 1.035]	3,283	15,706	56.78	0.0277
D7	20.91 - 23.41	0.979 [0.938, 1.022]	3,248	16,045	69.26	0.0232
D8	23.41 - 26.28	0.965 [0.919, 1.014]	3,245	17,375	80.40	0.0216
D9	26.28 - 30.25	0.969 [0.918, 1.022]	3,206	17,375	79.93	0.0217
D10	30.25 - 65.54	0.901 [0.842, 0.965]	3,163	15,345	64.68	0.0237

2023 conditional drop-one gain: +0.086% (95% interval -0.001% to +0.180%)

Adjusted GVIF: 1.22 | Conditional Wald p: 0.003 | BH q (40-feature family): 0.007. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.971 [0.931, 1.011]	D7 / D6: 0.982 [0.943, 1.023]
D3 / D2: 0.953 [0.909, 0.999]	D8 / D7: 0.986 [0.948, 1.026]
D4 / D3: 0.973 [0.938, 1.009]	D9 / D8: 1.004 [0.967, 1.041]
D5 / D4: 1.025 [0.991, 1.061]	D10 / D9: 0.931 [0.892, 0.971]
D6 / D5: 0.997 [0.959, 1.035]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Overcrowded households: -0.72; Owner occupied households: +0.67

Frozen source: ts007a | observed 2021-03-21

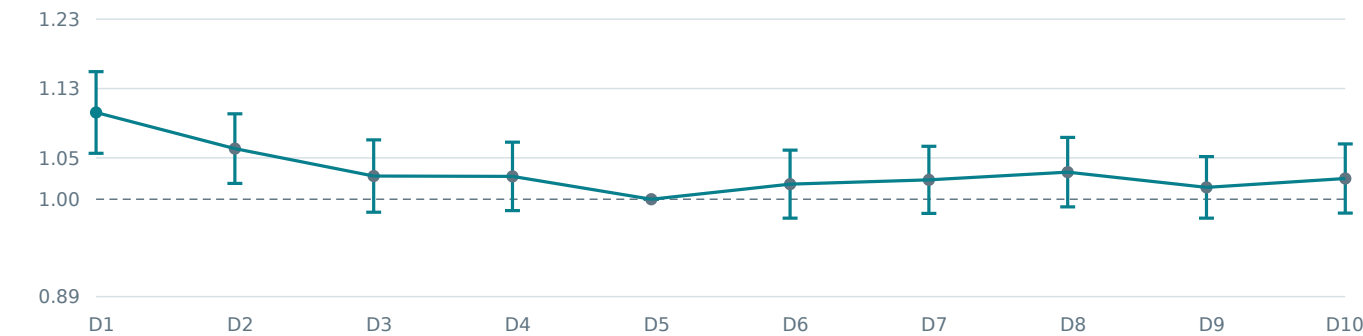
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Mapped road sinuosity

Road layout | Reference D5 | Unit: ratio | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	1.00 - 1.03	1.104 [1.054, 1.157]	3,349	21,061	21.31	0.0988
D2	1.03 - 1.05	1.060 [1.018, 1.103]	3,275	19,675	35.48	0.0555
D3	1.05 - 1.06	1.027 [0.985, 1.070]	3,275	18,348	49.56	0.0370
D4	1.06 - 1.07	1.026 [0.987, 1.067]	3,262	18,800	61.22	0.0307
D5	1.07 - 1.08	1.000 [1.000, 1.000]	3,238	18,064	68.89	0.0262
D6	1.08 - 1.10	1.017 [0.979, 1.058]	3,294	18,914	69.74	0.0271
D7	1.10 - 1.12	1.022 [0.984, 1.062]	3,254	18,259	66.20	0.0276
D8	1.12 - 1.15	1.031 [0.991, 1.073]	3,262	17,539	61.68	0.0284
D9	1.15 - 1.21	1.014 [0.979, 1.050]	3,255	16,800	56.18	0.0299
D10	1.21 - 14.93	1.024 [0.984, 1.065]	3,325	18,295	50.35	0.0363

2023 conditional drop-one gain: +0.081% (95% interval +0.004% to +0.161%)

Adjusted GVIF: 1.04 | Conditional Wald p: 0.009 | BH q (40-feature family): 0.018. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.960 [0.923, 0.998]	D7 / D6: 1.005 [0.968, 1.043]
D3 / D2: 0.969 [0.929, 1.011]	D8 / D7: 1.009 [0.965, 1.055]
D4 / D3: 1.000 [0.959, 1.042]	D9 / D8: 0.983 [0.945, 1.022]
D5 / D4: 0.974 [0.937, 1.013]	D10 / D9: 1.010 [0.970, 1.052]
D6 / D5: 1.017 [0.979, 1.058]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Population density: -0.30; Walking connectivity: -0.29

Length-weighted full-link length/endpoint distance, excluding closed and roundabout links. Generalised geometry proxy; not bend radius.

Frozen source: os-roads | observed 2026-04

YOUR DECISION

☐ Keep

☐ Drop

☐ Simplify

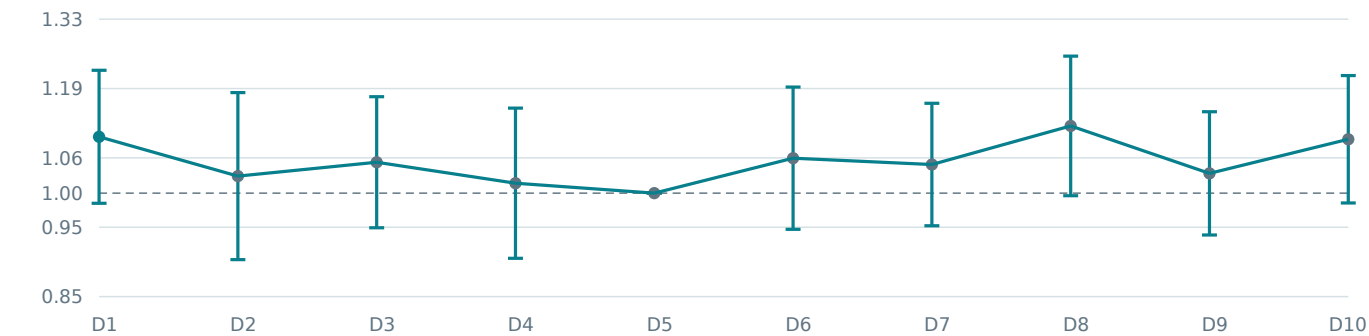
☐ Undecided

Proposed grouping / notes:

Bankruptcy rate | authority context

Financial context | Reference D5 | Unit: events/10,000 adults/year | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.20 - 0.97	1.096 [0.984, 1.221]	3,237	17,685	51.93	0.0341
D2	0.98 - 1.07	1.028 [0.898, 1.177]	3,143	18,720	32.37	0.0578
D3	1.08 - 1.17	1.051 [0.945, 1.169]	3,496	21,419	50.66	0.0423
D4	1.17 - 1.30	1.016 [0.900, 1.148]	3,375	20,204	51.84	0.0390
D5	1.30 - 1.42	1.000 [1.000, 1.000]	3,631	18,295	67.44	0.0271
D6	1.42 - 1.57	1.058 [0.943, 1.188]	2,916	15,848	50.22	0.0316
D7	1.58 - 1.73	1.048 [0.948, 1.157]	3,138	17,059	48.15	0.0354
D8	1.73 - 1.84	1.115 [0.996, 1.249]	3,100	17,138	59.34	0.0289
D9	1.85 - 2.12	1.033 [0.934, 1.141]	3,341	18,736	62.05	0.0302
D10	2.13 - 6.88	1.091 [0.984, 1.210]	3,412	20,651	66.61	0.0310

2023 conditional drop-one gain: +0.073% (95% interval -0.150% to +0.310%)

Adjusted GVIF: 1.13 | Conditional Wald p: 0.657 | BH q (40-feature family): 0.711. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.938 [0.820, 1.074]	D7 / D6: 0.990 [0.899, 1.089]
D3 / D2: 1.023 [0.901, 1.161]	D8 / D7: 1.065 [0.967, 1.172]
D4 / D3: 0.967 [0.858, 1.089]	D9 / D8: 0.926 [0.831, 1.031]
D5 / D4: 0.984 [0.871, 1.112]	D10 / D9: 1.057 [0.967, 1.155]
D6 / D5: 1.058 [0.943, 1.188]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cycling connectivity: -0.32; Road-weighted NO2: -0.32

Published 2025 rate inherited from 316 lower-tier reporting areas, with no within-area variation. Provisional because the publisher used mid-2024 adults. City of London is combined with Westminster; Isles of Scilly with Cornwall. National LSOA-weighted ties remain together; authority-weighted sensitivity is supplied.

Frozen source: Insolvency Service 2025 location workbook | observed 2025 events; mid-2024 adult denominator

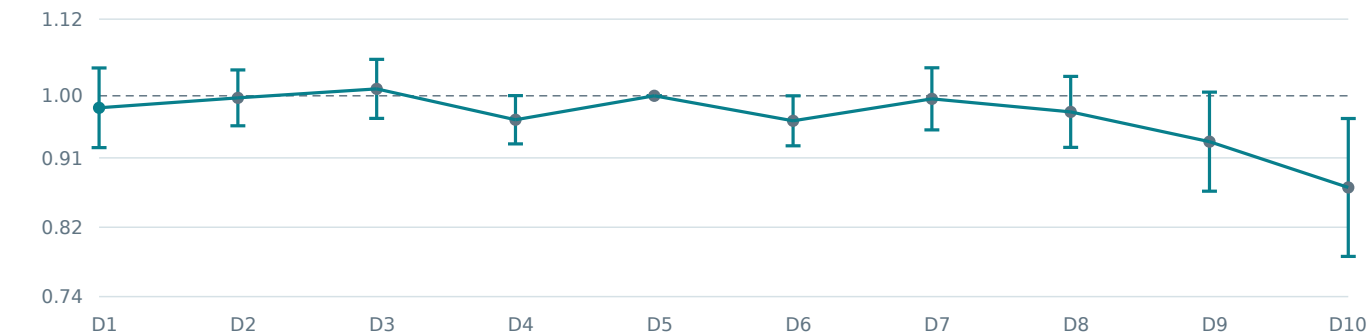
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Social rented households

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 1.64	0.982 [0.926, 1.042]	3,258	11,869	45.32	0.0262
D2	1.65 - 3.46	0.997 [0.956, 1.039]	3,253	15,821	58.01	0.0273
D3	3.47 - 5.73	1.010 [0.967, 1.056]	3,249	19,615	72.68	0.0270
D4	5.73 - 8.32	0.965 [0.931, 1.000]	3,249	20,036	81.58	0.0246
D5	8.32 - 11.44	1.000 [1.000, 1.000]	3,263	20,808	72.46	0.0287
D6	11.44 - 15.54	0.963 [0.928, 1.000]	3,281	20,285	60.68	0.0334
D7	15.54 - 21.19	0.995 [0.950, 1.043]	3,288	20,547	52.49	0.0391
D8	21.20 - 29.22	0.976 [0.926, 1.029]	3,289	19,035	38.21	0.0498
D9	29.22 - 41.36	0.934 [0.867, 1.005]	3,321	19,376	32.69	0.0593
D10	41.36 - 92.02	0.872 [0.787, 0.967]	3,338	18,363	26.50	0.0693

2023 conditional drop-one gain: +0.066% (95% interval +0.001% to +0.132%)

Adjusted GVIF: 1.21 | Conditional Wald p: 0.001 | BH q (40-feature family): 0.004. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.015 [0.971, 1.061]	D7 / D6: 1.033 [0.990, 1.079]
D3 / D2: 1.014 [0.980, 1.048]	D8 / D7: 0.981 [0.939, 1.024]
D4 / D3: 0.955 [0.923, 0.988]	D9 / D8: 0.957 [0.913, 1.002]
D5 / D4: 1.036 [1.000, 1.074]	D10 / D9: 0.934 [0.886, 0.984]
D6 / D5: 0.963 [0.928, 1.000]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Owner occupied households: -0.80; Households without a car or van: +0.65

Council plus other social rent; do not add their parent category again.

Frozen source: ts054 | observed 2021-03-21

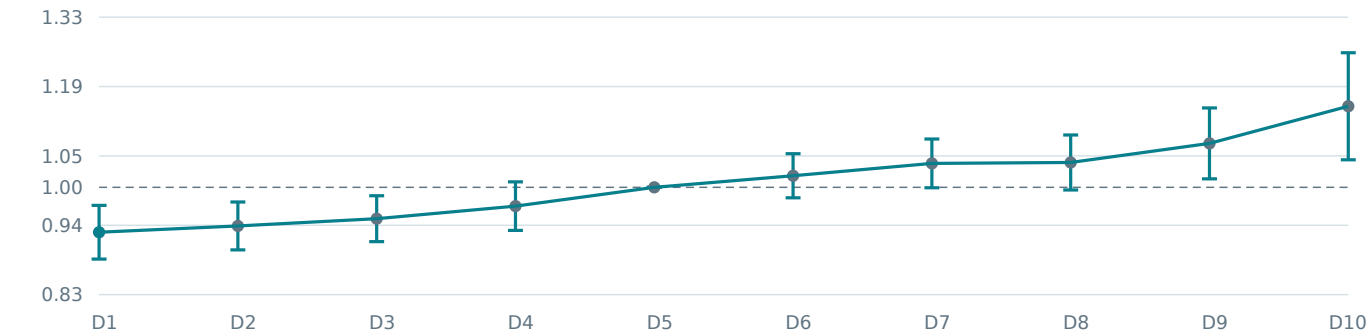
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Flats and converted/commercial accommodation

Housing and vehicles | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 1.45	0.927 [0.886, 0.970]	3,286	12,780	67.84	0.0188
D2	1.45 - 3.09	0.937 [0.900, 0.976]	3,222	16,729	86.10	0.0194
D3	3.10 - 5.20	0.948 [0.912, 0.986]	3,232	16,932	83.41	0.0203
D4	5.20 - 7.93	0.969 [0.930, 1.009]	3,267	15,608	67.95	0.0230
D5	7.93 - 11.46	1.000 [1.000, 1.000]	3,261	14,350	50.41	0.0285
D6	11.46 - 16.18	1.020 [0.982, 1.058]	3,248	14,834	47.60	0.0312
D7	16.19 - 22.79	1.041 [0.999, 1.085]	3,255	15,599	39.30	0.0397
D8	22.79 - 33.52	1.043 [0.996, 1.092]	3,300	18,036	36.73	0.0491
D9	33.52 - 56.82	1.077 [1.014, 1.143]	3,325	23,600	34.52	0.0684
D10	56.84 - 100.00	1.147 [1.048, 1.255]	3,393	37,287	26.76	0.1393

2023 conditional drop-one gain: +0.062% (95% interval -0.048% to +0.187%)

Adjusted GVIF: 1.21 | Conditional Wald p: 5.45e-04 | BH q (40-feature family): 0.002. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.011 [0.970, 1.053]	D7 / D6: 1.021 [0.983, 1.061]
D3 / D2: 1.012 [0.980, 1.045]	D8 / D7: 1.002 [0.961, 1.044]
D4 / D3: 1.021 [0.983, 1.061]	D9 / D8: 1.033 [0.991, 1.077]
D5 / D4: 1.032 [0.991, 1.075]	D10 / D9: 1.065 [1.003, 1.131]
D6 / D5: 1.020 [0.982, 1.058]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Car/van driver commuting share: -0.72; Cars/vans per household | lower bound: -0.71

Purpose-built, converted/shared houses, converted buildings and commercial buildings. Not observed garaging.

Frozen source: ts044 | observed 2021-03-21

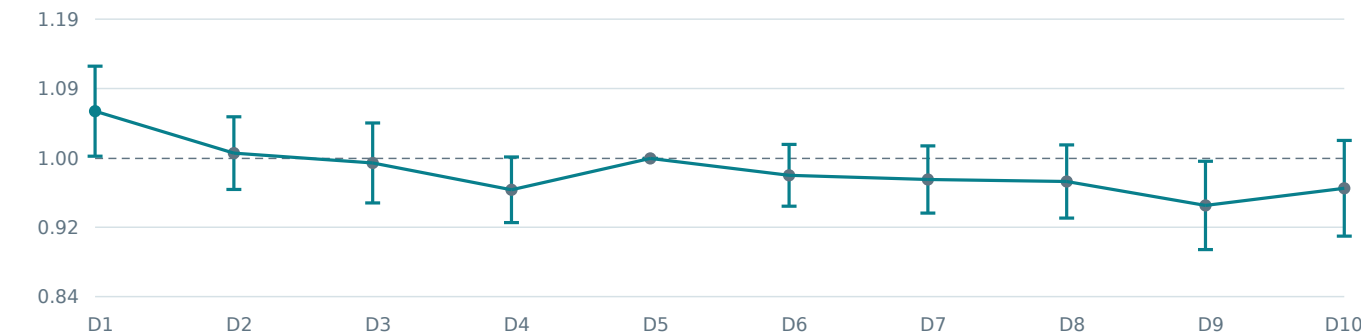
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Residents aged 0-14

Baseline controls | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.29 - 12.01	1.062 [1.003, 1.125]	3,149	25,071	52.04	0.0482
D2	12.01 - 13.68	1.007 [0.961, 1.055]	3,244	20,425	75.99	0.0269
D3	13.69 - 14.88	0.994 [0.945, 1.046]	3,249	19,461	72.09	0.0270
D4	14.88 - 15.93	0.961 [0.921, 1.002]	3,281	17,751	67.15	0.0264
D5	15.93 - 16.94	1.000 [1.000, 1.000]	3,289	17,102	53.76	0.0318
D6	16.94 - 18.02	0.979 [0.941, 1.018]	3,286	17,505	56.13	0.0312
D7	18.02 - 19.21	0.973 [0.933, 1.016]	3,285	17,355	48.51	0.0358
D8	19.21 - 20.71	0.971 [0.927, 1.017]	3,326	17,458	43.57	0.0401
D9	20.71 - 23.02	0.942 [0.890, 0.996]	3,338	16,658	38.97	0.0427
D10	23.02 - 51.29	0.963 [0.906, 1.023]	3,342	16,969	32.41	0.0524

2023 conditional drop-one gain: +0.062% (95% interval -0.020% to +0.142%)

Adjusted GVIF: 1.13 | Conditional Wald p: 0.033 | BH q (40-feature family): 0.046. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.948 [0.907, 0.991]	D7 / D6: 0.995 [0.954, 1.037]
D3 / D2: 0.988 [0.946, 1.031]	D8 / D7: 0.997 [0.960, 1.036]
D4 / D3: 0.966 [0.926, 1.008]	D9 / D8: 0.970 [0.928, 1.013]
D5 / D4: 1.041 [0.998, 1.085]	D10 / D9: 1.022 [0.980, 1.066]
D6 / D5: 0.979 [0.941, 1.018]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Residents aged 65+: -0.59; Overcrowded households: +0.49

Frozen source: ts007a | observed 2021-03-21

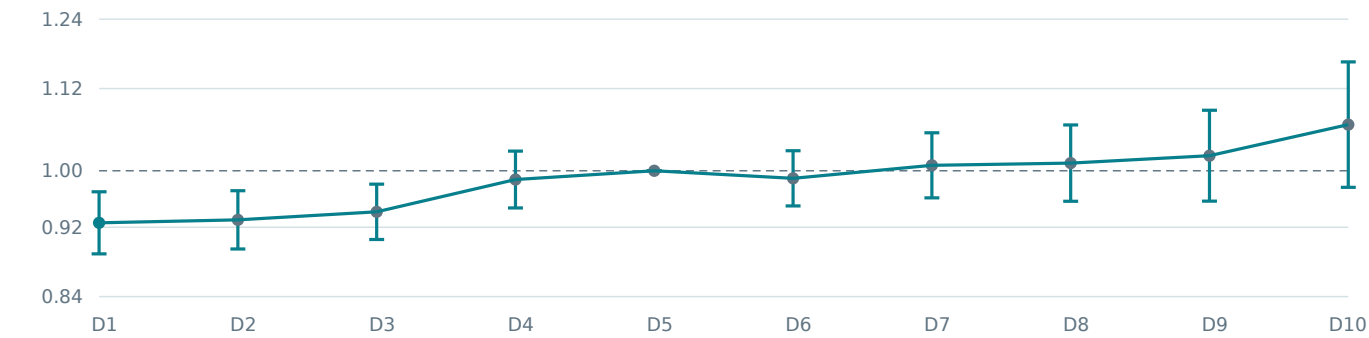
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Overcrowded households

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 0.74	0.930 [0.890, 0.971]	3,221	14,591	79.37	0.0184
D2	0.74 - 1.09	0.933 [0.896, 0.972]	3,188	16,100	84.68	0.0190
D3	1.09 - 1.45	0.944 [0.908, 0.981]	3,213	16,042	77.36	0.0207
D4	1.45 - 1.87	0.988 [0.949, 1.028]	3,219	16,540	70.44	0.0235
D5	1.87 - 2.41	1.000 [1.000, 1.000]	3,237	16,016	55.45	0.0289
D6	2.41 - 3.16	0.989 [0.952, 1.029]	3,266	15,525	45.07	0.0344
D7	3.16 - 4.30	1.008 [0.963, 1.055]	3,260	16,905	35.40	0.0477
D8	4.31 - 6.30	1.011 [0.958, 1.066]	3,316	18,999	33.09	0.0574
D9	6.30 - 10.68	1.021 [0.958, 1.089]	3,363	23,701	31.89	0.0743
D10	10.68 - 41.98	1.067 [0.977, 1.165]	3,506	31,336	27.85	0.1125

2023 conditional drop-one gain: +0.052% (95% interval -0.016% to +0.110%)

Adjusted GVIF: 1.20 | Conditional Wald p: 0.004 | BH q (40-feature family): 0.009. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.004 [0.962, 1.048]	D7 / D6: 1.018 [0.977, 1.062]
D3 / D2: 1.011 [0.978, 1.046]	D8 / D7: 1.003 [0.965, 1.043]
D4 / D3: 1.046 [1.012, 1.082]	D9 / D8: 1.010 [0.967, 1.056]
D5 / D4: 1.012 [0.973, 1.054]	D10 / D9: 1.045 [0.991, 1.101]
D6 / D5: 0.989 [0.952, 1.029]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Owner occupied households: -0.75; Car/van driver commuting share: -0.74

Bedroom occupancy rating -1 or -2 or less. Household denominator.

Frozen source: ts052 | observed 2021-03-21

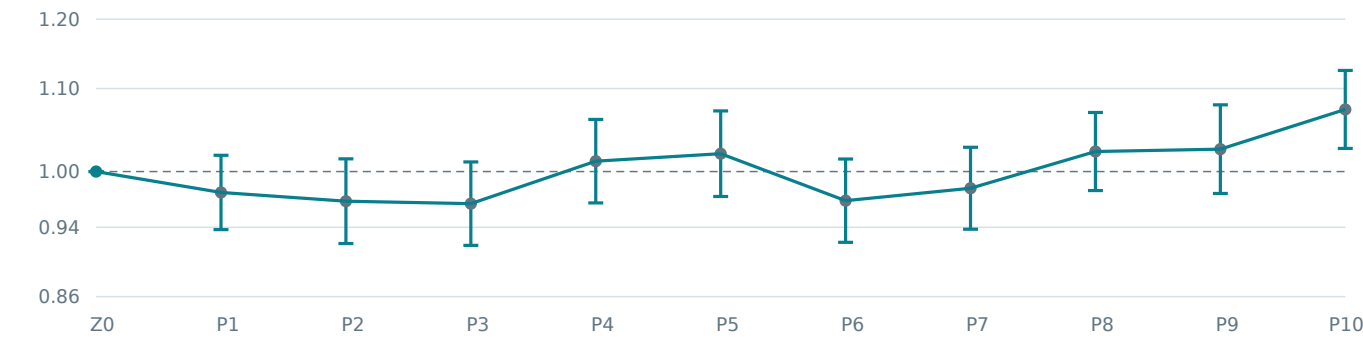
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Roundabout nodes per mapped road kilometre

Road layout | Reference Z0 | Unit: nodes/km | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
Z0	0.00 - 0.00	1.000 [1.000, 1.000]	21,942	106,181	247.31	0.0429
P1	0.00 - 0.09	0.976 [0.934, 1.019]	1,074	10,789	58.17	0.0185
P2	0.09 - 0.15	0.966 [0.919, 1.015]	1,068	7,464	32.64	0.0229
P3	0.15 - 0.20	0.963 [0.917, 1.011]	1,077	6,543	24.72	0.0265
P4	0.20 - 0.26	1.012 [0.964, 1.063]	1,097	6,946	24.71	0.0281
P5	0.26 - 0.34	1.021 [0.971, 1.074]	1,098	7,779	31.61	0.0246
P6	0.34 - 0.45	0.966 [0.921, 1.015]	1,084	7,324	27.31	0.0268
P7	0.45 - 0.58	0.981 [0.935, 1.029]	1,089	7,773	28.19	0.0276
P8	0.58 - 0.75	1.024 [0.978, 1.072]	1,076	7,886	23.26	0.0339
P9	0.75 - 1.03	1.027 [0.975, 1.081]	1,081	8,145	22.50	0.0362
P10	1.03 - 8.63	1.075 [1.027, 1.126]	1,103	8,925	20.20	0.0442

2023 conditional drop-one gain: +0.051% (95% interval -0.024% to +0.130%)

Adjusted GVIF: 1.05 | Conditional Wald p: 0.012 | BH q (40-feature family): 0.021. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

P1 / Z0: 0.976 [0.934, 1.019]	P6 / P5: 0.947 [0.886, 1.011]
P2 / P1: 0.990 [0.933, 1.051]	P7 / P6: 1.015 [0.952, 1.081]
P3 / P2: 0.997 [0.932, 1.066]	P8 / P7: 1.044 [0.978, 1.114]
P4 / P3: 1.051 [0.977, 1.131]	P9 / P8: 1.003 [0.939, 1.071]
P5 / P4: 1.009 [0.951, 1.070]	P10 / P9: 1.048 [0.989, 1.109]

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Minor/local share of mapped road length: -0.25; A-road share of mapped road length: +0.24

OS roundabout node count; zero group plus positive-value deciles. Not a manually audited roundabout inventory.

Frozen source: os-roads | observed 2026-04

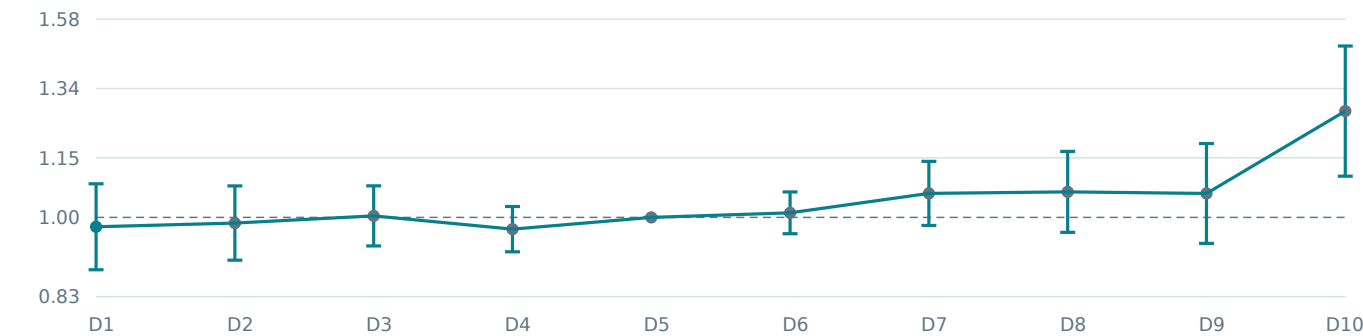
YOUR DECISION☐ Keep☐ Drop☐ Simplify☐ Undecided

Proposed grouping / notes: _____

Households without a car or van

Housing and vehicles | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.42 - 6.82	0.979 [0.887, 1.080]	3,176	21,861	133.39	0.0164
D2	6.82 - 9.32	0.987 [0.906, 1.075]	3,212	18,407	97.29	0.0189
D3	9.32 - 11.99	1.003 [0.937, 1.075]	3,236	14,467	63.19	0.0229
D4	11.99 - 15.03	0.973 [0.924, 1.025]	3,270	12,982	49.85	0.0260
D5	15.03 - 18.72	1.000 [1.000, 1.000]	3,260	13,489	41.99	0.0321
D6	18.72 - 23.06	1.011 [0.963, 1.060]	3,272	13,611	35.97	0.0378
D7	23.06 - 28.26	1.057 [0.982, 1.137]	3,271	15,740	33.27	0.0473
D8	28.26 - 34.88	1.060 [0.966, 1.164]	3,301	17,045	29.43	0.0579
D9	34.88 - 45.58	1.056 [0.942, 1.185]	3,348	20,486	29.18	0.0702
D10	45.58 - 89.76	1.277 [1.099, 1.482]	3,443	37,667	27.05	0.1393

2023 conditional drop-one gain: +0.050% (95% interval -0.067% to +0.167%)

Adjusted GVIF: 1.75 | Conditional Wald p: 0.001 | BH q (40-feature family): 0.003. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.009 [0.958, 1.062]	D7 / D6: 1.046 [0.983, 1.112]
D3 / D2: 1.017 [0.968, 1.068]	D8 / D7: 1.004 [0.952, 1.058]
D4 / D3: 0.970 [0.931, 1.011]	D9 / D8: 0.996 [0.941, 1.055]
D5 / D4: 1.027 [0.975, 1.082]	D10 / D9: 1.208 [1.113, 1.311]
D6 / D5: 1.011 [0.963, 1.060]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cars/vans per household | lower bound: -0.98; Households with 2+ cars or vans: -0.97

Household availability, not distance driven.

Frozen source: ts045 | observed 2021-03-21

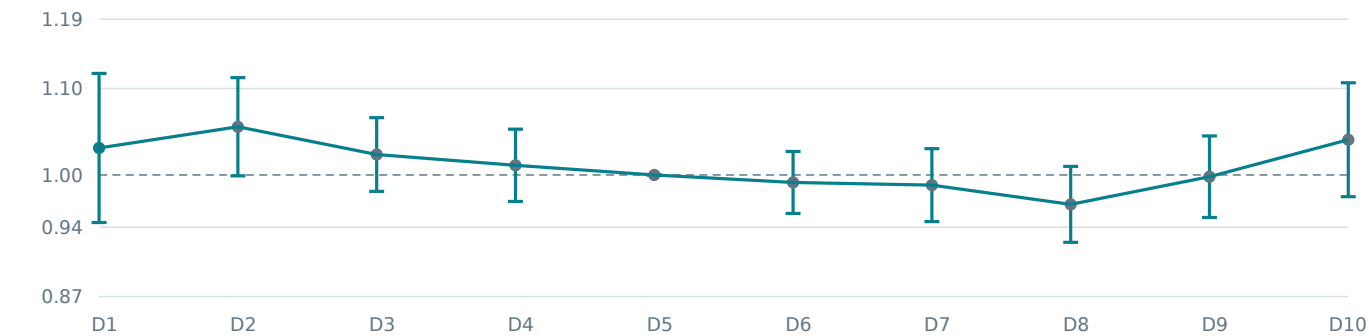
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Population density

Baseline controls | Reference D5 | Unit: people/km² | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	2.30 - 173.60	1.030 [0.949, 1.119]	3,218	32,607	194.76	0.0167
D2	173.80 - 767.60	1.055 [0.999, 1.114]	3,215	20,508	101.13	0.0203
D3	768.00 - 1,653.1	1.023 [0.982, 1.065]	3,220	17,026	59.08	0.0288
D4	1,653.2 - 2,608.8	1.011 [0.971, 1.052]	3,237	15,503	41.14	0.0377
D5	2,608.9 - 3,494.7	1.000 [1.000, 1.000]	3,256	14,508	33.18	0.0437
D6	3,494.8 - 4,364.5	0.992 [0.958, 1.026]	3,285	13,959	28.11	0.0497
D7	4,364.9 - 5,277.6	0.989 [0.950, 1.030]	3,269	13,710	24.19	0.0567
D8	5,277.7 - 6,529.3	0.968 [0.928, 1.010]	3,301	13,885	22.15	0.0627
D9	6,529.9 - 9,478.6	0.998 [0.954, 1.044]	3,334	18,203	20.71	0.0879
D10	9,487.0 - 115,567.0	1.040 [0.976, 1.107]	3,454	25,846	16.17	0.1598

2023 conditional drop-one gain: +0.045% (95% interval -0.018% to +0.109%)

Adjusted GVIF: 1.26 | Conditional Wald p: 0.114 | BH q (40-feature family): 0.138. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.024 [0.959, 1.093]	D7 / D6: 0.997 [0.959, 1.037]
D3 / D2: 0.970 [0.928, 1.013]	D8 / D7: 0.979 [0.940, 1.019]
D4 / D3: 0.988 [0.952, 1.026]	D9 / D8: 1.031 [0.987, 1.077]
D5 / D4: 0.989 [0.951, 1.030]	D10 / D9: 1.042 [0.980, 1.107]
D6 / D5: 0.992 [0.958, 1.026]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Walking connectivity: +0.79; Public transport connectivity: +0.78

Frozen source: ts006 | observed 2021-03-21

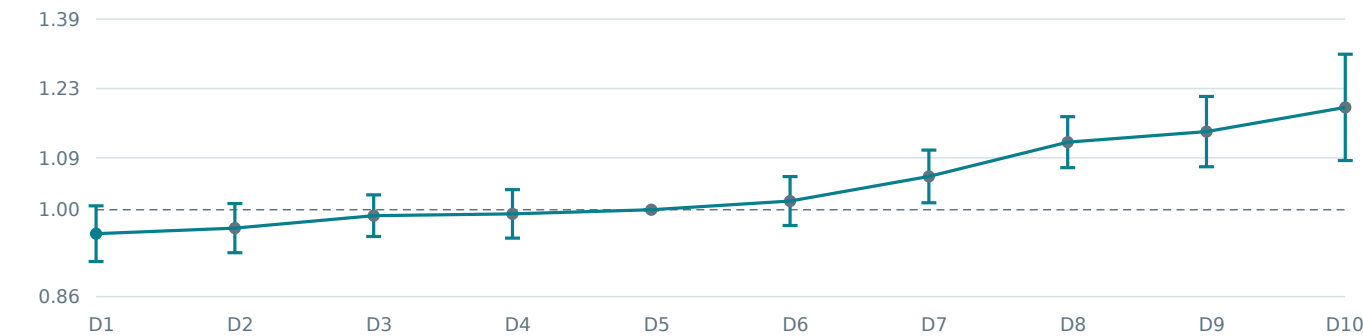
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Private rented households

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	1.73 - 8.11	0.960 [0.915, 1.007]	3,221	10,469	48.20	0.0217
D2	8.11 - 10.05	0.969 [0.929, 1.011]	3,202	12,740	60.36	0.0211
D3	10.05 - 11.76	0.990 [0.955, 1.026]	3,210	14,185	60.22	0.0236
D4	11.76 - 13.56	0.993 [0.953, 1.035]	3,262	15,575	67.32	0.0231
D5	13.56 - 15.70	1.000 [1.000, 1.000]	3,270	16,459	67.22	0.0245
D6	15.70 - 18.40	1.015 [0.973, 1.058]	3,320	17,967	68.19	0.0263
D7	18.40 - 22.27	1.059 [1.012, 1.107]	3,301	18,514	56.36	0.0329
D8	22.27 - 28.44	1.123 [1.075, 1.173]	3,320	20,487	45.11	0.0454
D9	28.44 - 38.10	1.143 [1.076, 1.214]	3,356	24,844	36.58	0.0679
D10	38.10 - 93.05	1.191 [1.088, 1.305]	3,327	34,515	31.06	0.1111

2023 conditional drop-one gain: +0.044% (95% interval -0.073% to +0.155%)

Adjusted GVIF: 1.21 | Conditional Wald p: 3.25e-05 | BH q (40-feature family): 1.18e-04. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.010 [0.965, 1.056]	D7 / D6: 1.043 [1.000, 1.088]
D3 / D2: 1.022 [0.980, 1.065]	D8 / D7: 1.060 [1.017, 1.105]
D4 / D3: 1.003 [0.958, 1.050]	D9 / D8: 1.018 [0.979, 1.059]
D5 / D4: 1.007 [0.966, 1.050]	D10 / D9: 1.042 [0.987, 1.101]
D6 / D5: 1.015 [0.973, 1.058]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Car/van driver commuting share: -0.62; Owner occupied households: -0.61

Frozen source: ts054 | observed 2021-03-21

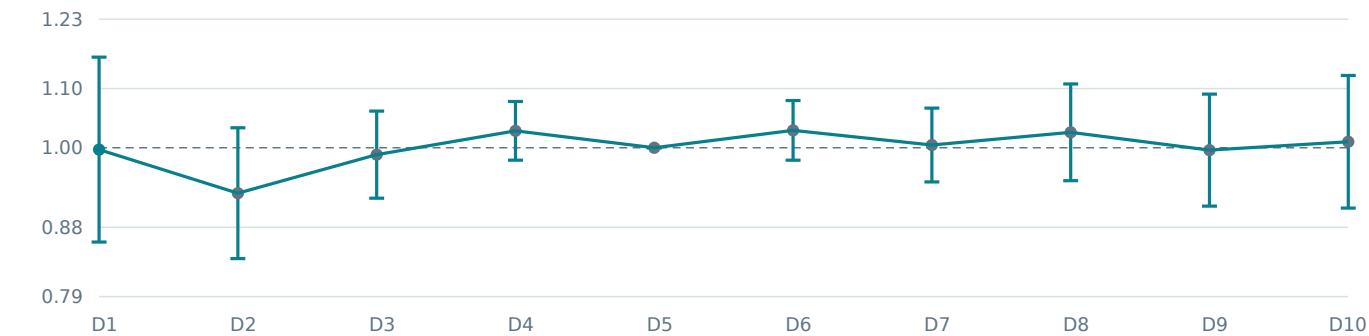
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Car/van driver commuting share

Commuting baseline | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	3.81 - 38.05	0.997 [0.862, 1.154]	3,486	37,493	23.04	0.1627
D2	38.05 - 52.67	0.931 [0.839, 1.032]	3,313	24,473	32.49	0.0753
D3	52.67 - 60.26	0.989 [0.923, 1.060]	3,321	18,047	33.66	0.0536
D4	60.26 - 65.75	1.027 [0.981, 1.076]	3,278	14,893	33.78	0.0441
D5	65.75 - 70.20	1.000 [1.000, 1.000]	3,276	13,366	37.08	0.0360
D6	70.20 - 73.89	1.028 [0.981, 1.077]	3,286	12,942	42.15	0.0307
D7	73.90 - 77.39	1.004 [0.947, 1.065]	3,233	13,164	54.93	0.0240
D8	77.39 - 80.52	1.025 [0.949, 1.106]	3,238	15,080	71.60	0.0211
D9	80.53 - 83.75	0.996 [0.912, 1.088]	3,171	17,222	93.97	0.0183
D10	83.76 - 92.82	1.009 [0.909, 1.121]	3,187	19,075	117.91	0.0162

2023 conditional drop-one gain: +0.038% (95% interval -0.051% to +0.127%)

Adjusted GVIF: 1.38 | Conditional Wald p: 0.015 | BH q (40-feature family): 0.026. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.933 [0.866, 1.006]	D7 / D6: 0.977 [0.939, 1.017]
D3 / D2: 1.063 [1.005, 1.124]	D8 / D7: 1.020 [0.971, 1.071]
D4 / D3: 1.038 [0.986, 1.094]	D9 / D8: 0.972 [0.937, 1.009]
D5 / D4: 0.974 [0.930, 1.020]	D10 / D9: 1.013 [0.961, 1.068]
D6 / D5: 1.028 [0.981, 1.077]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Households with 2+ cars or vans: +0.87; Cars/vans per household | lower bound: +0.86

Census 2021 lockdown/furlough context. Resident participation, not current travel, hybrid-working frequency or observed road flows. Denominator sums all ten away-from-home travel categories, including passengers and other methods.

Frozen source: ts061 | observed 2021-03-21

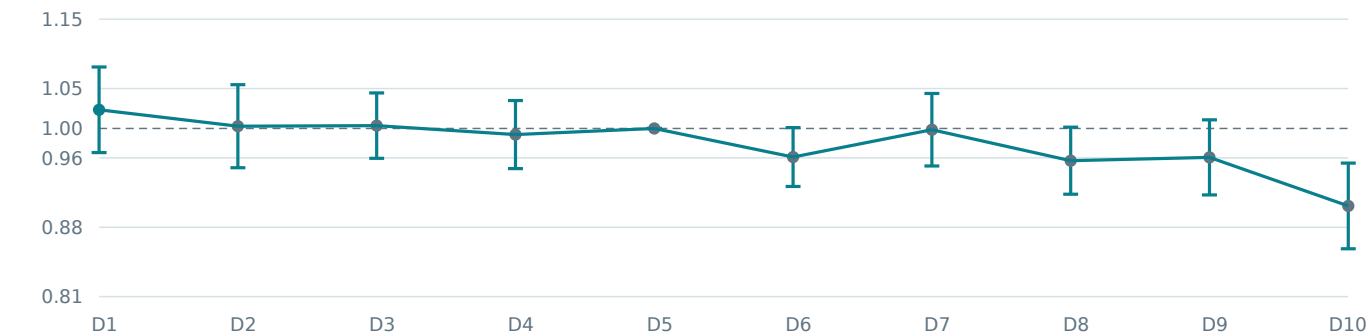
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Terraced housing

Housing and vehicles | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 3.73	1.024 [0.970, 1.080]	3,290	18,502	44.10	0.0420
D2	3.73 - 7.38	1.003 [0.952, 1.056]	3,252	20,491	68.97	0.0297
D3	7.38 - 10.84	1.004 [0.963, 1.046]	3,242	21,160	77.03	0.0275
D4	10.84 - 14.65	0.992 [0.951, 1.036]	3,271	21,760	80.15	0.0271
D5	14.65 - 18.82	1.000 [1.000, 1.000]	3,265	20,271	66.14	0.0306
D6	18.82 - 23.80	0.965 [0.930, 1.001]	3,275	18,625	58.16	0.0320
D7	23.80 - 29.89	0.998 [0.954, 1.045]	3,294	17,370	44.95	0.0386
D8	29.89 - 37.74	0.960 [0.921, 1.002]	3,258	16,702	39.48	0.0423
D9	37.75 - 50.15	0.964 [0.920, 1.011]	3,289	16,435	33.52	0.0490
D10	50.15 - 96.12	0.907 [0.860, 0.957]	3,353	14,439	28.12	0.0514

2023 conditional drop-one gain: +0.033% (95% interval -0.063% to +0.135%)

Adjusted GVIF: 1.10 | Conditional Wald p: 0.032 | BH q (40-feature family): 0.046. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.980 [0.933, 1.029]	D7 / D6: 1.035 [0.996, 1.075]
D3 / D2: 1.001 [0.953, 1.051]	D8 / D7: 0.962 [0.921, 1.004]
D4 / D3: 0.989 [0.952, 1.027]	D9 / D8: 1.004 [0.959, 1.052]
D5 / D4: 1.008 [0.966, 1.052]	D10 / D9: 0.941 [0.896, 0.988]
D6 / D5: 0.965 [0.930, 1.001]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Owner occupied households: -0.41; Working mainly at or from home: -0.39

Housing context; not measured on-street parking.

Frozen source: ts044 | observed 2021-03-21

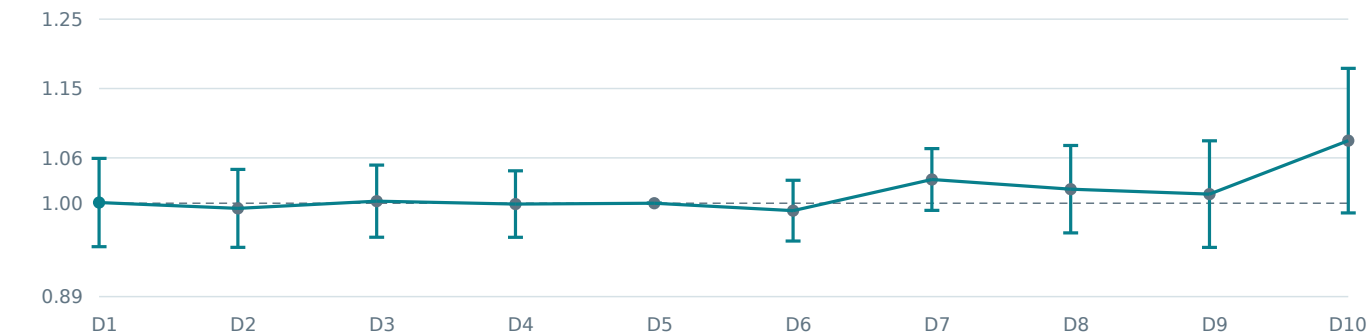
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Walking commuting share

Commuting baseline | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.32 - 4.51	1.001 [0.948, 1.056]	3,269	16,622	92.28	0.0180
D2	4.52 - 5.68	0.994 [0.948, 1.042]	3,250	17,846	87.40	0.0204
D3	5.68 - 6.78	1.003 [0.959, 1.048]	3,294	17,013	70.23	0.0242
D4	6.78 - 7.89	0.999 [0.959, 1.040]	3,307	17,333	60.39	0.0287
D5	7.89 - 9.15	1.000 [1.000, 1.000]	3,296	17,126	50.70	0.0338
D6	9.15 - 10.66	0.991 [0.955, 1.028]	3,318	16,979	42.86	0.0396
D7	10.66 - 12.58	1.029 [0.991, 1.069]	3,293	18,006	39.01	0.0462
D8	12.58 - 15.35	1.017 [0.964, 1.073]	3,289	18,316	34.71	0.0528
D9	15.36 - 20.30	1.011 [0.948, 1.079]	3,276	19,858	31.82	0.0624
D10	20.30 - 65.57	1.079 [0.988, 1.179]	3,197	26,656	31.23	0.0854

2023 conditional drop-one gain: +0.027% (95% interval -0.041% to +0.098%)

Adjusted GVIF: 1.15 | Conditional Wald p: 0.172 | BH q (40-feature family): 0.197. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.993 [0.950, 1.038]	D7 / D6: 1.039 [1.001, 1.078]
D3 / D2: 1.009 [0.967, 1.053]	D8 / D7: 0.988 [0.949, 1.029]
D4 / D3: 0.996 [0.953, 1.042]	D9 / D8: 0.994 [0.956, 1.034]
D5 / D4: 1.001 [0.961, 1.042]	D10 / D9: 1.067 [1.016, 1.121]
D6 / D5: 0.991 [0.955, 1.028]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Car/van driver commuting share: -0.68; Households with 2+ cars or vans: -0.61

Census 2021 lockdown/furlough context. Resident participation, not current travel, hybrid-working frequency or observed road flows. Share among residents travelling away from home, not pedestrian pressure in this LSOA.

Frozen source: ts061 | observed 2021-03-21

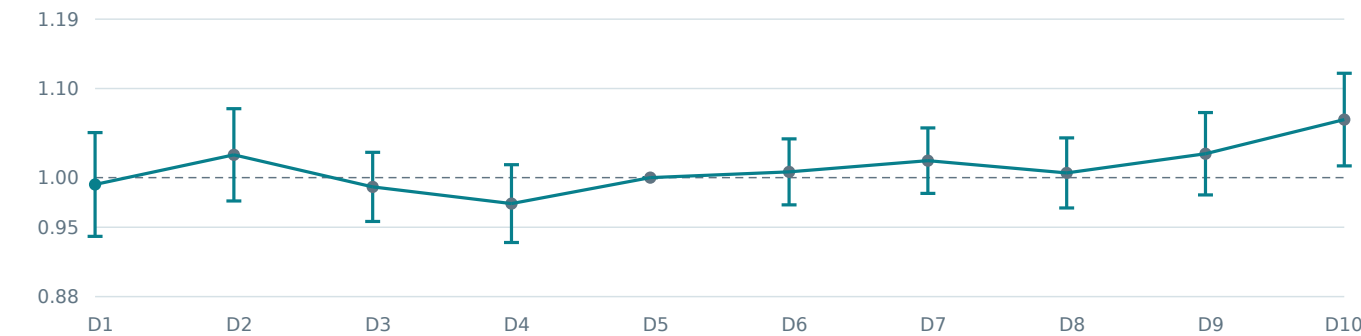
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Residents aged 15-24

Baseline controls | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	2.47 - 7.82	0.992 [0.937, 1.051]	3,228	16,919	67.60	0.0250
D2	7.82 - 8.58	1.026 [0.974, 1.079]	3,254	18,183	77.47	0.0235
D3	8.58 - 9.16	0.990 [0.953, 1.028]	3,252	17,002	68.95	0.0247
D4	9.16 - 9.69	0.972 [0.931, 1.014]	3,260	16,700	62.63	0.0267
D5	9.69 - 10.22	1.000 [1.000, 1.000]	3,270	16,986	61.50	0.0276
D6	10.22 - 10.82	1.006 [0.970, 1.044]	3,274	17,008	54.78	0.0310
D7	10.82 - 11.52	1.019 [0.983, 1.057]	3,305	16,559	44.09	0.0376
D8	11.52 - 12.52	1.005 [0.967, 1.045]	3,329	16,980	36.16	0.0470
D9	12.52 - 14.50	1.027 [0.981, 1.075]	3,323	20,046	31.96	0.0627
D10	14.50 - 87.56	1.066 [1.013, 1.123]	3,294	29,372	35.49	0.0828

2023 conditional drop-one gain: +0.025% (95% interval -0.054% to +0.103%)

Adjusted GVIF: 1.11 | Conditional Wald p: 0.050 | BH q (40-feature family): 0.064. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.033 [0.994, 1.074]	D7 / D6: 1.013 [0.975, 1.052]
D3 / D2: 0.965 [0.926, 1.006]	D8 / D7: 0.986 [0.950, 1.024]
D4 / D3: 0.982 [0.946, 1.018]	D9 / D8: 1.022 [0.977, 1.068]
D5 / D4: 1.029 [0.986, 1.075]	D10 / D9: 1.039 [0.994, 1.085]
D6 / D5: 1.006 [0.970, 1.044]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Residents aged 65+: -0.67; Overcrowded households: +0.59

Five-year Census bands; not a 17-24 driver-age measure.

Frozen source: ts007a | observed 2021-03-21

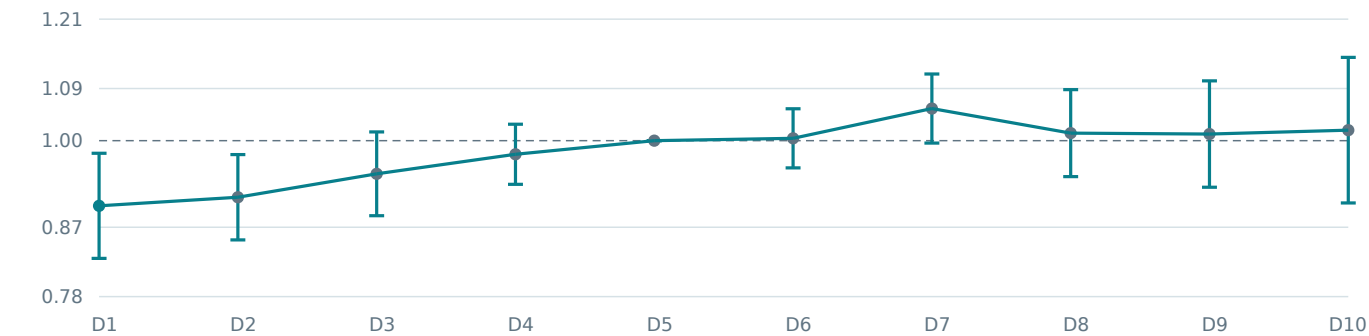
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Households with 3+ cars or vans

Housing and vehicles | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 2.24	0.903 [0.831, 0.980]	3,447	34,833	25.42	0.1370
D2	2.24 - 4.05	0.915 [0.856, 0.978]	3,363	21,659	30.13	0.0719
D3	4.05 - 5.60	0.949 [0.889, 1.014]	3,289	17,159	31.12	0.0551
D4	5.60 - 7.12	0.979 [0.934, 1.026]	3,268	15,240	33.26	0.0458
D5	7.12 - 8.60	1.000 [1.000, 1.000]	3,274	13,683	36.04	0.0380
D6	8.60 - 10.13	1.004 [0.958, 1.051]	3,252	12,375	37.18	0.0333
D7	10.14 - 11.89	1.052 [0.996, 1.110]	3,272	13,104	45.79	0.0286
D8	11.89 - 14.06	1.012 [0.945, 1.083]	3,228	13,323	55.92	0.0238
D9	14.06 - 17.66	1.010 [0.930, 1.098]	3,230	17,910	92.42	0.0194
D10	17.66 - 40.38	1.017 [0.907, 1.140]	3,166	26,469	153.34	0.0173

2023 conditional drop-one gain: +0.022% (95% interval -0.024% to +0.075%)

Adjusted GVIF: 1.51 | Conditional Wald p: 0.037 | BH q (40-feature family): 0.049. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.014 [0.970, 1.059]	D7 / D6: 1.048 [1.001, 1.097]
D3 / D2: 1.037 [0.991, 1.086]	D8 / D7: 0.962 [0.921, 1.005]
D4 / D3: 1.031 [0.982, 1.083]	D9 / D8: 0.999 [0.955, 1.044]
D5 / D4: 1.022 [0.975, 1.071]	D10 / D9: 1.006 [0.957, 1.058]
D6 / D5: 1.004 [0.958, 1.051]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cars/vans per household | lower bound: +0.96; Households with 2+ cars or vans: +0.96

Top-coded 3+ category retained; nested within multi-car households.

Frozen source: ts045 | observed 2021-03-21

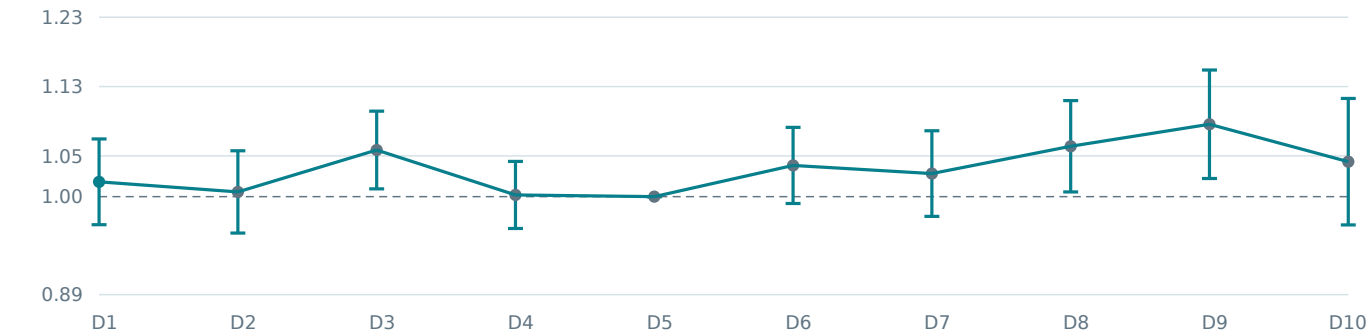
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Unemployment among economically active adults

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.54 - 2.77	1.017 [0.969, 1.068]	3,155	16,887	92.79	0.0182
D2	2.77 - 3.32	1.005 [0.959, 1.053]	3,168	16,995	86.49	0.0196
D3	3.32 - 3.78	1.054 [1.009, 1.102]	3,253	16,585	70.55	0.0235
D4	3.78 - 4.27	1.002 [0.964, 1.041]	3,245	16,189	61.88	0.0262
D5	4.27 - 4.82	1.000 [1.000, 1.000]	3,250	15,776	52.21	0.0302
D6	4.82 - 5.51	1.036 [0.992, 1.082]	3,298	16,884	45.73	0.0369
D7	5.51 - 6.43	1.027 [0.978, 1.078]	3,302	17,423	37.14	0.0469
D8	6.43 - 7.67	1.059 [1.005, 1.115]	3,342	19,415	31.46	0.0617
D9	7.67 - 9.88	1.086 [1.021, 1.155]	3,377	22,659	29.96	0.0756
D10	9.88 - 44.80	1.040 [0.968, 1.118]	3,399	26,942	32.40	0.0831

2023 conditional drop-one gain: +0.021% (95% interval -0.063% to +0.110%)

Adjusted GVIF: 1.15 | Conditional Wald p: 0.022 | BH q (40-feature family): 0.033. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.989 [0.951, 1.028]	D7 / D6: 0.991 [0.952, 1.031]
D3 / D2: 1.049 [1.005, 1.095]	D8 / D7: 1.031 [0.992, 1.073]
D4 / D3: 0.950 [0.916, 0.985]	D9 / D8: 1.025 [0.985, 1.067]
D5 / D4: 0.998 [0.961, 1.037]	D10 / D9: 0.958 [0.910, 1.010]
D6 / D5: 1.036 [0.992, 1.082]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Households without a car or van: +0.77; Cars/vans per household | lower bound: -0.74

Includes economically active full-time students in numerator and denominator. Census lockdown-era measure.

Frozen source: ts066 | observed 2021-03-21

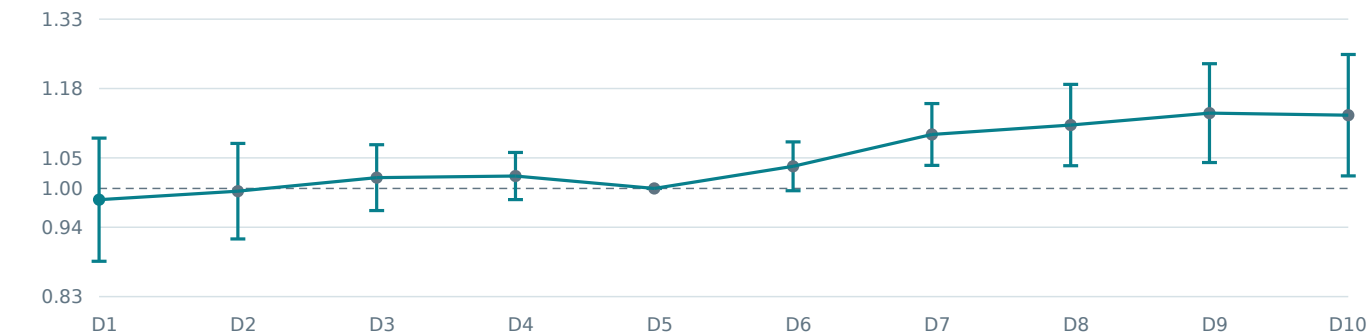
YOUR DECISION☐ Keep☐ Drop☐ Simplify☐ Undecided

Proposed grouping / notes: _____

Owner occupied households

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	2.03 - 32.15	0.981 [0.884, 1.089]	3,387	32,988	29.35	0.1124
D2	32.17 - 43.06	0.995 [0.918, 1.079]	3,340	21,853	29.07	0.0752
D3	43.06 - 51.60	1.019 [0.963, 1.077]	3,287	18,801	31.77	0.0592
D4	51.60 - 59.11	1.021 [0.981, 1.063]	3,285	16,477	37.56	0.0439
D5	59.12 - 65.75	1.000 [1.000, 1.000]	3,270	16,087	52.20	0.0308
D6	65.75 - 71.64	1.038 [0.996, 1.082]	3,266	17,195	68.38	0.0251
D7	71.64 - 76.72	1.096 [1.040, 1.155]	3,267	18,266	82.12	0.0222
D8	76.72 - 81.51	1.114 [1.039, 1.193]	3,226	17,771	84.44	0.0210
D9	81.52 - 86.66	1.136 [1.045, 1.236]	3,242	15,775	76.89	0.0205
D10	86.66 - 97.94	1.132 [1.022, 1.255]	3,219	10,542	48.85	0.0216

2023 conditional drop-one gain: +0.021% (95% interval -0.064% to +0.100%)

Adjusted GVIF: 1.38 | Conditional Wald p: 0.006 | BH q (40-feature family): 0.013. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.015 [0.962, 1.069]	D7 / D6: 1.056 [1.009, 1.105]
D3 / D2: 1.023 [0.976, 1.072]	D8 / D7: 1.016 [0.968, 1.067]
D4 / D3: 1.003 [0.963, 1.044]	D9 / D8: 1.020 [0.980, 1.063]
D5 / D4: 0.979 [0.941, 1.019]	D10 / D9: 0.996 [0.946, 1.050]
D6 / D5: 1.038 [0.996, 1.082]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Households without a car or van: -0.85; Cars/vans per household | lower bound: +0.84

Owned outright or with mortgage; shared ownership excluded. Tenure shares are dependent.

Frozen source: ts054 | observed 2021-03-21

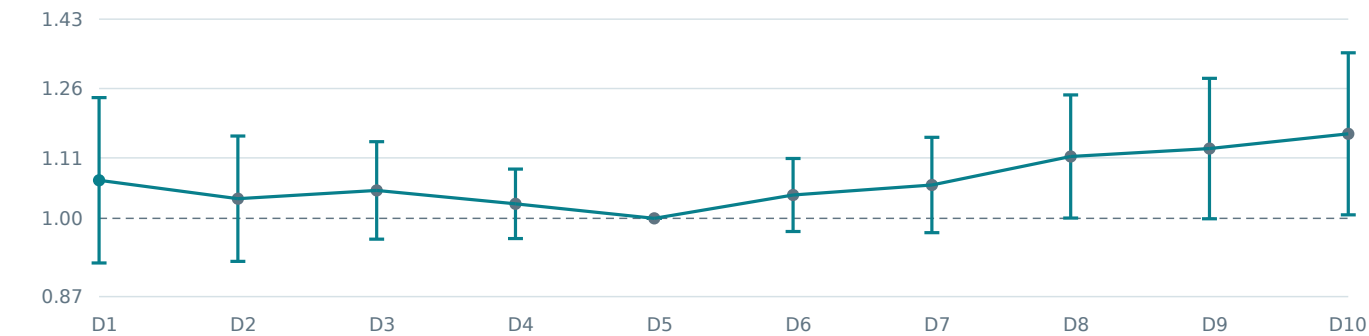
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Households with 2+ cars or vans

Housing and vehicles | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.00 - 13.26	1.070 [0.924, 1.240]	3,454	36,797	25.44	0.1446
D2	13.27 - 20.58	1.036 [0.926, 1.158]	3,348	21,956	30.00	0.0732
D3	20.59 - 26.35	1.051 [0.964, 1.147]	3,279	16,859	29.74	0.0567
D4	26.35 - 31.36	1.026 [0.965, 1.092]	3,277	14,967	31.60	0.0474
D5	31.36 - 36.32	1.000 [1.000, 1.000]	3,273	13,563	36.66	0.0370
D6	36.32 - 40.98	1.043 [0.977, 1.113]	3,263	12,904	39.30	0.0328
D7	40.98 - 45.77	1.061 [0.975, 1.156]	3,282	12,851	46.99	0.0273
D8	45.77 - 51.04	1.117 [1.001, 1.246]	3,216	14,359	64.91	0.0221
D9	51.04 - 57.51	1.133 [0.999, 1.284]	3,225	18,179	93.79	0.0194
D10	57.52 - 79.62	1.163 [1.006, 1.344]	3,172	23,320	142.18	0.0164

2023 conditional drop-one gain: +0.016% (95% interval -0.018% to +0.050%)

Adjusted GVIF: 2.18 | Conditional Wald p: 0.687 | BH q (40-feature family): 0.723. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.968 [0.895, 1.046]	D7 / D6: 1.018 [0.963, 1.076]
D3 / D2: 1.015 [0.949, 1.085]	D8 / D7: 1.052 [0.986, 1.123]
D4 / D3: 0.976 [0.920, 1.036]	D9 / D8: 1.014 [0.965, 1.066]
D5 / D4: 0.974 [0.916, 1.037]	D10 / D9: 1.027 [0.962, 1.096]
D6 / D5: 1.043 [0.977, 1.113]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cars/vans per household | lower bound: +1.00; Households without a car or van: -0.97

Includes top-coded 3+ households. Availability, not miles driven.

Frozen source: ts045 | observed 2021-03-21

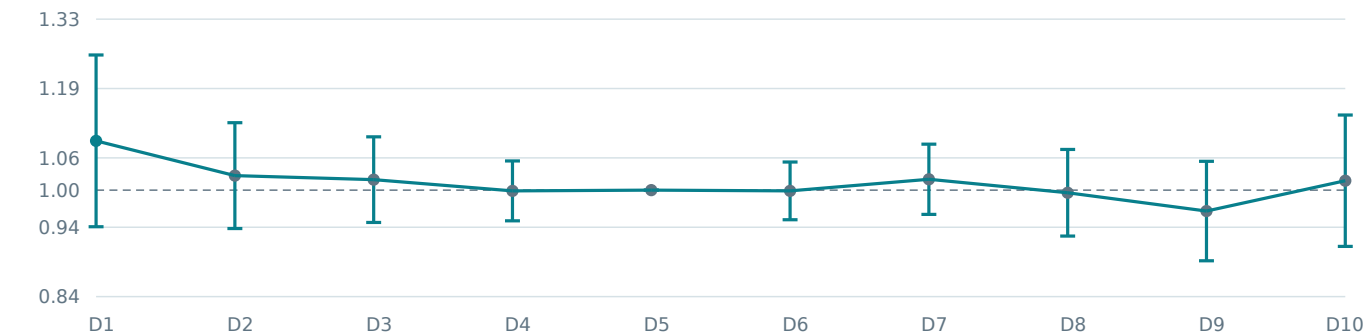
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Driving connectivity

Transport accessibility | Reference D5 | Unit: score / 100 | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	33.02 - 74.97	1.086 [0.941, 1.254]	3,222	24,651	133.59	0.0185
D2	74.98 - 80.12	1.025 [0.938, 1.120]	3,266	16,024	84.32	0.0190
D3	80.13 - 82.73	1.018 [0.947, 1.093]	3,222	13,397	58.63	0.0228
D4	82.74 - 84.56	0.999 [0.950, 1.050]	3,242	12,451	48.37	0.0257
D5	84.57 - 86.08	1.000 [1.000, 1.000]	3,214	13,050	43.69	0.0299
D6	86.09 - 87.44	0.999 [0.952, 1.048]	3,211	13,825	38.39	0.0360
D7	87.45 - 88.82	1.018 [0.960, 1.080]	3,247	16,218	37.70	0.0430
D8	88.83 - 90.27	0.996 [0.926, 1.071]	3,266	18,058	35.44	0.0509
D9	90.28 - 92.13	0.966 [0.888, 1.049]	3,384	23,027	33.97	0.0678
D10	92.14 - 99.48	1.016 [0.910, 1.134]	3,515	35,054	26.51	0.1323

2023 conditional drop-one gain: +0.013% (95% interval -0.059% to +0.094%)

Adjusted GVIF: 1.39 | Conditional Wald p: 0.340 | BH q (40-feature family): 0.378. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.943 [0.874, 1.018]	D7 / D6: 1.020 [0.981, 1.060]
D3 / D2: 0.993 [0.942, 1.048]	D8 / D7: 0.978 [0.935, 1.023]
D4 / D3: 0.981 [0.930, 1.035]	D9 / D8: 0.970 [0.924, 1.018]
D5 / D4: 1.001 [0.952, 1.053]	D10 / D9: 1.052 [0.991, 1.117]
D6 / D5: 0.999 [0.952, 1.048]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Cycling connectivity: +0.93; Public transport connectivity: +0.92

Modelled access to destinations, not trips or flows. Q4 2024 workbook reference; mixed 2023-2025 inputs and NTS 2011-2020 preferences. Scores from different modes are not directly comparable. Published 29 September 2025.

Frozen source: dft-connectivity-2025 | observed Q4 2024 reference; mixed source vintages

YOUR DECISION

☐ Keep

☐ Drop

☐ Simplify

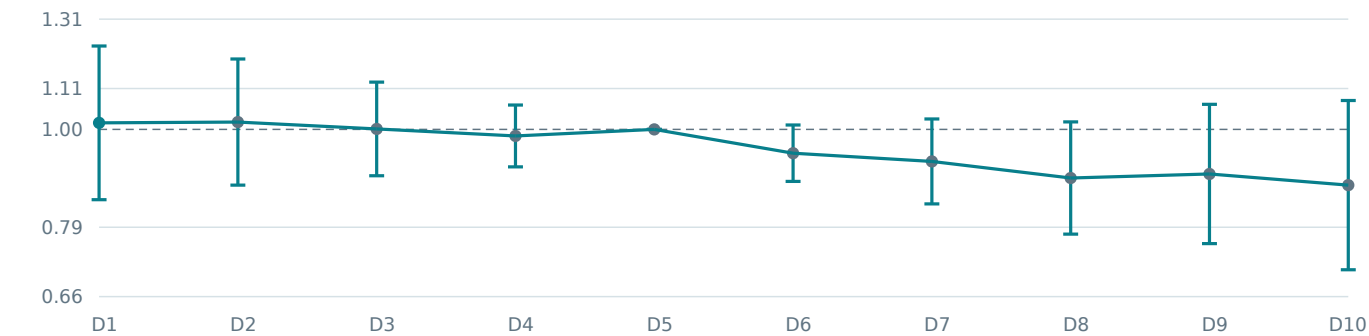
☐ Undecided

Proposed grouping / notes:

Cars/vans per household | lower bound

Housing and vehicles | Reference D5 | Unit: vehicles/household | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	0.11 - 0.71	1.016 [0.842, 1.226]	3,449	37,306	26.30	0.1419
D2	0.71 - 0.90	1.018 [0.872, 1.188]	3,354	21,388	29.54	0.0724
D3	0.90 - 1.04	1.001 [0.893, 1.123]	3,294	16,826	29.13	0.0578
D4	1.04 - 1.16	0.984 [0.912, 1.061]	3,257	15,015	32.59	0.0461
D5	1.16 - 1.26	1.000 [1.000, 1.000]	3,292	13,771	36.10	0.0381
D6	1.26 - 1.36	0.943 [0.880, 1.011]	3,252	12,701	38.64	0.0329
D7	1.36 - 1.46	0.925 [0.833, 1.026]	3,272	12,859	46.83	0.0275
D8	1.46 - 1.55	0.888 [0.774, 1.019]	3,221	13,536	61.69	0.0219
D9	1.55 - 1.68	0.897 [0.756, 1.063]	3,226	17,956	91.66	0.0196
D10	1.68 - 2.16	0.872 [0.709, 1.073]	3,172	24,397	148.13	0.0165

2023 conditional drop-one gain: +0.009% (95% interval -0.018% to +0.037%)

Adjusted GVIF: 2.52 | Conditional Wald p: 0.785 | BH q (40-feature family): 0.806. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 1.002 [0.910, 1.103]	D7 / D6: 0.980 [0.915, 1.050]
D3 / D2: 0.983 [0.901, 1.074]	D8 / D7: 0.960 [0.890, 1.036]
D4 / D3: 0.983 [0.912, 1.059]	D9 / D8: 1.010 [0.944, 1.080]
D5 / D4: 1.016 [0.942, 1.096]	D10 / D9: 0.973 [0.898, 1.054]
D6 / D5: 0.943 [0.880, 1.011]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Households with 2+ cars or vans: +1.00; Households without a car or van: -0.98

Top-coded 3+ category is assigned 3. This is a lower bound, not an exact vehicle count.

Frozen source: ts045 | observed 2021-03-21

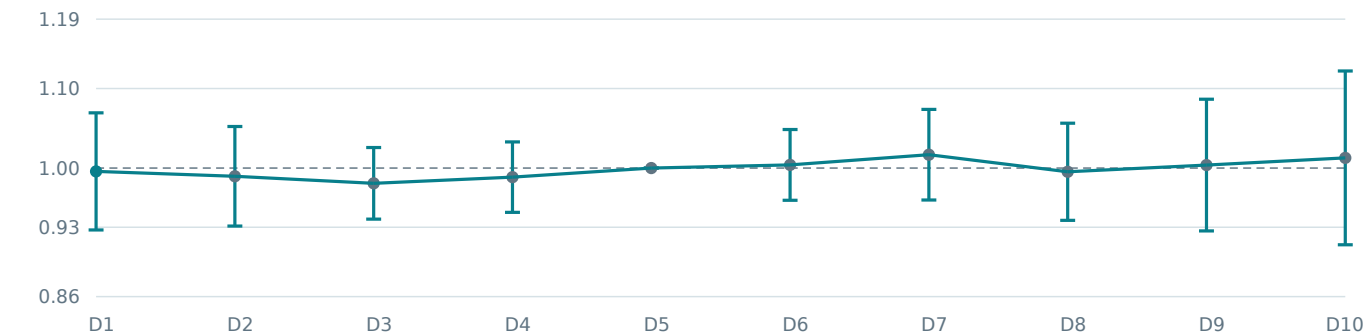
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Level 4+ qualifications

Socio-demographic | Reference D5 | Unit: % | National bands unchanged

Development: 32,789 LSOAs / 65,578 area-years / 162 clusters. All 40 banded features fitted together.
Adjusted RR (log scale)



Band	Observed raw range	Adjusted RR [95% CI]	Fit LSOAs	Collisions	Billion miles	Raw freq / 100k
D1	9.05 - 19.21	0.996 [0.931, 1.066]	3,208	13,598	28.54	0.0476
D2	19.21 - 22.44	0.991 [0.935, 1.049]	3,262	14,928	36.92	0.0404
D3	22.44 - 25.42	0.982 [0.943, 1.024]	3,300	15,000	41.57	0.0361
D4	25.42 - 28.29	0.990 [0.950, 1.031]	3,279	16,538	50.61	0.0327
D5	28.29 - 31.38	1.000 [1.000, 1.000]	3,279	17,951	57.22	0.0314
D6	31.38 - 34.67	1.004 [0.963, 1.046]	3,288	19,300	66.80	0.0289
D7	34.67 - 38.44	1.016 [0.964, 1.070]	3,267	20,007	72.94	0.0274
D8	38.44 - 43.17	0.996 [0.941, 1.053]	3,268	20,343	78.92	0.0258
D9	43.17 - 50.78	1.003 [0.930, 1.083]	3,322	22,091	71.22	0.0310
D10	50.78 - 87.22	1.012 [0.915, 1.119]	3,316	25,999	35.88	0.0725

2023 conditional drop-one gain: -0.028% (95% interval -0.068% to +0.015%)

Adjusted GVIF: 1.26 | Conditional Wald p: 0.980 | BH q (40-feature family): 0.980. Neither p nor q is a drop rule.

ADJACENT-BAND CONTRASTS

D2 / D1: 0.994 [0.956, 1.034]	D7 / D6: 1.012 [0.968, 1.058]
D3 / D2: 0.992 [0.949, 1.037]	D8 / D7: 0.980 [0.944, 1.018]
D4 / D3: 1.007 [0.970, 1.046]	D9 / D8: 1.008 [0.958, 1.060]
D5 / D4: 1.011 [0.970, 1.053]	D10 / D9: 1.008 [0.954, 1.066]
D6 / D5: 1.004 [0.963, 1.046]	

An adjacent interval including 1 does not establish equivalence or approve a merge.

Largest raw-value overlaps (Spearman): Working mainly at or from home: +0.87; No qualifications: -0.83

Frozen source: ts067 | observed 2021-03-21

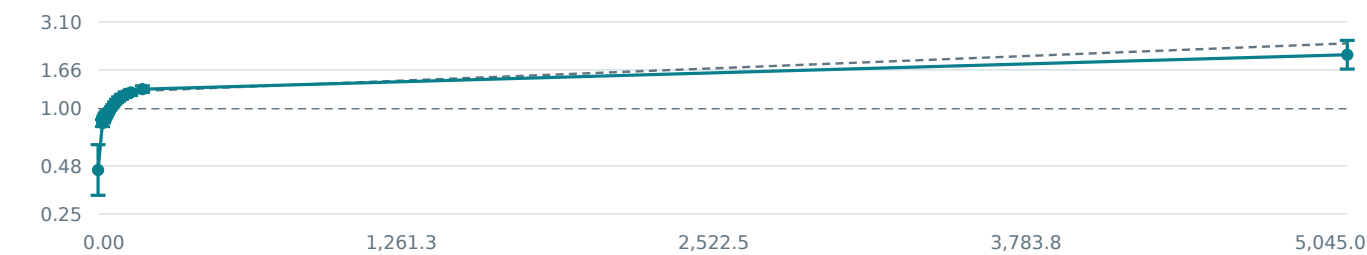
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Non-vehicle recorded-crime intensity

Raw-value spline (4 df) | Unit: incidents/1,000 residents/year | Reference value 50.1872 | No national bands

24,892 development LSOAs | 149 clusters | 131,285 collisions | 419.97 billion miles. Raw/fitted frequency 0.03126 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0000	0.450	0.324 to 0.626	0.482
17.7778	0.829	0.793 to 0.868	0.830
21.7734	0.863	0.832 to 0.895	0.861
25.1464	0.887	0.858 to 0.918	0.883
28.2924	0.907	0.878 to 0.937	0.902
31.3655	0.923	0.896 to 0.951	0.919
34.5324	0.938	0.914 to 0.962	0.935
38.1150	0.952	0.935 to 0.970	0.951
41.8100	0.966	0.955 to 0.977	0.967
45.8568	0.982	0.977 to 0.987	0.984
50.1872	1.000	1.000 to 1.000	1.000
55.2542	1.023	1.018 to 1.027	1.018
60.6808	1.048	1.038 to 1.057	1.035
66.9809	1.076	1.060 to 1.092	1.054
74.3590	1.106	1.082 to 1.130	1.074
82.8776	1.135	1.104 to 1.167	1.096
94.2504	1.167	1.130 to 1.206	1.122
109.2692	1.200	1.157 to 1.244	1.153
132.1429	1.237	1.190 to 1.286	1.194
179.1526	1.290	1.236 to 1.347	1.263
5,045.0	2.020	1.676 to 2.434	2.343

2023 same-cohort incremental gain: +1.196% (95% interval +0.932% to +1.516%)

Source numeric coverage: 26,627 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 1.15e-52; BH q (10-extension family) 1.15e-51.

Non-vehicle categories overlap burglary and criminal damage/arson. Each diagnostic is fitted separately. Complete 36-month own-force geolocation gate; incomplete national reference.

Frozen source: Police.uk frozen August 2026 archive | observed September 2023-August 2026 (36 months)

YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

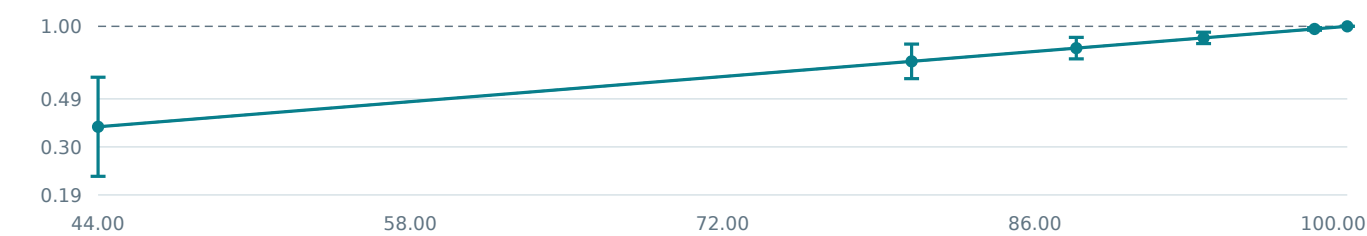
Proposed grouping / notes: _____

Road length at 30 mph or below

Raw-value linear model (tied knots) | Unit: % | Reference value 100.0000 | No national bands

1,513 development LSOAs | 116 clusters | 6,456 collisions | 8.72 billion miles. Raw/fitted frequency 0.07406 per 100,000 miles.

Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
43.9995	0.369	0.226 to 0.603	0.369
80.4689	0.706	0.595 to 0.838	0.706
87.8524	0.805	0.724 to 0.896	0.805
93.5583	0.892	0.843 to 0.944	0.892
98.5321	0.974	0.962 to 0.987	0.974
100.0000	1.000	1.000 to 1.000	1.000

2023 same-cohort incremental gain: +0.708% (95% interval -0.458% to +1.901%)

Source numeric coverage: 1,547 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 7.09e-05; BH q (10-extension family) 1.42e-04.

Current October 2026 mapped speed limits; cannot be backdated across the September 2023 Welsh change. >=95% classified road-length gate gives only 1,547 national areas (1,520 urban, 27 rural). Coverage-selected, authority validation pending.

Frozen source: Geofabrik OpenStreetMap England and Wales 2026-10-11 | observed 2026-10-11T20:21:06Z

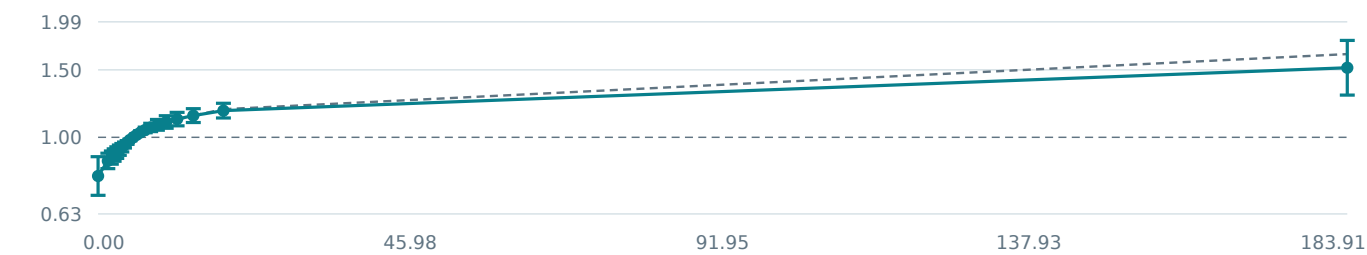
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Criminal damage and arson intensity

Raw-value spline (4 df) | Unit: incidents/1,000 residents/year | Reference value 5.1665 | No national bands

24,892 development LSOAs | 149 clusters | 131,285 collisions | 419.97 billion miles. Raw/fitted frequency 0.03126 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0000	0.793	0.707 to 0.891	0.766
1.4370	0.868	0.829 to 0.909	0.873
1.9531	0.886	0.852 to 0.922	0.898
2.3651	0.899	0.867 to 0.933	0.915
2.7531	0.913	0.881 to 0.945	0.930
3.1273	0.926	0.898 to 0.955	0.943
3.4965	0.940	0.916 to 0.964	0.955
3.8895	0.955	0.938 to 0.972	0.967
4.2759	0.969	0.959 to 0.980	0.977
4.6921	0.984	0.980 to 0.989	0.988
5.1665	1.000	1.000 to 1.000	1.000
5.6966	1.015	1.011 to 1.020	1.012
6.2788	1.030	1.020 to 1.041	1.025
6.9348	1.045	1.028 to 1.063	1.038
7.7425	1.061	1.035 to 1.088	1.052
8.7345	1.077	1.043 to 1.113	1.069
10.0326	1.096	1.056 to 1.138	1.089
11.6357	1.115	1.071 to 1.161	1.111
14.0187	1.139	1.092 to 1.187	1.139
18.4537	1.173	1.123 to 1.226	1.183
183.9080	1.516	1.287 to 1.785	1.645

2023 same-cohort incremental gain: +0.586% (95% interval +0.375% to +0.812%)

Source numeric coverage: 26,627 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 7.29e-22; BH q (10-extension family) 3.64e-21.

Own-territorial-force geolocated incidents with complete 36-month reporting. Frozen Census 2021 denominator; incomplete national reference. Unlocated and other-force/BTP incidents are separate.

Frozen source: Police.uk frozen August 2026 archive | observed September 2023-August 2026 (36 months)

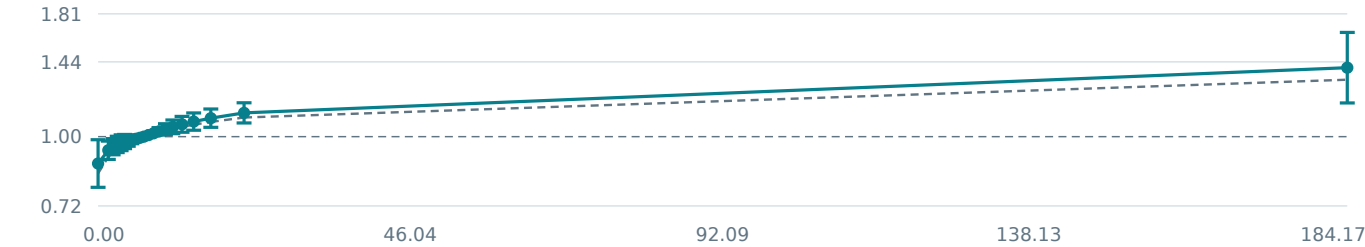
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Burglary intensity

Raw-value spline (4 df) | Unit: incidents/1,000 households/year | Reference value 6.7568 | No national bands

24,892 development LSOAs | 149 clusters | 131,285 collisions | 419.97 billion miles. Raw/fitted frequency 0.03126 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0000	0.878	0.783 to 0.985	0.837
1.5109	0.936	0.896 to 0.979	0.907
2.2222	0.953	0.916 to 0.990	0.927
2.8249	0.963	0.926 to 1.002	0.941
3.3964	0.971	0.935 to 1.009	0.952
3.9150	0.977	0.944 to 1.011	0.961
4.4494	0.981	0.955 to 1.009	0.970
4.9804	0.985	0.966 to 1.004	0.978
5.5713	0.990	0.979 to 1.000	0.986
6.1538	0.994	0.990 to 0.999	0.993
6.7568	1.000	1.000 to 1.000	1.000
7.4428	1.008	1.003 to 1.012	1.007
8.1800	1.016	1.006 to 1.027	1.015
8.9847	1.026	1.008 to 1.045	1.022
9.9338	1.037	1.010 to 1.064	1.030
11.0246	1.049	1.015 to 1.084	1.039
12.3796	1.061	1.021 to 1.103	1.048
14.0954	1.075	1.031 to 1.121	1.059
16.6217	1.093	1.046 to 1.143	1.074
21.5223	1.122	1.068 to 1.178	1.097
184.1705	1.395	1.177 to 1.655	1.317

2023 same-cohort incremental gain: +0.293% (95% interval +0.101% to +0.479%)

Source numeric coverage: 26,627 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 9.10e-09; BH q (10-extension family) 3.03e-08.

Own-territorial-force geolocated incidents with complete 36-month reporting. Frozen Census 2021 denominator; incomplete national reference. Unlocated and other-force/BTP incidents are separate.

Frozen source: Police.uk frozen August 2026 archive | observed September 2023-August 2026 (36 months)

YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

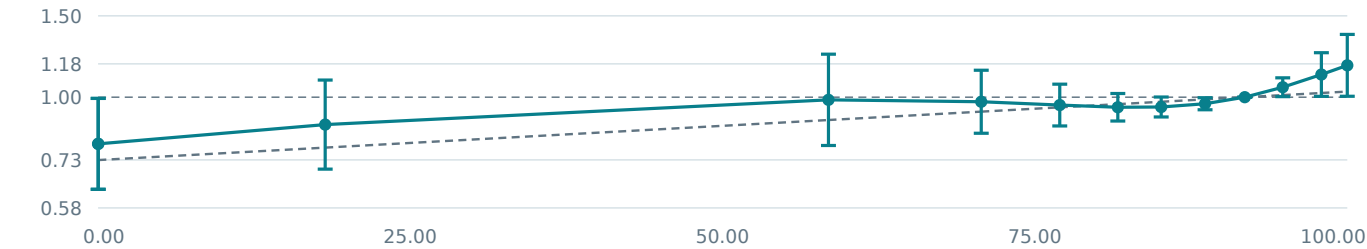
Proposed grouping / notes: _____

Road length at 20 mph or below

Raw-value spline (3 df) | Unit: % | Reference value 91.7935 | No national bands

1,513 development LSOAs | 116 clusters | 6,456 collisions | 8.72 billion miles. Raw/fitted frequency 0.07406 per 100,000 miles.

Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0000	0.793	0.632 to 0.994	0.731
0.0193	0.793	0.632 to 0.994	0.731
18.1804	0.872	0.699 to 1.089	0.778
58.4684	0.987	0.786 to 1.239	0.893
70.6984	0.978	0.836 to 1.144	0.931
76.9835	0.962	0.867 to 1.067	0.951
81.6317	0.951	0.888 to 1.019	0.966
85.1039	0.952	0.906 to 1.001	0.977
88.6145	0.968	0.939 to 0.997	0.989
91.7935	1.000	1.000 to 1.000	1.000
94.8332	1.051	1.003 to 1.101	1.010
97.9268	1.119	1.004 to 1.248	1.021
100.0000	1.172	1.005 to 1.367	1.028

2023 same-cohort incremental gain: +0.292% (95% interval -0.383% to +0.977%)

Source numeric coverage: 1,547 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 0.003; BH q (10-extension family) 0.003.

Current October 2026 mapped speed limits; cannot be backdated across the September 2023 Welsh change. >=95% classified road-length gate gives only 1,547 national areas (1,520 urban, 27 rural). Coverage-selected, authority validation pending.

Frozen source: Geofabrik OpenStreetMap England and Wales 2026-10-11 | observed 2026-10-11T20:21:06Z

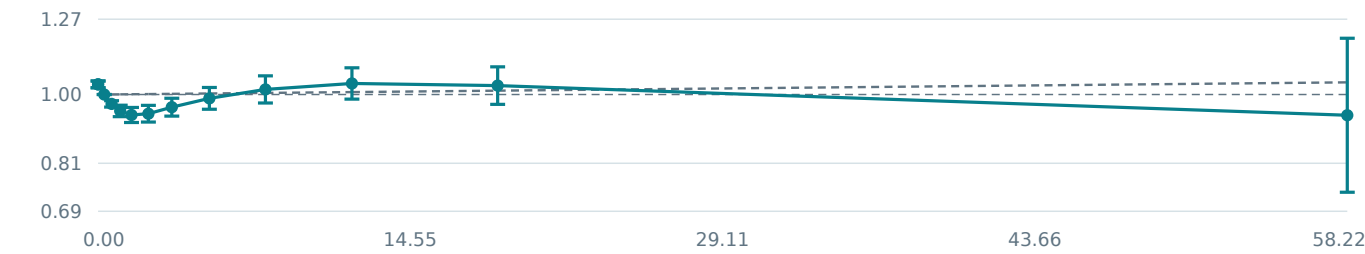
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-length share above 8% terrain-gradient proxy

Raw-value spline (3 df) | Unit: percent of terrain-covered road metres | Reference value 0.2867 | No national bands

32,789 development LSOAs | 162 clusters | 185,755 collisions | 540.61 billion miles. Raw/fitted frequency 0.03436 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0000	1.032	1.022 to 1.044	1.000
2.57e-04	1.032	1.022 to 1.043	1.000
0.2867	1.000	1.000 to 1.000	1.000
0.6294	0.971	0.961 to 0.981	1.000
1.0313	0.950	0.933 to 0.967	1.000
1.5576	0.938	0.916 to 0.960	1.001
2.3451	0.941	0.917 to 0.966	1.001
3.4363	0.961	0.934 to 0.988	1.002
5.1866	0.988	0.955 to 1.022	1.003
7.7993	1.016	0.974 to 1.061	1.005
11.8308	1.035	0.986 to 1.088	1.008
18.6215	1.028	0.969 to 1.091	1.012
58.2166	0.937	0.735 to 1.194	1.039

2023 same-cohort incremental gain: +0.203% (95% interval +0.105% to +0.297%)

Source numeric coverage: 35,672 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 2.92e-08; BH q (10-extension family) 7.29e-08.

Road-length share above an 8% terrain-gradient proxy. Terrain is not validated road-surface grade; bridges, tunnels and cuttings remain measurement limitations.

Frozen source: f4-source | observed OS Terrain50 July2026; OS Open Roads April2026; retrospective geographic context

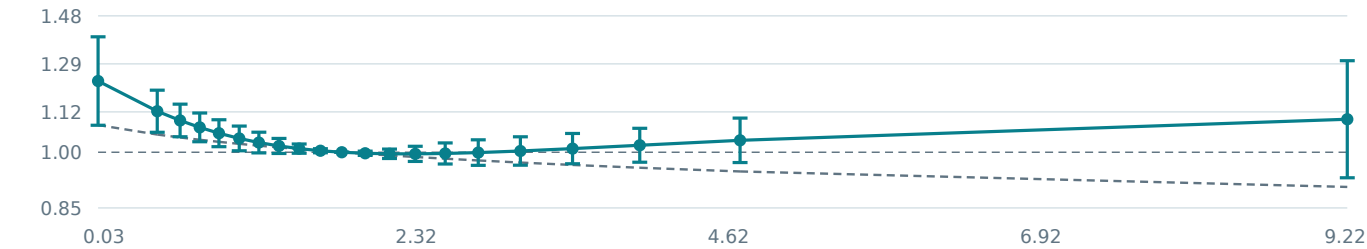
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Road-weighted terrain-gradient proxy

Raw-value spline (4 df) | Unit: percent gradient | Reference value 1.8194 | No national bands

32,789 development LSOAs | 162 clusters | 185,755 collisions | 540.61 billion miles. Raw/fitted frequency 0.03436 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0264	1.226	1.080 to 1.391	1.081
0.4617	1.124	1.059 to 1.194	1.052
0.6297	1.095	1.045 to 1.147	1.043
0.7742	1.074	1.031 to 1.119	1.036
0.9155	1.056	1.016 to 1.097	1.030
1.0650	1.040	1.004 to 1.078	1.024
1.2093	1.028	0.998 to 1.059	1.019
1.3574	1.018	0.996 to 1.040	1.014
1.5058	1.010	0.997 to 1.024	1.009
1.6621	1.004	0.999 to 1.010	1.004
1.8194	1.000	1.000 to 1.000	1.000
1.9914	0.997	0.991 to 1.003	0.995
2.1704	0.996	0.982 to 1.009	0.991
2.3598	0.995	0.974 to 1.017	0.987
2.5802	0.997	0.967 to 1.027	0.982
2.8233	0.999	0.963 to 1.036	0.977
3.1332	1.004	0.964 to 1.045	0.971
3.5170	1.010	0.968 to 1.055	0.964
4.0114	1.020	0.972 to 1.071	0.957
4.7494	1.035	0.971 to 1.103	0.947
9.2165	1.099	0.930 to 1.299	0.906

2023 same-cohort incremental gain: +0.202% (95% interval +0.032% to +0.365%)

Source numeric coverage: 35,672 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 0.002; BH q (10-extension family) 0.003.

Terrain context proxy, not validated road-surface grade. Bridges, tunnels, cuttings and upland roads can differ from terrain. Tagged-structure sensitivity does not prove complete structure identification.

Frozen source: f4-source | observed OS Terrain50 July2026; OS Open Roads April2026; retrospective geographic context

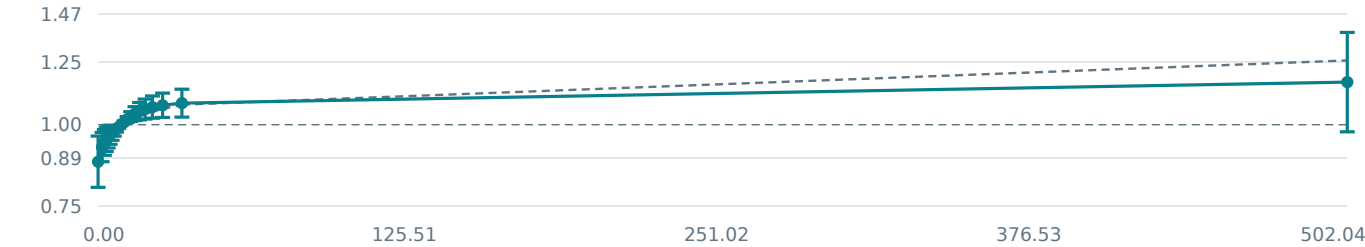
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Vehicle-crime intensity

Raw-value spline (4 df) | Unit: incidents/1,000 households/year | Reference value 9.3490 | No national bands

24,892 development LSOAs | 149 clusters | 131,285 collisions | 419.97 billion miles. Raw/fitted frequency 0.03126 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.0000	0.879	0.803 to 0.961	0.874
1.6051	0.925	0.879 to 0.973	0.923
2.5390	0.940	0.899 to 0.983	0.940
3.2873	0.950	0.910 to 0.991	0.950
4.0527	0.958	0.922 to 0.996	0.959
4.8309	0.965	0.934 to 0.998	0.967
5.6417	0.972	0.947 to 0.998	0.975
6.4905	0.978	0.961 to 0.996	0.981
7.3964	0.985	0.975 to 0.996	0.988
8.3089	0.992	0.987 to 0.997	0.994
9.3490	1.000	1.000 to 1.000	1.000
10.4377	1.009	1.004 to 1.013	1.006
11.6678	1.018	1.008 to 1.029	1.012
13.1086	1.029	1.011 to 1.047	1.018
14.8254	1.039	1.014 to 1.065	1.025
16.6848	1.048	1.017 to 1.081	1.031
18.8781	1.056	1.020 to 1.094	1.038
21.8369	1.064	1.023 to 1.106	1.047
25.9319	1.070	1.026 to 1.117	1.057
33.6912	1.078	1.027 to 1.132	1.072
502.0387	1.161	0.975 to 1.381	1.252

2023 same-cohort incremental gain: +0.161% (95% interval +0.026% to +0.297%)

Source numeric coverage: 26,627 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 1.41e-04; BH q (10-extension family) 2.35e-04.

Own-territorial-force geolocated incidents with complete 36-month reporting. Includes theft of/from vehicles and interference, not theft alone. Other-force/BTP and unlocated incidents are separate; coverage incomplete.

Frozen source: Police.uk frozen August 2026 archive | observed September 2023-August 2026 (36 months)

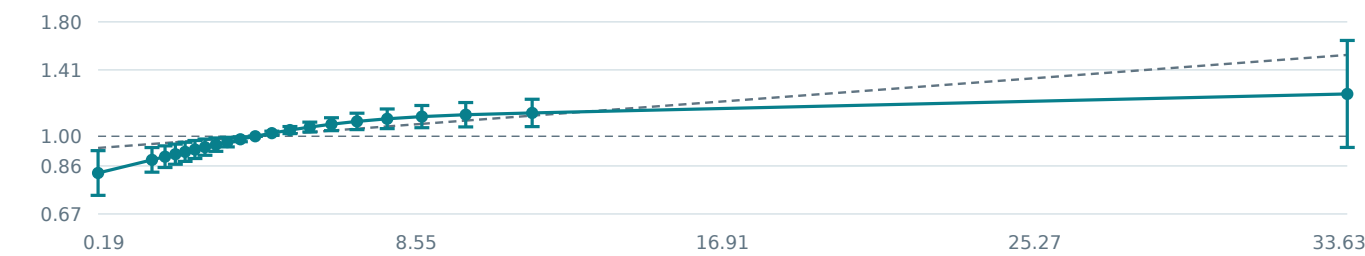
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Lagged Claimant Count rate, ages 16-64 (2021)

Raw-value spline (4 df) | Unit: percent of residents aged 16-64 | Reference value 4.3987 | No national bands

31,017 development LSOAs | 162 clusters | 174,592 collisions | 512.21 billion miles. Raw/fitted frequency 0.03409 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
0.1920	0.828	0.739 to 0.929	0.942
1.6349	0.886	0.832 to 0.944	0.961
1.9841	0.901	0.852 to 0.952	0.966
2.2603	0.912	0.866 to 0.961	0.970
2.5216	0.923	0.879 to 0.970	0.974
2.7843	0.934	0.892 to 0.979	0.977
3.0528	0.946	0.907 to 0.986	0.981
3.3449	0.958	0.926 to 0.991	0.985
3.6511	0.971	0.947 to 0.995	0.989
4.0008	0.985	0.972 to 0.997	0.994
4.3987	1.000	1.000 to 1.000	1.000
4.8426	1.016	1.006 to 1.026	1.006
5.3274	1.032	1.014 to 1.051	1.013
5.8594	1.048	1.022 to 1.075	1.021
6.4391	1.064	1.029 to 1.100	1.030
7.1222	1.079	1.035 to 1.125	1.040
7.9308	1.094	1.040 to 1.150	1.052
8.8583	1.106	1.045 to 1.171	1.066
10.0328	1.117	1.049 to 1.189	1.084
11.8105	1.127	1.051 to 1.209	1.111
33.6277	1.242	0.944 to 1.634	1.517

2023 same-cohort incremental gain: +0.135% (95% interval +0.011% to +0.251%)

Source numeric coverage: 33,766 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 2.53e-04; BH q (10-extension family) 3.62e-04.

Administrative benefit measure, not unemployment. Revised historical inputs; only exact or unchanged geography mappings. Split/complex LSOAs excluded. Retrospective context, not an as-of-2022 forecast.

Frozen source: f3-source | observed 2021

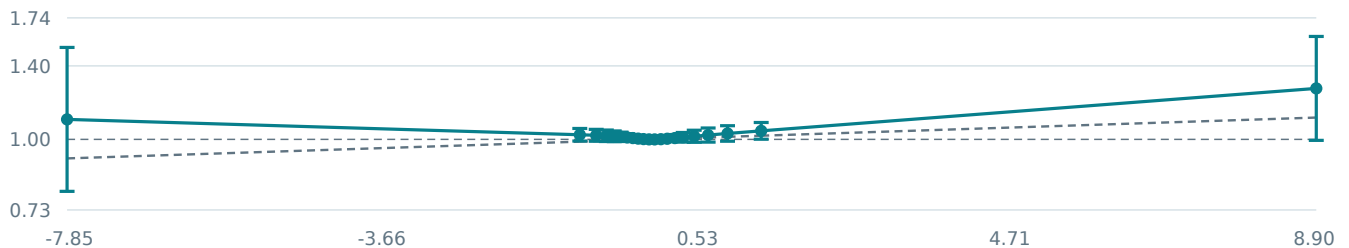
YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Annual Claimant Count rate change, ages 16-64 (2021 minus 2020)

Raw-value spline (4 df) | Unit: percentage points | Reference value -0.0467 | No national bands

31,017 development LSOAs | 162 clusters | 174,592 collisions | 512.21 billion miles. Raw/fitted frequency 0.03409 per 100,000 miles.
Adjusted RR (log scale)



Solid: fitted curve and cluster 95% intervals. Dashed: separate linear sensitivity. Horizontal axis is the raw source value; tied knots reduce model degrees of freedom.

Raw value	Fitted RR	Cluster 95% interval	Linear RR
-7.8519	1.095	0.790 to 1.519	0.917
-0.9754	1.021	0.992 to 1.051	0.990
-0.7554	1.019	0.992 to 1.047	0.992
-0.6195	1.016	0.990 to 1.043	0.994
-0.5136	1.014	0.990 to 1.039	0.995
-0.4217	1.012	0.990 to 1.033	0.996
-0.3386	1.009	0.992 to 1.026	0.997
-0.2643	1.006	0.994 to 1.019	0.998
-0.1929	1.003	0.996 to 1.011	0.998
-0.1209	1.001	0.998 to 1.005	0.999
-0.0467	1.000	1.000 to 1.000	1.000
0.0282	1.000	0.997 to 1.003	1.001
0.1119	1.001	0.995 to 1.007	1.002
0.1965	1.003	0.992 to 1.013	1.003
0.2987	1.006	0.990 to 1.022	1.004
0.4112	1.010	0.988 to 1.032	1.005
0.5593	1.014	0.987 to 1.042	1.007
0.7458	1.020	0.988 to 1.053	1.009
1.0060	1.027	0.992 to 1.064	1.012
1.4575	1.039	1.001 to 1.080	1.017
8.9021	1.261	0.996 to 1.596	1.104

2023 same-cohort incremental gain: +0.023% (95% interval -0.024% to +0.076%)

Source numeric coverage: 33,766 / 35,672 national LSOAs. Fit adjusts for all 40 primary features and core controls. Conditional Wald p 0.180; BH q (10-extension family) 0.180.

2021 minus 2020 administrative Claimant Count rate. Revised historical inputs and exact/unchanged geography mappings only. Split/complex LSOAs excluded. Not an as-of-2022 forecast.

Frozen source: f3-source | observed 2020 and 2021

YOUR DECISION ☐ Keep ☐ Drop ☐ Simplify ☐ Undecided

Proposed grouping / notes: _____

Twelve candidates without numeric data (1/2)

These remain visible in the review. A missing source is not a zero value and is not evidence that a feature has no predictive power.

Bus and coach traffic share

Same national all-road vehicle-mix gap.

Frozen source: <https://roadtraffic.dft.gov.uk/downloads> | observed lagged annual

HGV traffic share

National all-road LSOA vehicle-class allocation not validated. Existing major-road counts and regional mileage are insufficient.

Frozen source: <https://roadtraffic.dft.gov.uk/downloads> | observed lagged annual

Harmonised employment deprivation

Country-specific constructions unreconciled. Census unemployment is retained as a separate measure, not a replacement deprivation index.

Frozen source: <https://www.gov.uk/government/statistics/english-indices-of-depri> | observed edition-specific

Harmonised income deprivation

English IMD and Welsh WIMD are not comparable. Benefit coverage, denominators and periods are unreconciled. Native ranks are not pooled.

Frozen source: <https://www.gov.wales/welsh-index-multiple-deprivation-wimd-2025-> | observed edition-specific

Motor traffic intensity

National all-road LSOA exposure remains a Phase 3 dependency. Physical OS road length is not a traffic estimate.

Frozen source: <https://roadtraffic.dft.gov.uk/downloads> | observed lagged annual

Motorcycle traffic share

Same national all-road vehicle-mix gap; collision-involved vehicles must not supply this feature.

Frozen source: <https://roadtraffic.dft.gov.uk/downloads> | observed lagged annual

Twelve candidates without numeric data (2/2)

These remain visible in the review. A missing source is not a zero value and is not evidence that a feature has no predictive power.

Road-weighted heat days $\geq 25^{\circ}\text{C}$

HadUK station-interpolated climate estimate, road-length weighted. Exact source threshold and 1991-2020 period preserved; missing road coverage remains unavailable. Higher value is more weather exposure, not established collision risk. Exact authorised CEDA inputs not acquired; registered-user authentication required. New 1km road/grid intersections required before optional NetCDF grid outputs can enter LSOA lookup. National or subgroup numeric-coverage gate failed. Missing-value rank sensitivity failed or no numeric values. Source measurement/comparability gate unresolved.

Frozen source: f5-source | observed 1991-2020

Road-weighted heat days $\geq 30^{\circ}\text{C}$

HadUK station-interpolated climate estimate, road-length weighted. Exact source threshold and 1991-2020 period preserved; missing road coverage remains unavailable. Higher value is more weather exposure, not established collision risk. Exact authorised CEDA inputs not acquired; registered-user authentication required. New 1km road/grid intersections required before optional NetCDF grid outputs can enter LSOA lookup. National or subgroup numeric-coverage gate failed. Missing-value rank sensitivity failed or no numeric values. Source measurement/comparability gate unresolved.

Frozen source: f5-source | observed 1991-2020

Road-weighted snow-lying days

HadUK station-interpolated climate estimate, road-length weighted. Exact source threshold and 1991-2020 period preserved; missing road coverage remains unavailable. Higher value is more weather exposure, not established collision risk. Exact authorised CEDA inputs not acquired; registered-user authentication required. New 1km road/grid intersections required before optional NetCDF grid outputs can enter LSOA lookup. National or subgroup numeric-coverage gate failed. Missing-value rank sensitivity failed or no numeric values. Source measurement/comparability gate unresolved.

Frozen source: f5-source | observed 1991-2020

Road-weighted wet-day rainfall intensity

HadUK station-interpolated climate estimate, road-length weighted. Exact source threshold and 1991-2020 period preserved; missing road coverage remains unavailable. Higher value is more weather exposure, not established collision risk. Exact authorised CEDA inputs not acquired; registered-user authentication required. New 1km road/grid intersections required before optional NetCDF grid outputs can enter LSOA lookup. National or subgroup numeric-coverage gate failed. Missing-value rank sensitivity failed or no numeric values. Source measurement/comparability gate unresolved.

Frozen source: f5-source | observed 1991-2020

School site density near roads

Retrospective spatial context; no2022 as-of eligibility. National bands require separate F6 coverage and missing-rank gates. 87 eligible English establishments lack source coordinates Welsh independent register has 78 entries; only 45 have matching GIAS coordinates and primary/secondary age scope is unresolved Conflicting school UPRN coordinates require review National or subgroup numeric-coverage gate failed. Missing-value rank sensitivity failed or no numeric values. Source measurement/comparability gate unresolved.

Frozen source: f2-source | observed 2026-10-13 GIAS/NaPTAN snapshots; Welsh school register2026-04-23; roadsApril2026

Van traffic share

Same national all-road vehicle-mix gap; retain counted/estimated flags.

Frozen source: <https://roadtraffic.dft.gov.uk/downloads> | observed lagged annual

What is frozen, and what comes next

Frozen modelling record

Release

ew-glm-review-v1; design frozen 13 October 2026. National values and bands and all previous results are unchanged.

Inputs

Archived STATS19/exposure panel plus frozen feature dictionary and lookup. Exact input hashes are recorded in input-checksums.json; source details are in each feature card.

Complete outputs

Model coefficients, covariance, calibration, holdout predictions, all relativities, adjacent contrasts, support, raw correlations and drop-one block evidence accompany the interactive report.

Reproducibility

The downloadable reproduction kit uses archived numerical inputs. No re-acquisition or live source revision is needed to reconstruct this release.

Decision status

All 50 fitted features begin Undecided. There are zero automatic drops and zero automatic merges. The 12 no-data candidates remain unavailable.

Scope

This is the user-directed inclusive GLM review. It is not completion of the earlier automated F8 penalised/nested-selection protocol, and it is not an insurer-claims-validated commercial index.

Use the review workspace

<https://johanstrydom.com/data-lab/ew-deciles/glm-review>

Review year and mileage-sensitivity curves, record Keep / Drop / Simplify choices, and export the proposal file. Changes only become model results after a full refit and validation. Share the exported decisions to specify the next model.

Methods references

[Statsmodels GLM documentation: log link and exposure offset](#)

[Statsmodels clustered covariance documentation](#)

Source links on each feature page point to the frozen source family or publisher. Complete definitions, source editions, licences and measurement limitations remain in the release metadata. Inherited metadata describing earlier testing status is historical; this report records the current GLM fit.