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agilysis

Joining the Dots 2025
Visualising data

Contents

- Purpose of visualisation
- Bad Habits (because bad habits are fun!)
- Right tool for the job
- Don’t let ambiguous communication obscure your meaning!

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Why visualise?

Microsoft Excel - FFI_Analysis_Example.xls

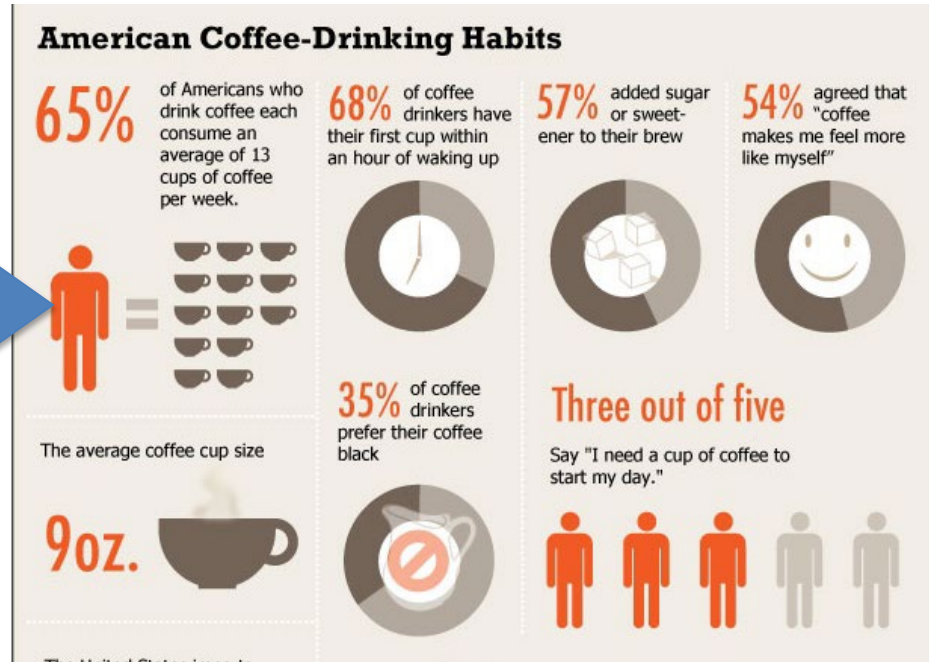
File Edit View Insert Format Tools Data RoboPDF Window Help

G25

	A	B	C	D	E
1	StrataName	MonStatusOrder	MonStatus	MacroPlotName	Trees per Acre
2	North Aspect	1	PreBurn	511	900.00
3	North Aspect	1	PreBurn	512	1580.00
4	North Aspect	1	PreBurn	513	970.00
5	North Aspect	1	PreBurn	514	1790.00
6	North Aspect	1	PreBurn	515	2700.00
7	North Aspect	2	PostBurnYear01	511	150.00
8	North Aspect	2	PostBurnYear01	512	90.00
9	North Aspect	2	PostBurnYear01	513	90.00
10	North Aspect	2	PostBurnYear01	514	90.00
11	North Aspect	2	PostBurnYear01	515	80.00
12	South Aspect	1	PreBurn	521	550.00
13	South Aspect	1	PreBurn	522	230.00
14	South Aspect	1	PreBurn	523	560.00
15	South Aspect	1	PreBurn	524	490.00
16	South Aspect	1	PreBurn	525	370.00
17	South Aspect	2	PostBurnYear01	521	30.00
18	South Aspect	2	PostBurnYear01	522	40.00
19	South Aspect	2	PostBurnYear01	523	60.00
20	South Aspect	2	PostBurnYear01	524	90.00
21	South Aspect	2	PostBurnYear01	525	110.00

Generic | TreeDensity | FuelLoadTonsPerAcre

Ready



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Why visualise?

PURPOSE OF DATA VISUALISATION:
Communicating useful insights, from refined raw data, to non-data specialists

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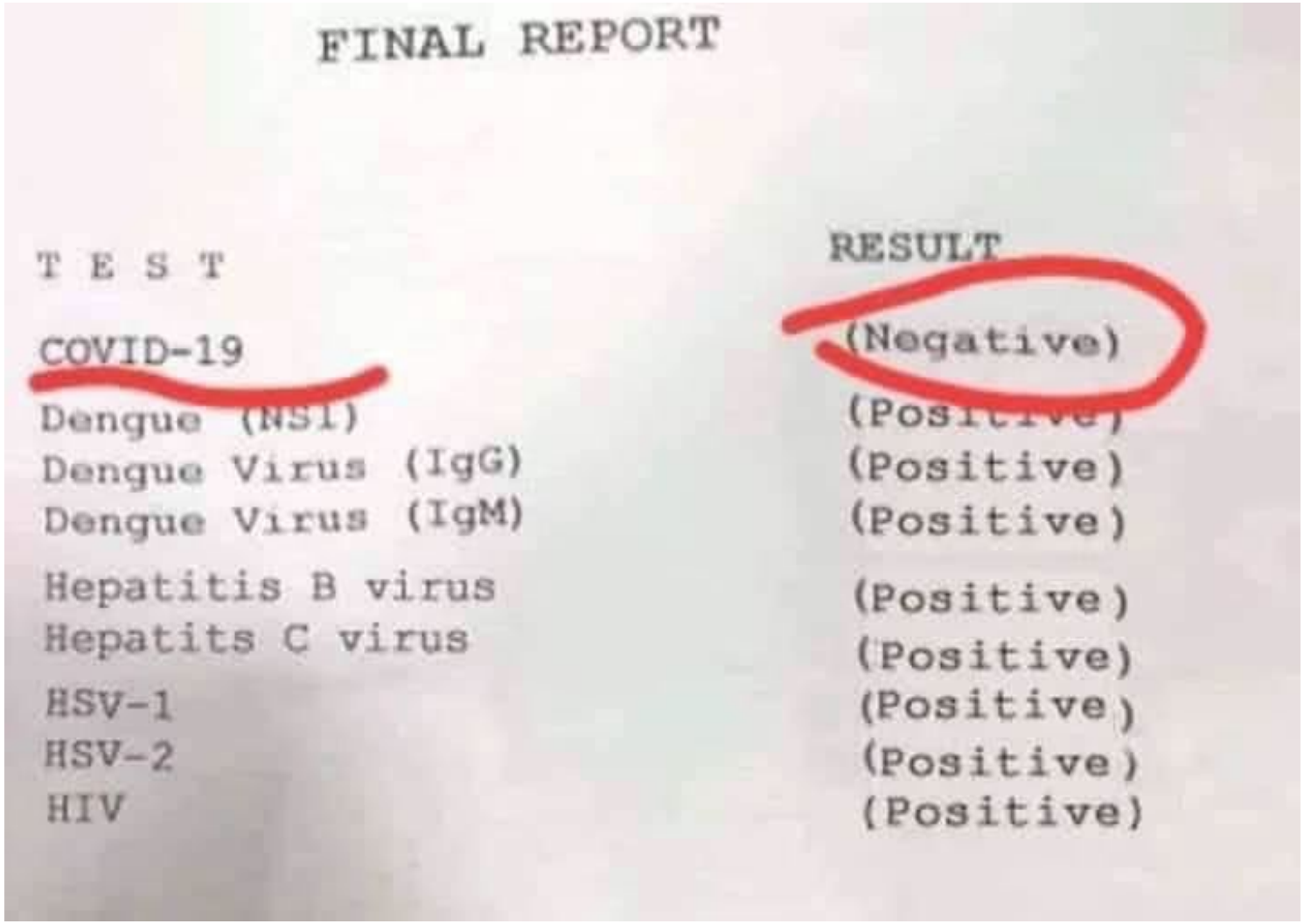
Bad Habits



FINAL REPORT

TEST	RESULT
COVID-19	(Negative)
Dengue (NS1)	(Positive)
Dengue Virus (IgG)	(Positive)
Dengue Virus (IgM)	(Positive)
Hepatitis B virus	(Positive)
Hepatits C virus	(Positive)
HSV-1	(Positive)
HSV-2	(Positive)
HIV	(Positive)

Are you highlighting the information that is most relevant to your audience?

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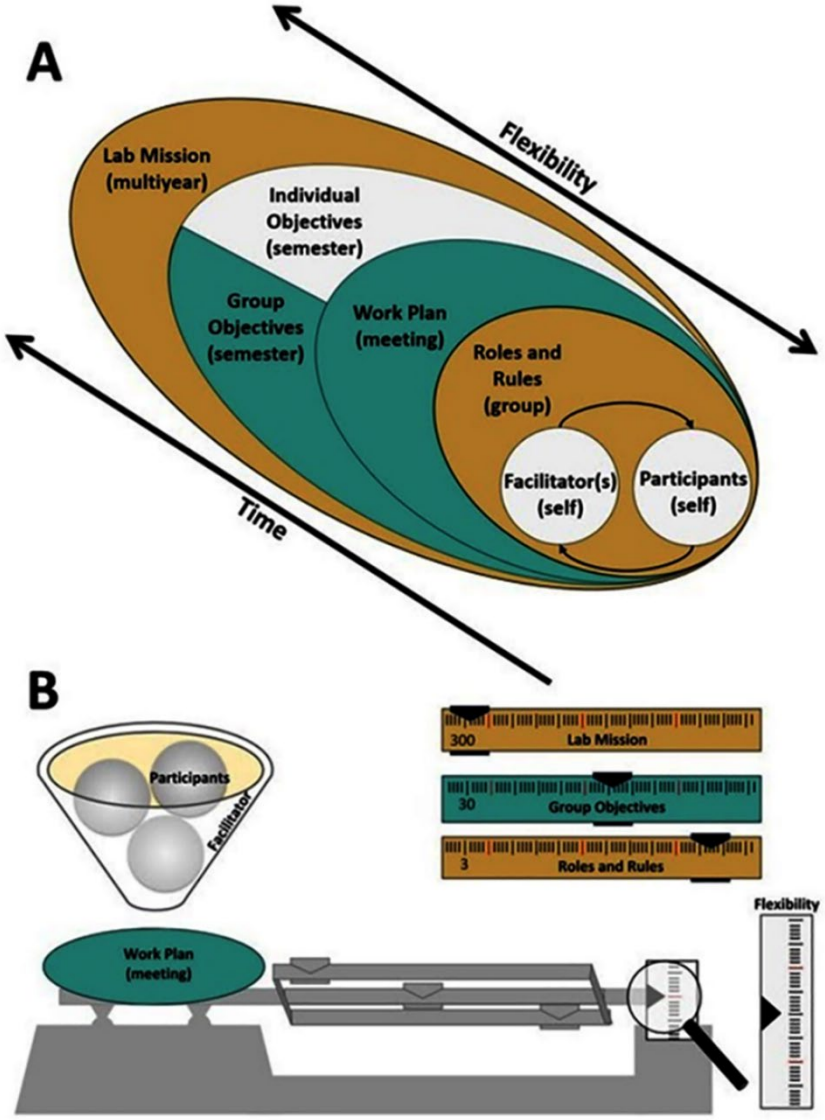
Bad Habits



Could you put it in less complicated way?

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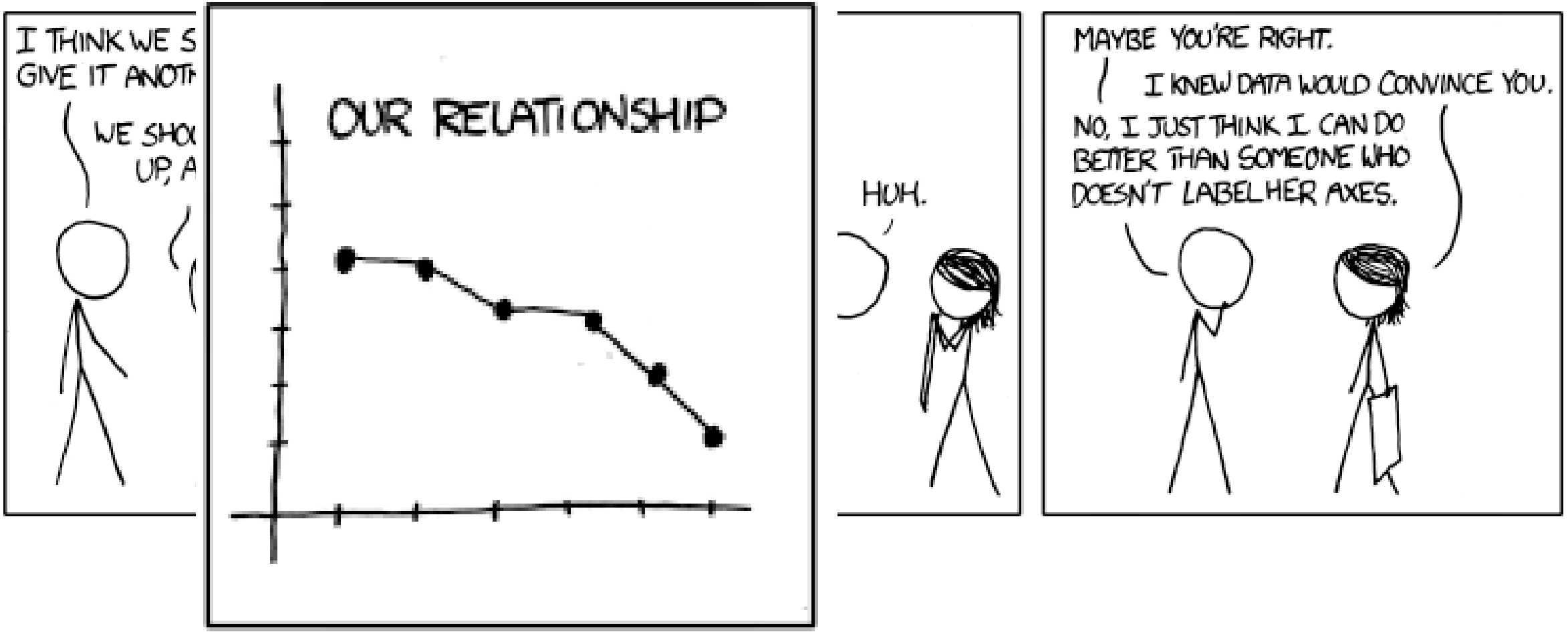
Bad Habits



Have you clearly defined your measures?

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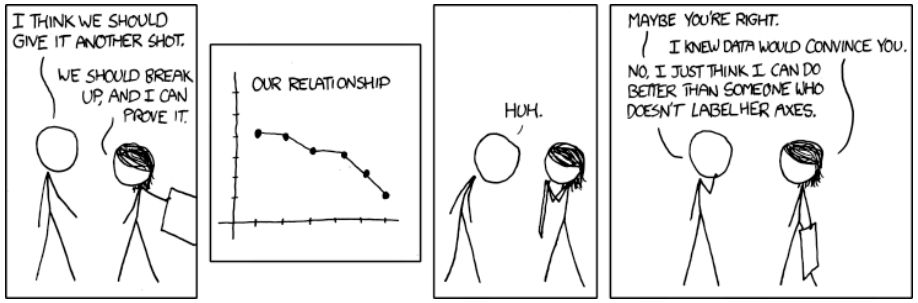
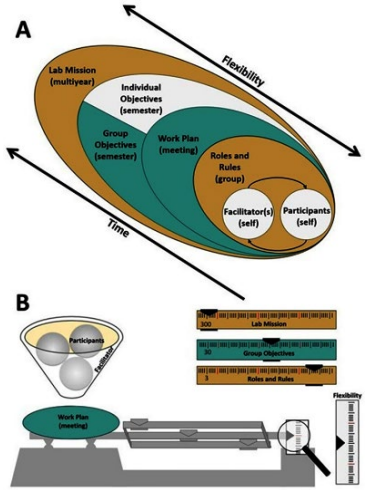
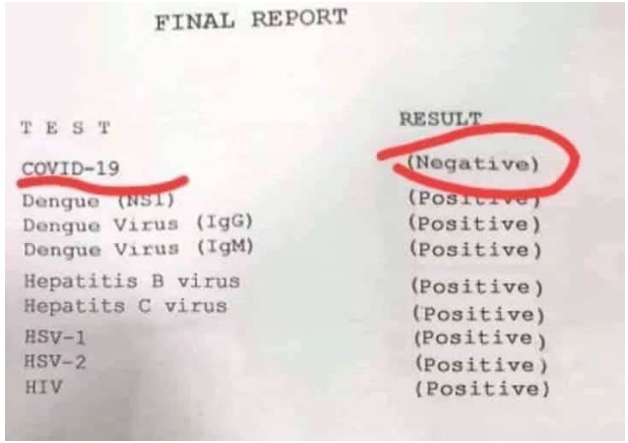
Bad Habits >>> Good Habits



Clarity – avoid ambiguity in what your measures mean



Simplicity – keep it as simple as possible to retain sufficient meaning



Relevance – what does your audience need to know?

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Right job for the tool and the right tool for the job

"If the only tool you have is a hammer, you tend to see every problem as a nail." ~ Abraham Maslow

"The more tools you have the better." ~ Professor John Cubbin, economist, amateur carpenter

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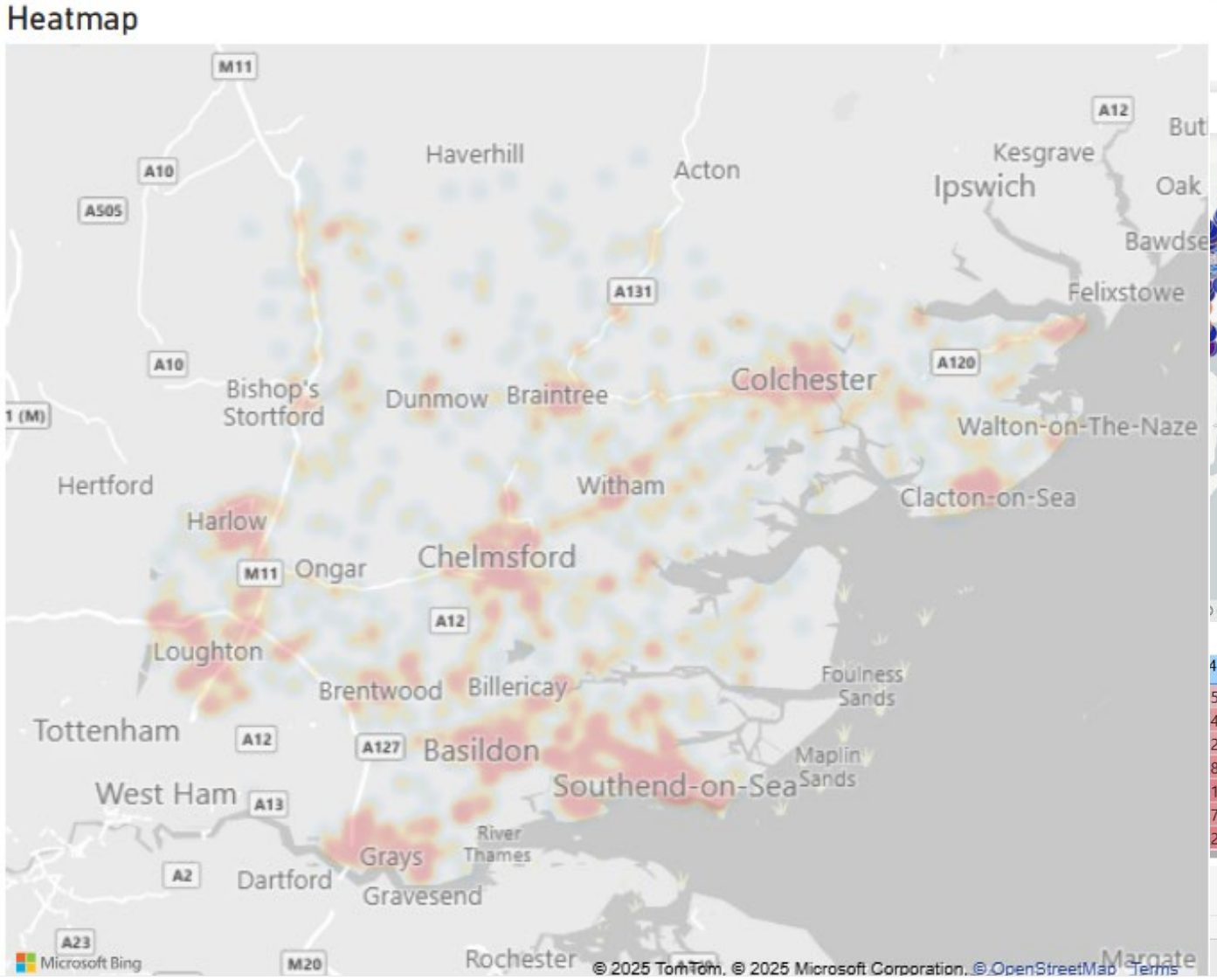
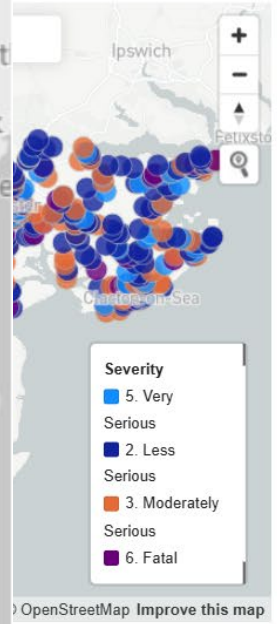
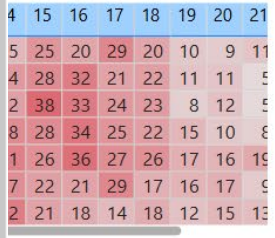
Wrong tool for the job example - Heatmaps







- So what?
- What about inter-urban routes?
- Ignores road network!!

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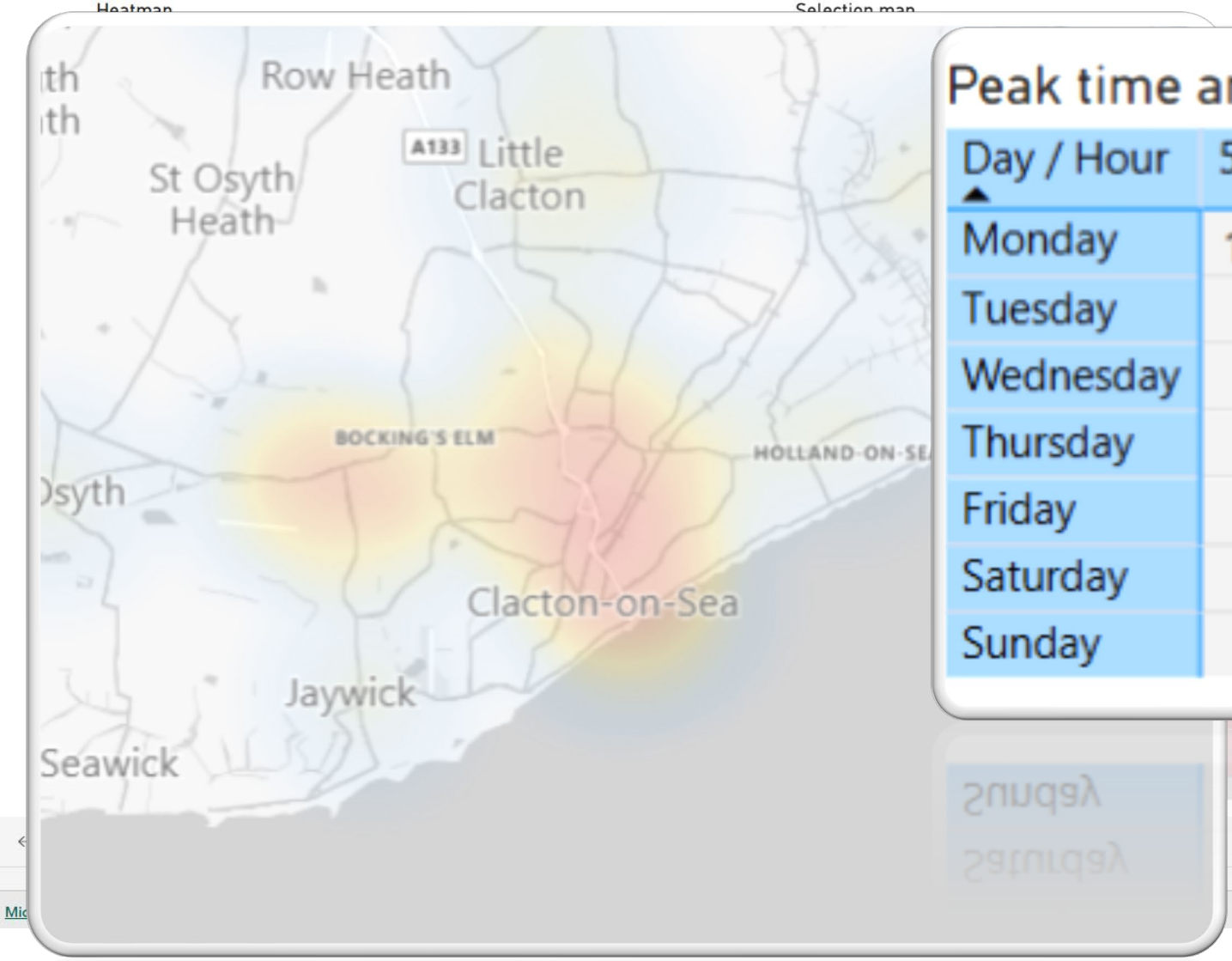
Right tool for the job example - Heatmaps



Peak time analysis

Day / Hour	5	6	8	10	11	12	13	14	15	16	18	20
Monday	1					3			1			
Tuesday				1		1				1	1	
Wednesday		1			1			1				1
Thursday			1	1				1				
Friday				1			1					
Saturday				1					1	1		
Sunday							1	2			2	

Helps usefully focus further work

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Summary so far…

- Clarity. Simplicity. Relevance.
- Right tool for the job?
- Over to Richard for more good practice and more maps…

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Context is important

Top 10 Highest No. of Accidents by Authority

MOTOLEGENDS
• MOTORCYCLING OUTFITTER •

Local Authority	No. of Accidents (2009 – 2020)
Kent	49,216
Surrey	43,155
Essex	34,799
Lancashire	34,740
Hampshire	34,018
Birmingham	31,482
Hertfordshire	28,544
Lincolnshire	25,132
West Sussex	23,072
Staffordshire	21,601

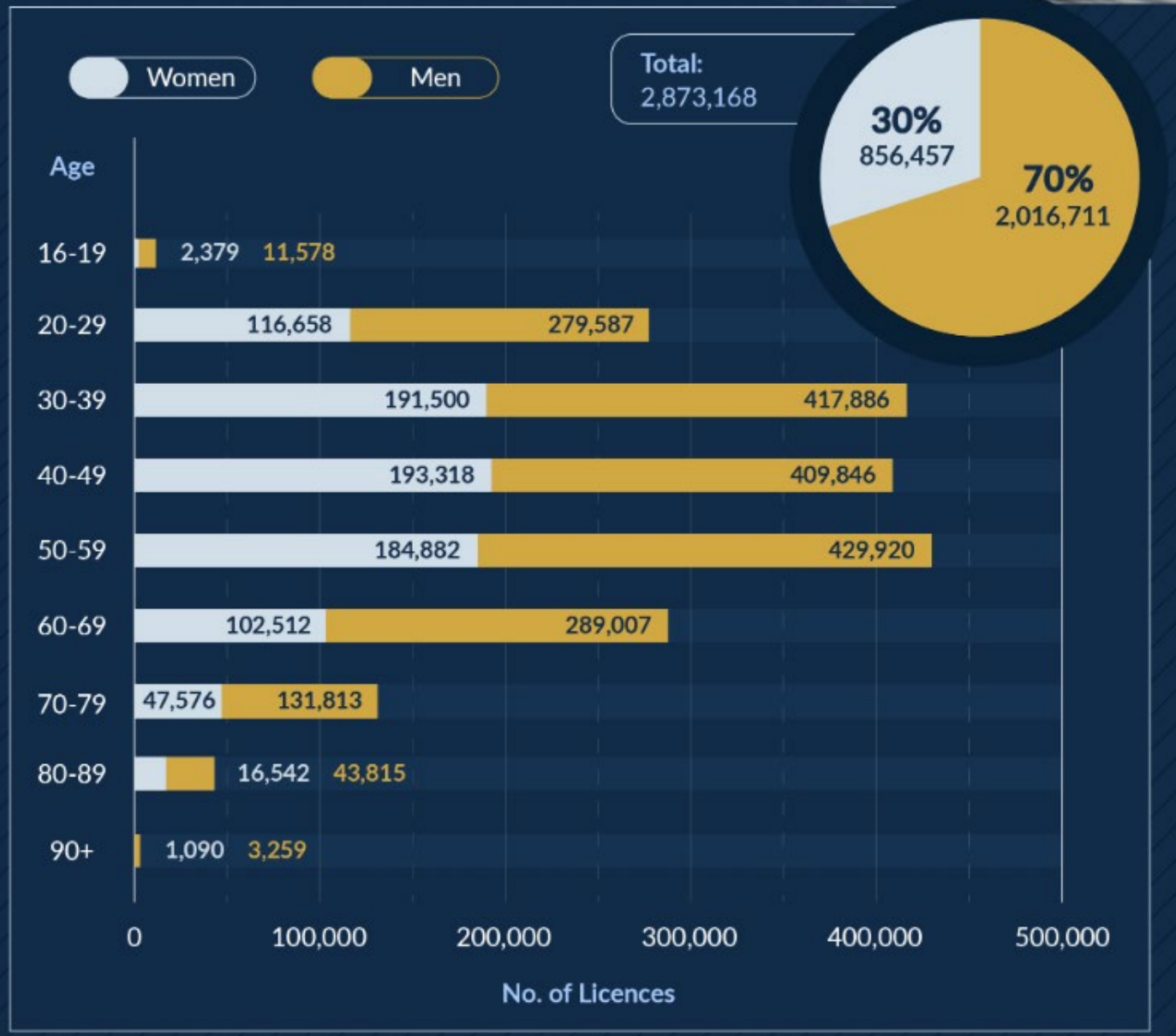
Context is important

Top 10 Highest Accidents to person ratio by Authority

MOTOLEGENDS
• MOTORCYCLING OUTFITTER •

Local Authority	Accidents	Population	Accident to person ratio
City of London	3,705	9721	1- 3
Doncaster	9,473	109,805	1-12
Westminster	17,797	253,137	1-14
Rotherham	6,740	109,691	1-16
London Airport (Heathrow)	416	6,987	1-17
Stirling	2,157	37,610	1-17
Caerphilly	2,298	41,402	1-18
Kensington and Chelsea	8,079	156,197	1-19
Lambeth	14,227	328,244	1-23
Wrexham	2,831	65,692	1-23

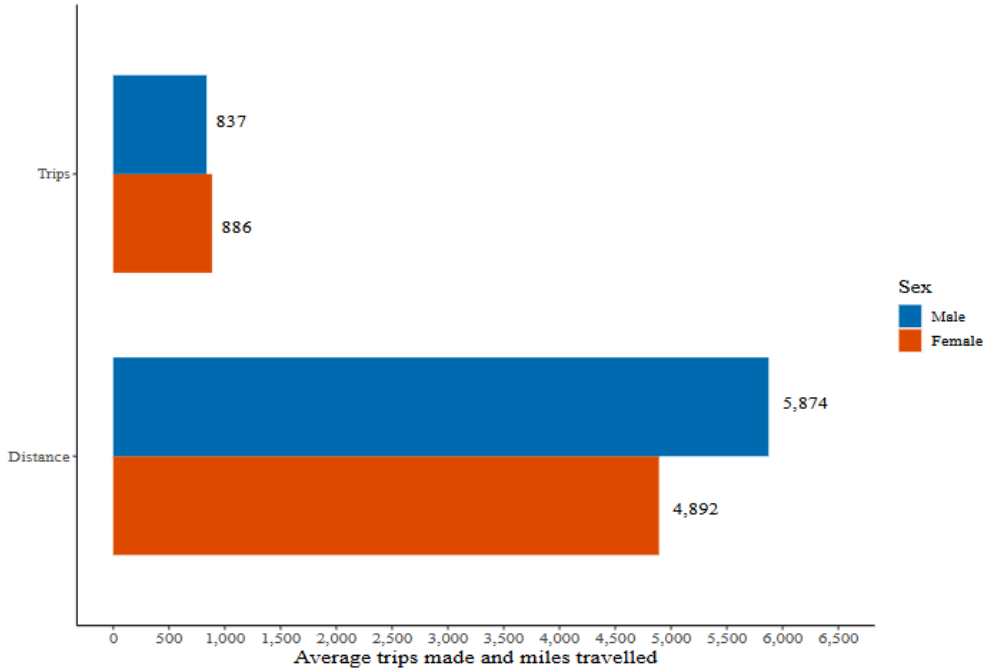
NATIONS NAUGHTIEST DRIVERS BY GENDER



SELECT CAR LEASING

Trends in trips by sex and age

Chart 21: Average trips made, and miles travelled per person per year by sex: England, 2022 (NTS0601)



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Context is Important

- Understand your numerator
- What denominators are important for the analysis?
  - Population
  - Number of licences
  - Number of vehicles
  - Miles travelled
  - Road length
  - AADT (Traffic)

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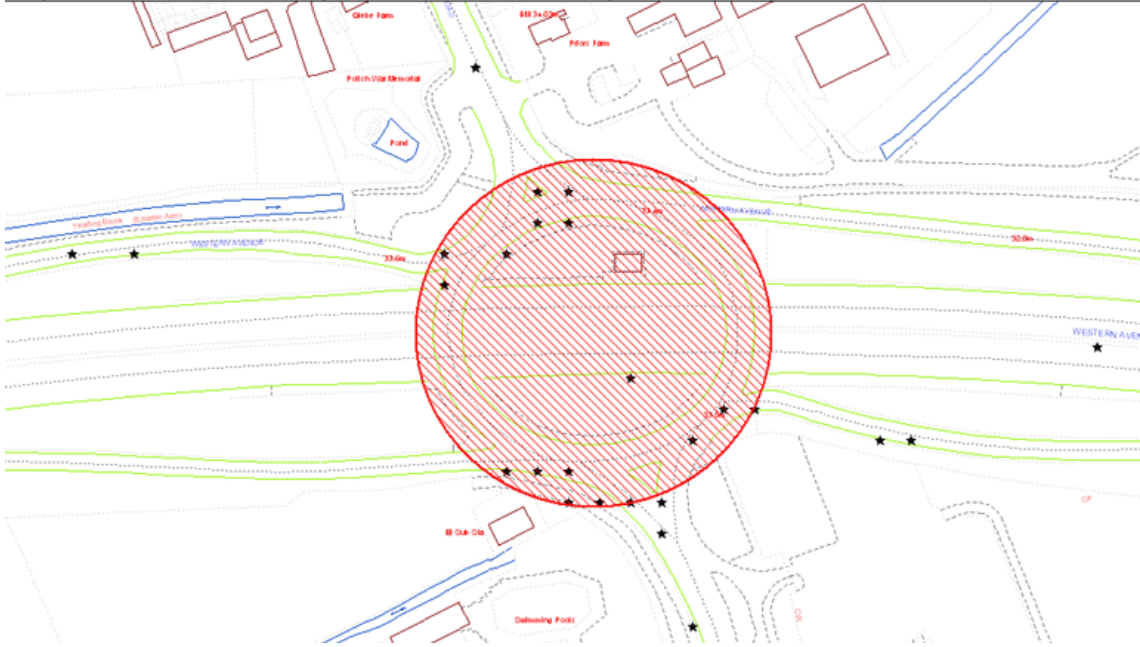
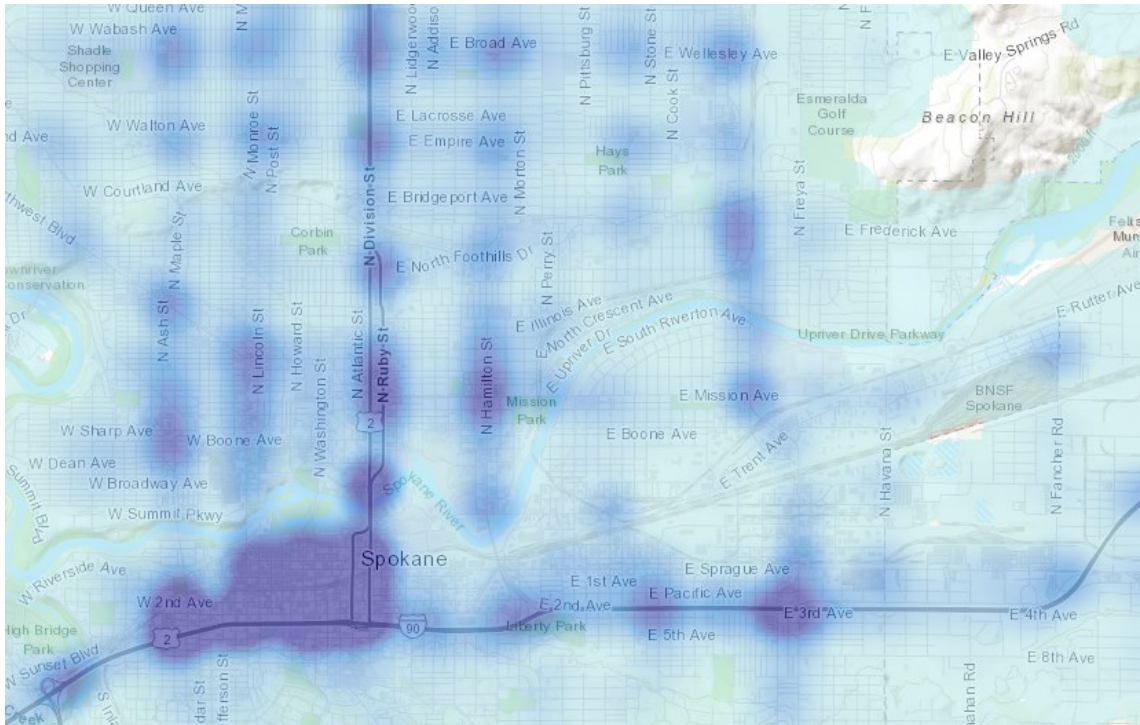
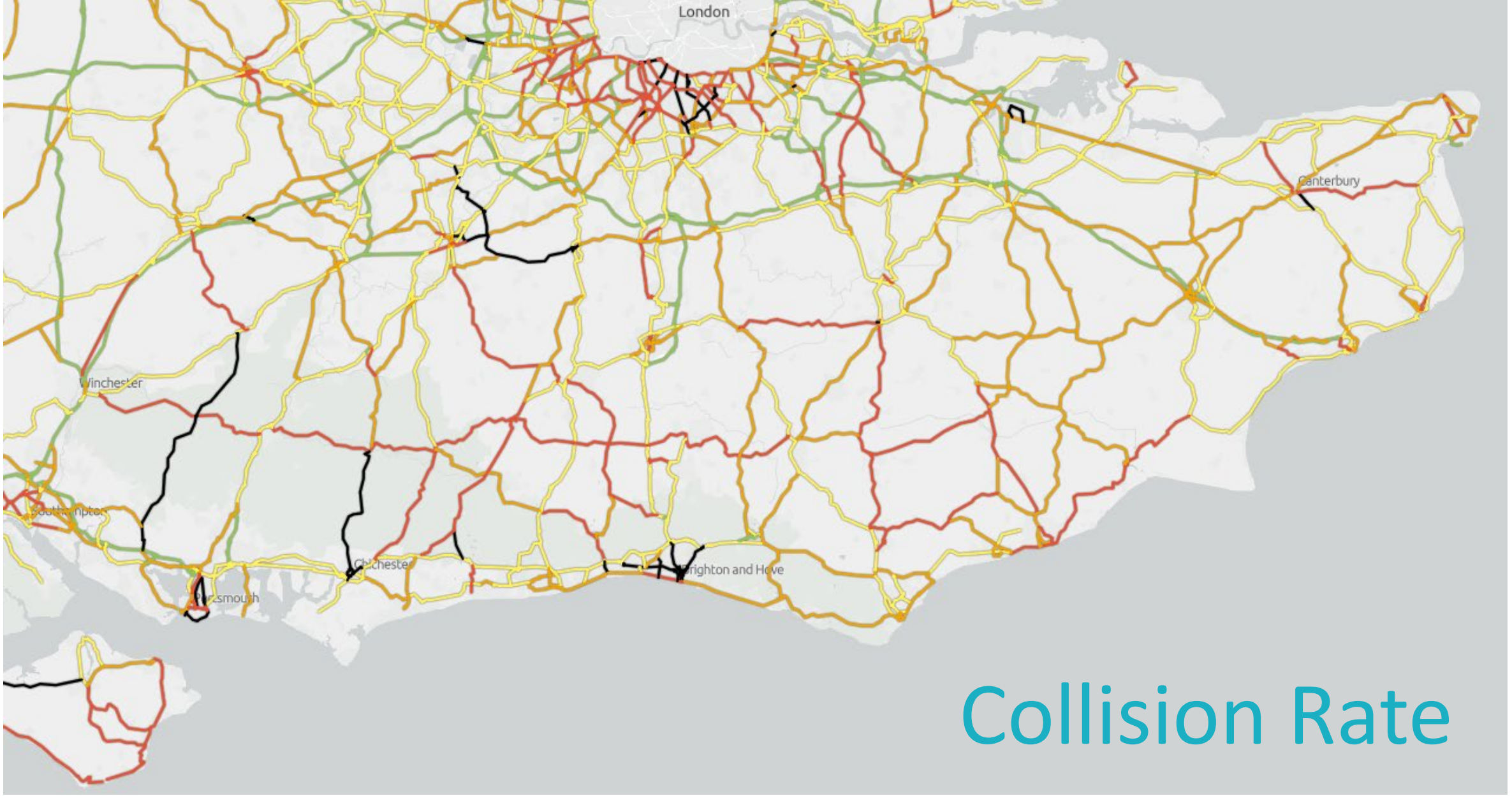
Back to maps…

- Ignore network – Cluster analysis, heatmap
  - Crude density analysis tool
  - Lacks network-awareness
  - Frequently identifies busy junctions
  - Doesn’t reflect how roads are used







Collision Rate

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Collision Density

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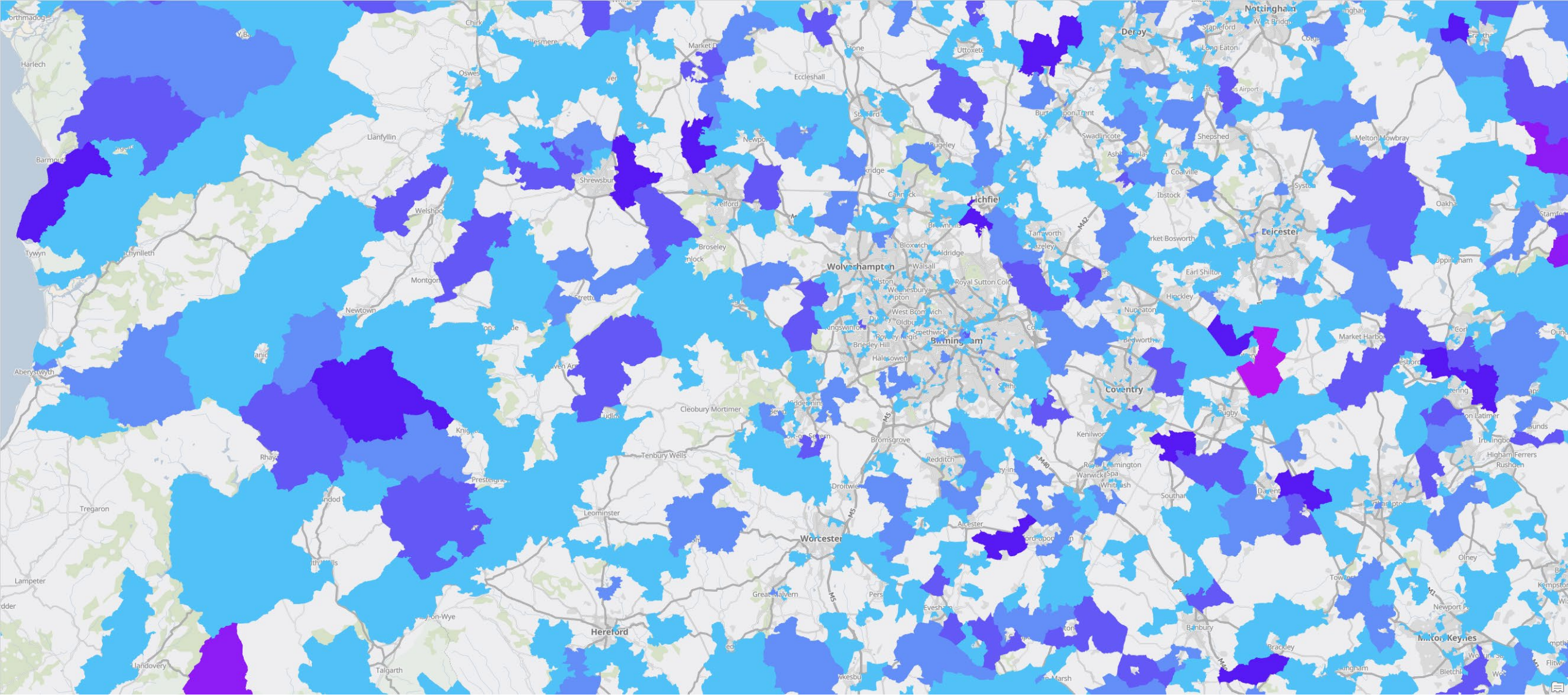

Fatal Collisions by LSOA

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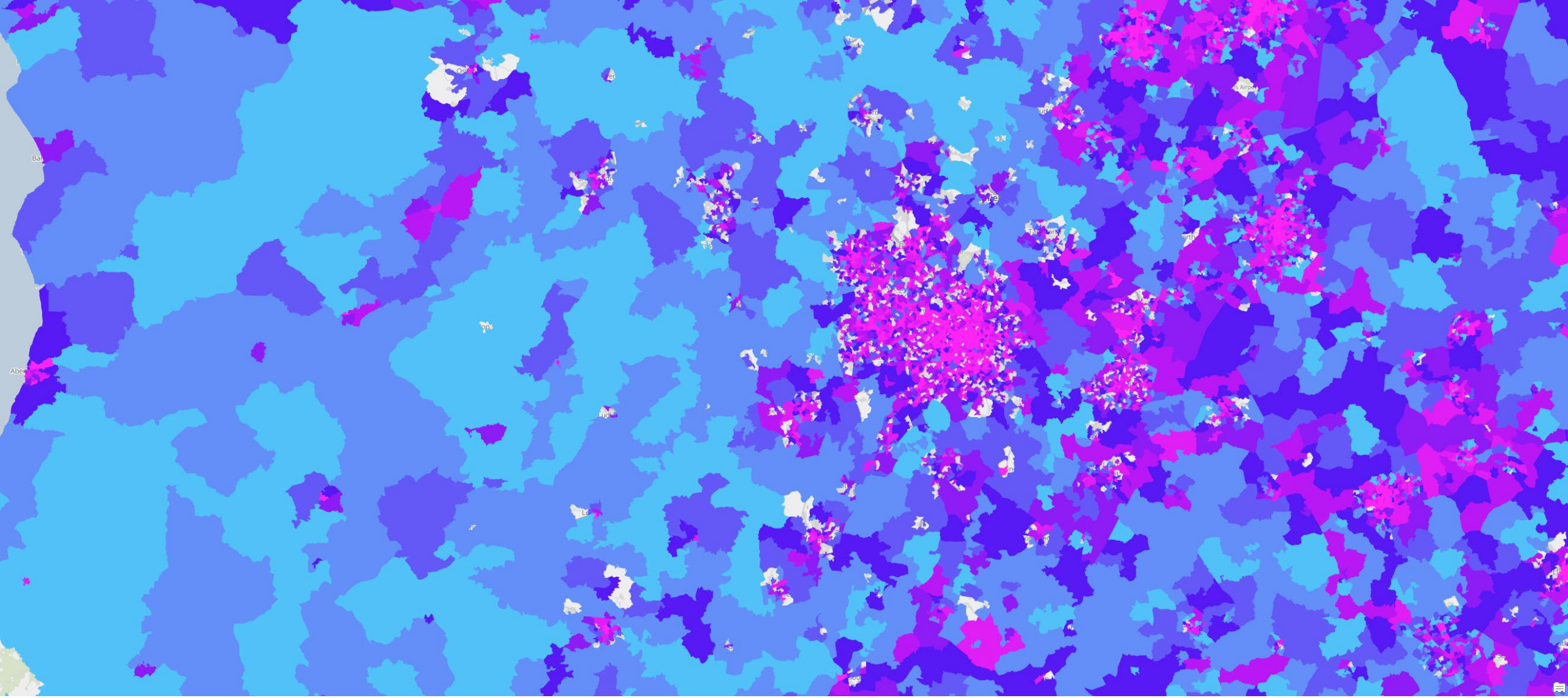

FSC Density by LSOA

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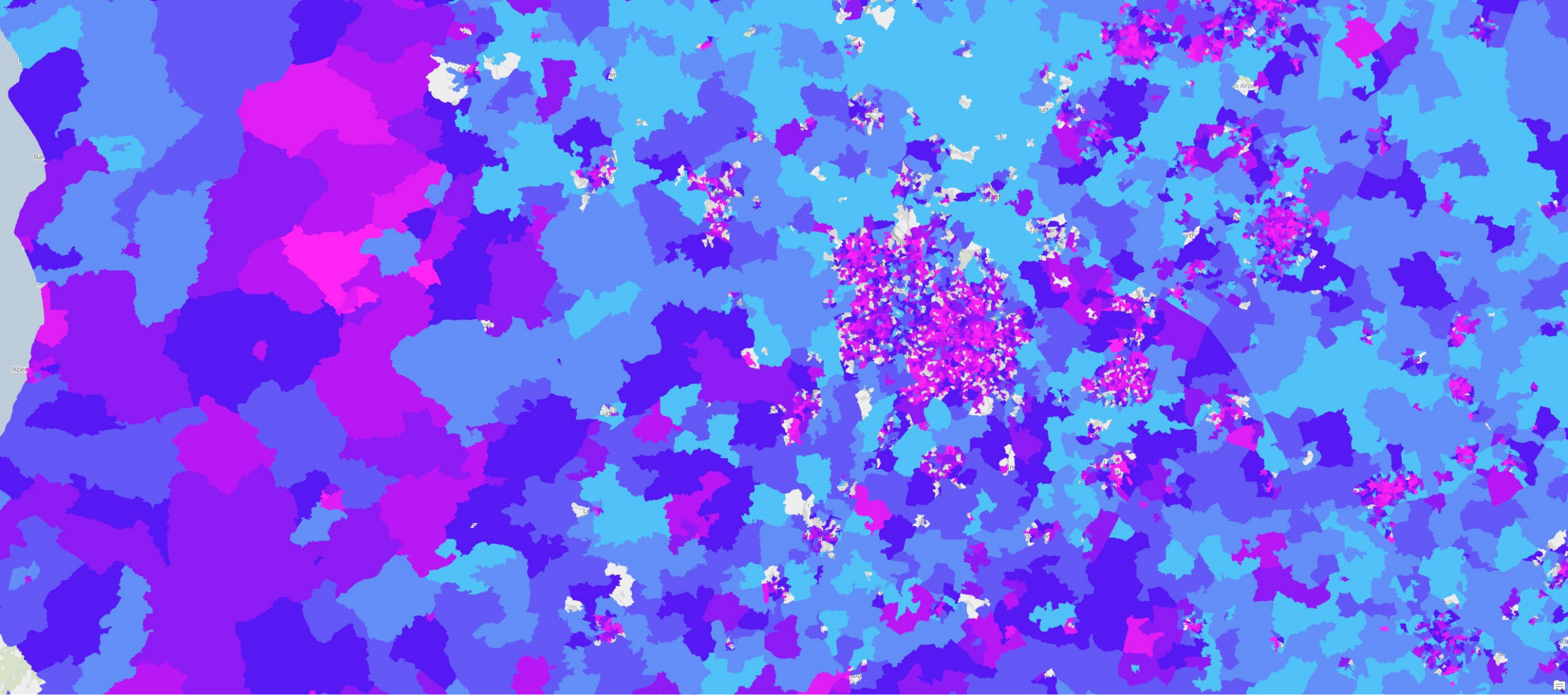

FSC Risk by LSOA

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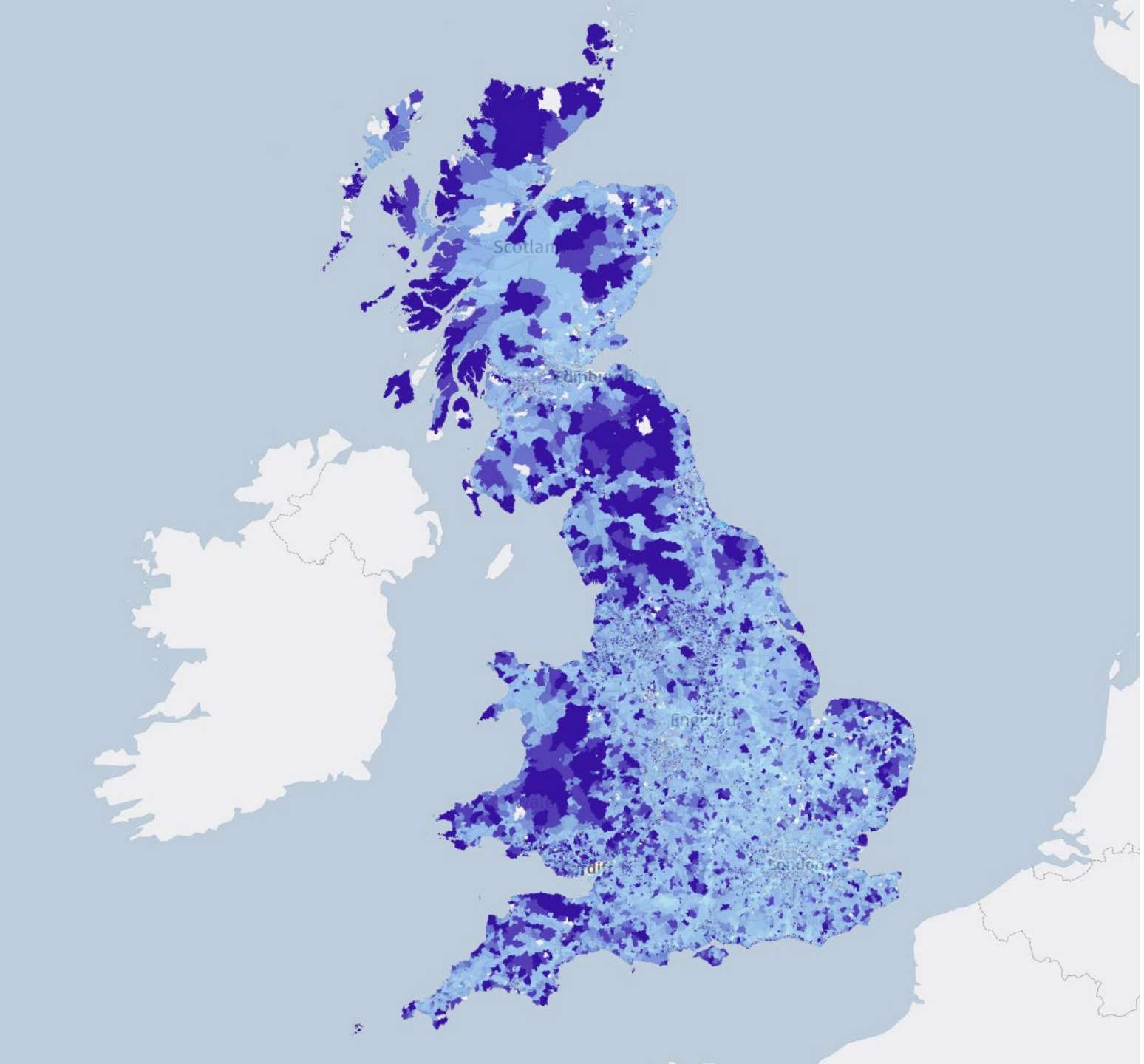

Compare Risk and Density?

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Road Safety Foundation 2020 - 2022

Select a route to reveal detailed results

Road Filter: All Roads | Local | Major Local | Strategic | TLRN (London) | TLRN Major (London)

Route Details

Route - JM643

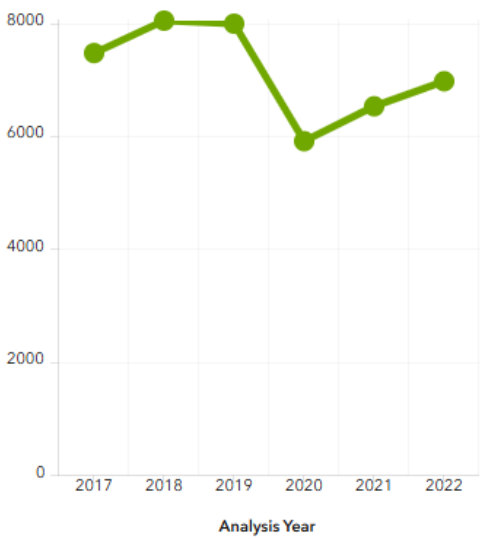
A361, Oxfordshire

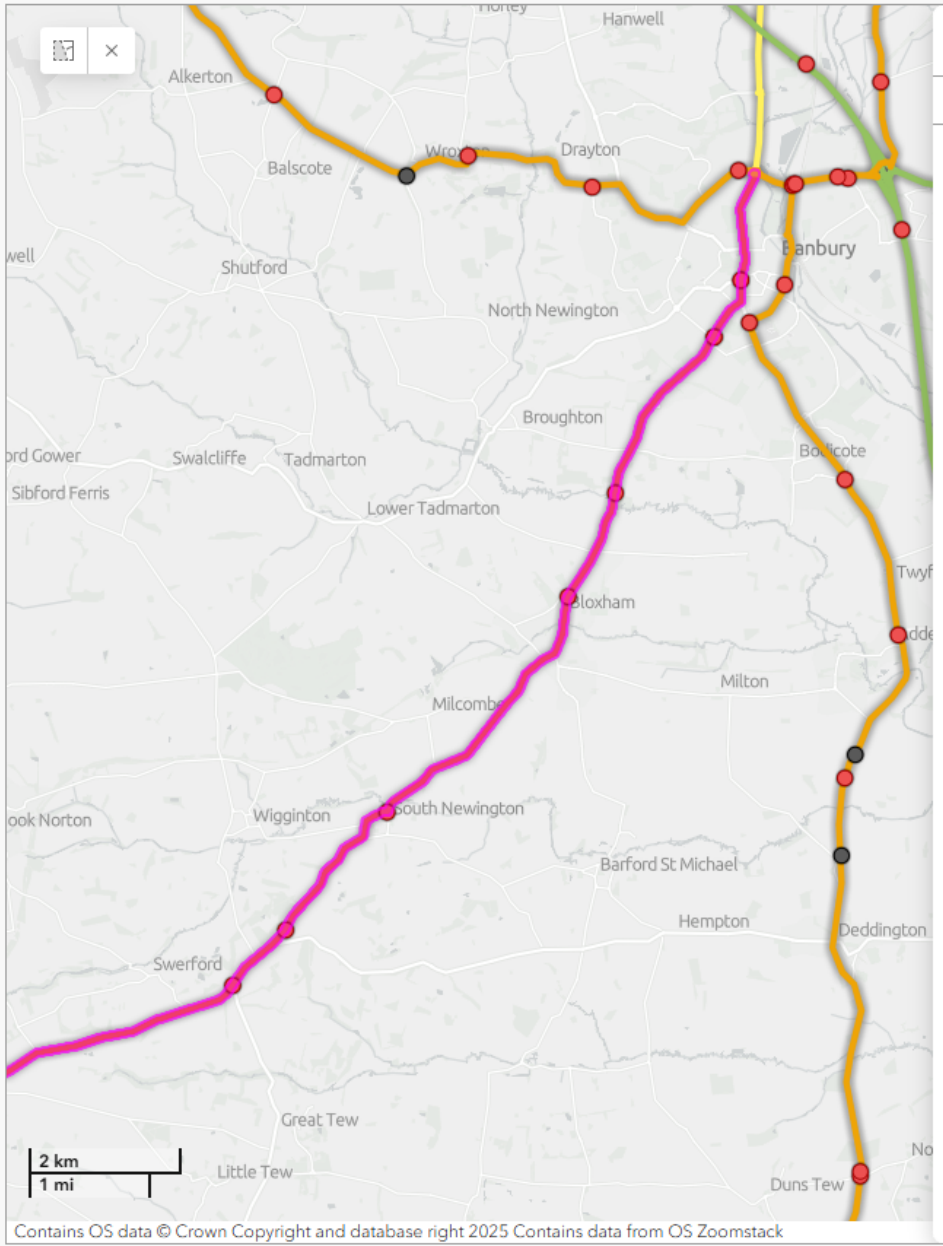
20.20 km

Fatal and Serious Collisions
2020-2022 - 9
(2017-2019 - 11)

Change in FSC
-18%
from 2017-2019

Average Annual Daily Traffic





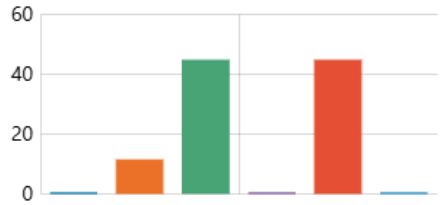
Route ID: JM643

Zoom to | Pan

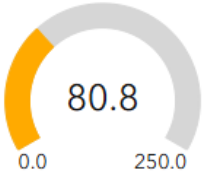
Class	A Road
Road Number	A361
Road Length (km)	20.20

Crash Types 2020-2022 (%)

Head on | Run Off | Intersection | Shunt | VRU | Other



FSC Risk Rate Rural / Motorway



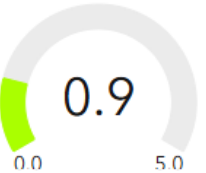
per billion vehicle km

FSC Risk Rate Urban

N/A: Rural Route / Motorway Selected

per billion vehicle km

FSC Density Rural / Motorway



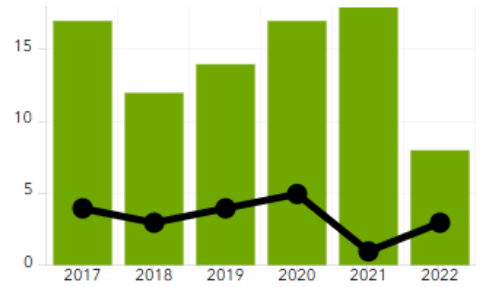
per mile

FSC Density Urban

N/A: Rural Route / Motorway Selected

per mile

Collisions



Analysis and dashboard by agilysis