

Who cares about what in Wales? 20mph speed limit, women's health and red squirrels compared.

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Welsh assembly petitions plus More Metrics equals insight.

The decision to introduce a “blanket” 20mph speed limit in built up areas across Wales has generated a strong negative response from the public. The number of signatures to the petition: *“We want the Welsh Government to rescind and remove the disastrous 20mph law”* has now reached more than 400,000.

Clear party lines have been drawn too, with Mark Drakeford's Labour party driving the change, supported by Plaid Cymru, and the Conservatives vehemently opposed. Interestingly the UK Prime Minister, Rishi Sunak is seeking to make wider political capital out of the issue, suggesting that this is a “hot button” issue outside of Wales too.

This turn of events has prompted the More Metrics team to ask an important question: “Do the local communities that care about this issue have distinct neighbourhood characteristics that help explain why they object to the 20mph law?”.

In this article we share our findings from our analysis. We use the data provided by the Welsh Assembly on petition counts split by the 40 Welsh Senedd Constituencies combined with our own wide range of postcode tagged variables as predictors. We then apply supervised machine learning to create a profile of those communities most likely to sign the 20mph law petition to reveal what is going on beneath the surface. We also compare this profile to two other different petition topics to check that our method can find distinct neighbourhood characteristics consistently for different types of petition.

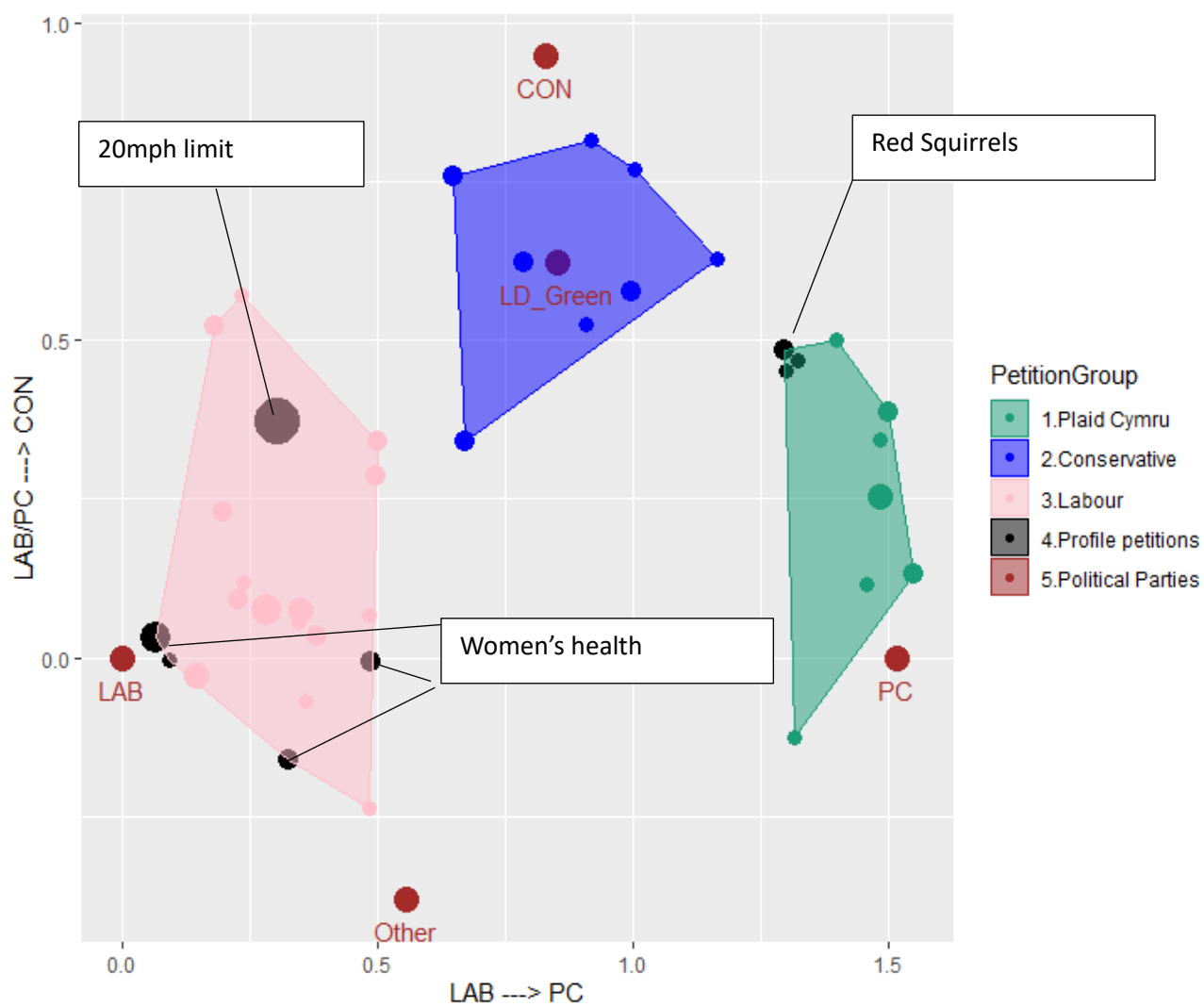
How have we done our analysis?

The first thing we do is to analyse the Welsh data for 38 selected petitions to get an overview of how closely different petitions are aligned to the main political parties and to each other. Once we have done that, we can then choose two other petition topics to compare to the 20mph law that are supported by different communities. We then profile these three different petition topics to establish the characteristics of local neighbourhoods that are most likely to sign each one.

We can sense check these profiles to form a judgement about the robustness of our technique. If these three profiles are distinct from each other and sense check well to each topic it suggests we have built a useful tool for identifying local neighbourhoods most affected by the issues raised in each petition. Our chosen topics for this test are quite different to each other: “The 20mph law”, “Women's Health”, and “Support for Red Squirrels”.

The Petition Overview

The overview results are shown on our “petition map” where we have positioned the 38 different petitions (represented by dots) relative to each political party and to each other. This is not a map in the conventional sense. Instead, the closer each petition dot is to each political party and each other, the more closely it is aligned to voters of that party and other petitions. The larger the dot, the more signatures the petition has received. We have colour coded the petitions to highlight three groups that are most closely related to the three main parties with constituency seats in the Senedd.



The list of petitions we have chosen and their association with each party voter are detailed in the table below. In general, petitions are closely aligned to the policies of each party.

Plaid Cymru petitions	Labour petitions	Conservative petitions
1. *Protect red squirrels 2. *Vaccine for red squirrels 3. *Support red squirrels 4. Increase LA Housing control 5. Act on housing crisis 6. Reduce holiday let threshold 7. Safeguard Sycharth site 8. Support Coleg Harlech 9. Re-open North South railways 10. Senedd candidate 3 year residency	11. *Rescind 20mph law 12. *Birthing partner rights 13. *Improve Endometriosis care 14. *Cervical Screening every 3 years 15. *Metastatic breast cancer care 16. Reduce fast food littering 17. Compulsory black history teaching 18. Increase antiracist teaching 19. Increase Mental health funding 20. Ban greyhound racing 21. Support greyhound racing 22. Maintain Nurse Staffing levels 23. New palliative care plan 24. Improve conservation of monuments 25. Public poll on new neighbourhoods 26. Improve ALN training 27. Improve School Funding 28. Improve ALN support 29. Support Working Parents 30. Early Senedd election	31. Ban bird cages 32. Open Water throwlines 33. Mental Health improvement 34. Provide better Tourette's care 35. AONB for Mid Wales 36. Protect leisure centres 37. Microplastics action plan 38. Assess potential of offshore energy projects

Notes:

- Petitions are associated with political parties based on how correlated the signature distribution is with vote share across the 40 Senedd seats. The published data used does not include a category for non-voters and this grouping is therefore not included on the petition map.
- Petition signatures are adjusted for population numbers in each Senedd seat to ensure they are consistent with vote share values.
- The “petition map” is a two-dimensional view of a five-dimensional analysis. The chosen plane used for viewing passes through the three main political parties. Petitions and the other political parties may be located above or below the projected plane, but these distances are mostly small, relatively.
- The liberal democrat plus green vote share lies closest to the conservatives and the conservative petitions are observed to be distributed around the LD / Green point on the petition map.
- The “Other” party vote share combines the share of votes for independents and UKIP. Independents are likely to be politically opposed to UKIP and will appeal to quite different groups of voters. The “Other” category is therefore best thought of a “none of the above” classification suggesting a degree of dis-affection with the main parties. Politically it is seen to lie closest to Labour on the petition map.
- Petition dot size is determined by the number of signatures. The scale is not linear and is therefore only indicative.
- Petitions used for profiling are marked with an asterisk in the table.

This type of analysis gives a good overview of what voters on average consider important relative to their party allegiance, but of course there are plenty of labour and Plaid Cymru voters in conservative seats and vice-versa, which limits its usefulness. To overcome this problem, we need to profile the neighbourhoods that are most likely to sign particular petitions and then use this insight to estimate petition signing rates at neighbourhood level, tagged by postcode.

Digging deeper into petitions by topic

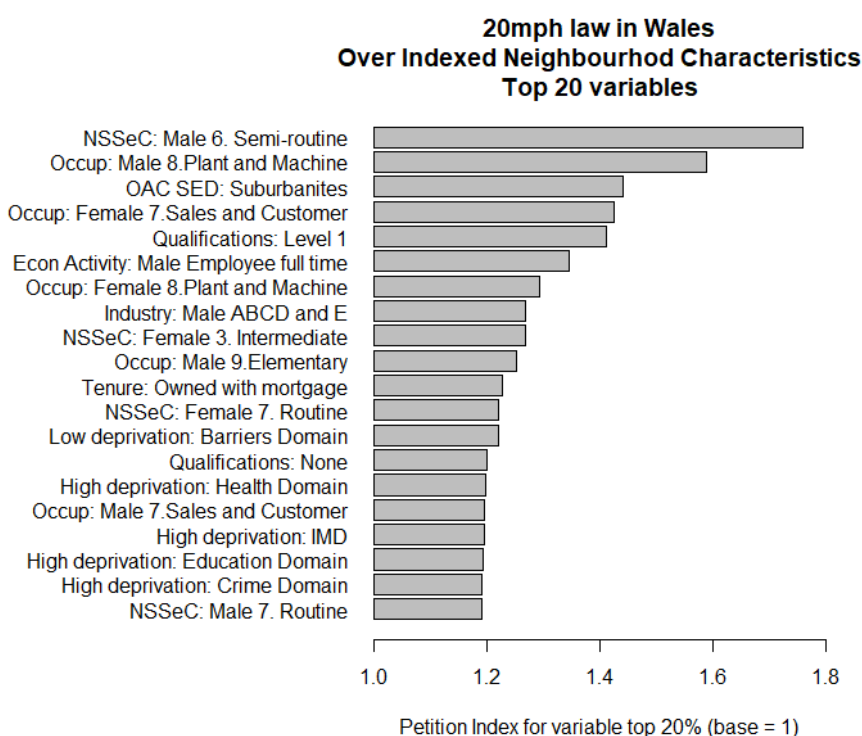
We use supervised machine learning to disaggregate our three chosen topics to obtain neighbourhood profiles. The characteristics of neighbourhoods most likely to sign each petition topic are shown in the charts and summaries below.

1. The 20mph law

The 20mph petition is seen to lie closest to Labour on the petition map but is not that far from the Conservatives and Liberal Democrats. It is far from Plaid Cymru who are strongest in rural areas where the 20mph law may be less impactful.

This petition is more likely to be signed in neighbourhoods where:

- Residents are economically active and are more likely to do routine and semi-routine jobs.
- Residents are more likely to be homeowners with a mortgage and live in, or close to, suburban neighbourhoods.
- Residents are more likely to work in agriculture(A), mining(B), manufacturing(C) and energy supply(D) industries.
- Deprivation is low across the barriers domains but high across education and health.



The profile suggests those most upset by the 20mph law are economically active working in routine and semi-routine occupations. Their jobs are in industries where working from home is not an obvious option, indicating significant car use for work. Their neighbourhoods are on the margins of built-up areas in suburban locations. The combination of high home ownership (with a mortgage) and lower status jobs indicates these residents are likely to be under financial pressures in the current economic climate and find the 20mph law and risk of fines an unwelcome extra burden.

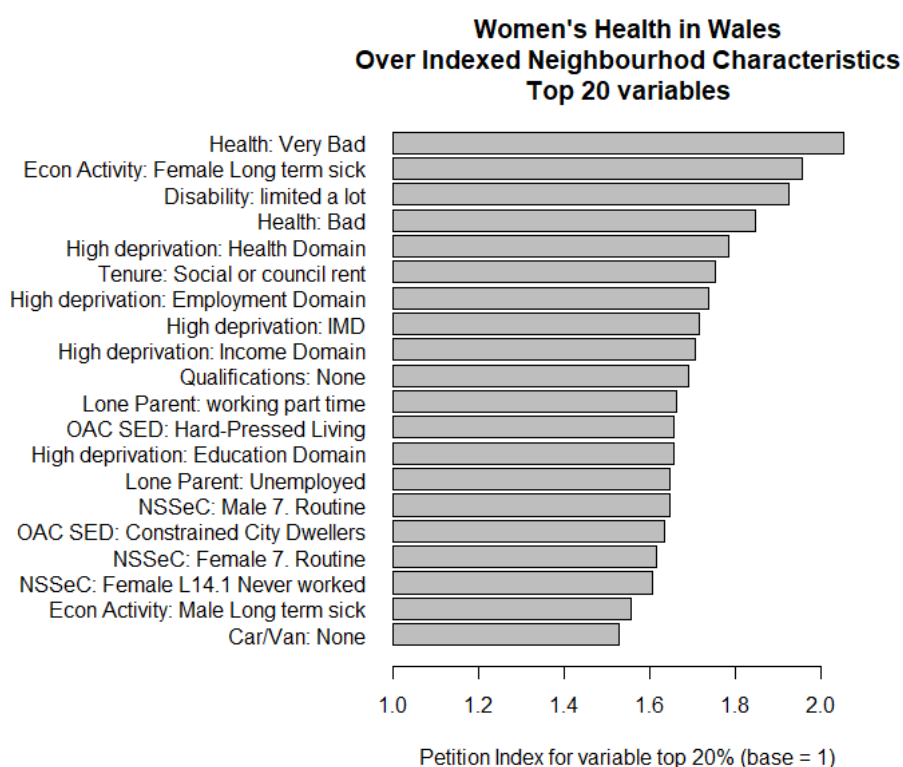
Postcode level targeting opportunities using the 20mph law petition scores include local and national political parties, local authorities, and related local pressure groups. Businesses can also show empathy to financially affected customers without taking a stance on the issue either way.

2. Women's Health

The women's health petitions are seen to lie closest to Labour on the petition map, with two of the four in the direction of "Other" suggesting an element of disaffection with the main parties.

These petitions are more likely to be signed in neighbourhoods where:

- Resident health is very bad and people are limited a lot in their daily activities.
- Residents are economically inactive with high levels of long-term sickness.
- Deprivation is high across multiple domains, especially health.
- Residents are more likely to live in social or council rented accommodation.
- Households are more likely to have a higher proportion of lone parents who are unemployed or work part time.



The profile suggests that those most affected by Women's health issues live in deprived neighbourhoods with very poor health and high levels of disability. It also indicates that lone parents are impacted more. A high level of economic inactivity also indicates these are low-income neighbourhoods with a high dependence on local authority and state support.

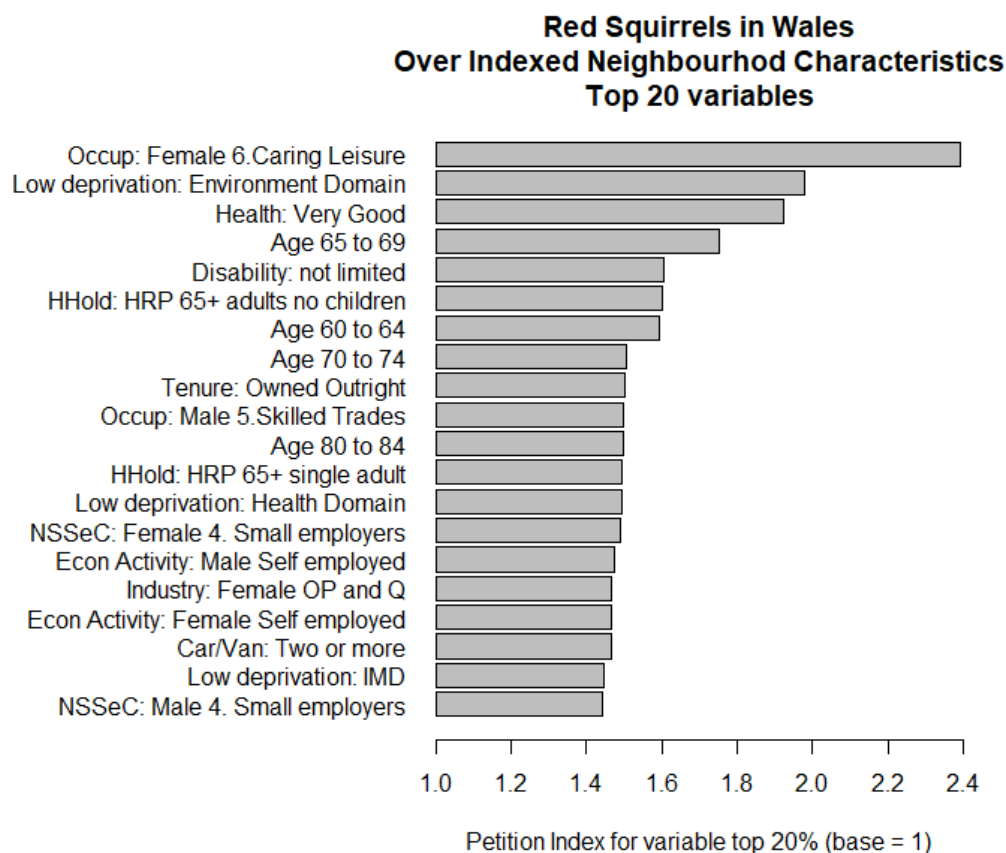
Postcode level targeting opportunities using the Women's health petition scores include the NHS at national, regional, and local levels. Citizens Advice and Local authorities can also use this type of data to help target financial support for those who qualify for benefits but are not currently claiming. Health charities can use our full postcode data to identify gaps in their reach at a local level and to support fund raising activities.

3. Red Squirrels

The red squirrel petitions are seen to lie closest to Plaid Cymru on the petition map, in the direction of Liberal Democrats / Greens. Red squirrels are rare in Wales with most being located on Anglesey and Mid-North Wales where Plaid Cymru have their strongest vote share.

These petitions are more likely to be signed in neighbourhoods where:

- Female residents are more likely to work in care and leisure.
- Deprivation is low across multiple domains, especially environment.
- Residents are less likely to be limited in their activities and more likely to be in very good health.
- Residents are more likely to be above retirement age and own their own homes outright.
- Workers are more likely to be self employed and / or work in small businesses.
- Females are more likely to work (or have worked) in public service(O), education(P) or health(Q).



The profile suggests that those most supportive of red squirrels are older with very good health living in neighbourhoods with low levels of deprivation. Higher home and car ownership indicate supporters are financially secure. Household composition indicates supporters are also empty nesters which when combined with good health suggests an active outdoor lifestyle.

Postcode level targeting opportunities using the red squirrel petition scores include Garden Centres, Stately Homes, Tourist Boards (e.g. Isles of Scilly, Lundy and the Isle of Wight), Outdoor clothes wear, Conservation Charities etc.

Petitions are not just for politicians!

We at More Metrics think that petitions are extremely useful which is why we put so much effort into analysing them for our clients. To date, we have concentrated on using Westminster parliament petitions to generate our UK-wide, GDPR-compliant Geo-Society variables and indices. Here for the first time, we have investigated using Welsh Senedd petitions and will add these to our Geo-society datasets going forward when appropriate. As with all our petition analysis, these Welsh petitions are scored up across the UK so that insight can be applied to all 1.6m UK postcodes, not just in Wales.

Our postcode-tagged Geo Society data therefore provides users with a rich picture of what local neighbourhoods care about across a range of different topics. This is ideal for commercial and not-for-profit organizations who want to have targeted conversations with their customers / clients across all their contact channels. This includes finding the right tone of voice for vulnerable customers where an understanding of their likely feelings as well as their personal circumstances can increase empathy and engagement.

For example, this data can be matched in by client's home location and age band in real time to complement in-house data (e.g. web browsing behaviour, NLP of complaints and phone calls) to optimise contact strategies using machine learning and AI. Using empathetic content that is specific to segmented customers can help to increase time on site, click through and conversion. The wide range of topics and whole UK coverage of More Metrics' data are great features, as is the fact that all our data is GDPR compliant with no PII data used at any stage.

Find us on the web.

<https://www.moremetrics.co.uk/>

Find our data on Snowflake.

A selection of our most popular datasets is on Snowflake Marketplace. Use the links there to contact us directly to get access to our full range of datasets and to discuss your specific requirements.

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