**1. Co-terminosity**

One approach is to make the Assembly constituencies coterminous with local‑government areas. Here is an example using 45 constituencies, which would give 90 DMP seats.

|  |  |  |  |
| --- | --- | --- | --- |
| **Local Government area** | **Number of electors (2016)** | **Number of dual‑member constituencies** | **Normalized electors per constituency** |
| Blaenau Gwent | 50,466 | 1 | 1.00 |
| Bridgend | 104,936 | 2 | 1.04 |
| Caerphilly | 129,973 | 3 | 0.86 |
| Cardiff | 245,497 | 5 | 0.97 |
| Carmarthenshire | 139,733 | 3 | 0.92 |
| Ceredigion | 52,599 | 1 | 1.04 |
| Conwy | 89,110 | 2 | 0.88 |
| Denbighshire | 74,772 | 2 | 0.74 |
| Flintshire | 115,011 | 2 | 1.14 |
| Gwynedd | 82,999 | 2 | 0.82 |
| Isle of Anglesey | 50,855 | 1 | 1.01 |
| Merthyr Tydfil | 44,372 | 1 | 0.88 |
| Monmouthshire | 69,799 | 1 | 1.38 |
| Neath Port Talbot | 105,632 | 2 | 1.05 |
| Newport | 108,251 | 2 | 1.07 |
| Pembrokeshire | 89,700 | 2 | 0.89 |
| Powys | 106,206 | 2 | 1.05 |
| Rhondda Cynon Taf | 170,965 | 3 | 1.13 |
| Swansea | 173,300 | 3 | 1.14 |
| Torfaen | 68,529 | 1 | 1.36 |
| Vale of Glamorgan | 94,358 | 2 | 0.94 |
| Wrexham | 103,378 | 2 | 1.02 |
| All of Wales | 2,270,441 | 45 | 1.00 |

This suggested allocation was arrived at using the default divisor method (unbiased rounding). Out of curiosity, we ran the same method on the electorate data from 2001, 2006 and 2011, with the following results.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Local Government area** | **Allocation on 2001 data** | **Allocation on 2006 data** | **Allocation on 2011 data** | **Allocation on 2016 data** |
| Blaenau Gwent | 1 | 1 | 1 | 1 |
| Bridgend | 2 | 2 | 2 | 2 |
| Caerphilly | 3 | 3 | 3 | 3 |
| Cardiff | 5 | 5 | 5 | 5 |
| Carmarthenshire | 3 | 3 | 3 | 3 |
| Ceredigion | 1 | 1 | 1 | 1 |
| Conwy | 2 | 2 | 2 | 2 |
| Denbighshire | 1 | 1 | 1 | 2 |
| Flintshire | 2 | 2 | 2 | 2 |
| Gwynedd | 2 | 2 | 2 | 2 |
| Isle of Anglesey | 1 | 1 | 1 | 1 |
| Merthyr Tydfil | 1 | 1 | 1 | 1 |
| Monmouthshire | 1 | 1 | 1 | 1 |
| Neath Port Talbot | 2 | 2 | 2 | 2 |
| Newport | 2 | 2 | 2 | 2 |
| Pembrokeshire | 2 | 2 | 2 | 2 |
| Powys | 2 | 2 | 2 | 2 |
| Rhondda Cynon Taf | 3 | 3 | 3 | 3 |
| Swansea | 4 | 4 | 4 | 3 |
| Torfaen | 1 | 1 | 1 | 1 |
| Vale of Glamorgan | 2 | 2 | 2 | 2 |
| Wrexham | 2 | 2 | 2 | 2 |

Even if the method’s suggestions were slavishly followed, most of the constituencies would remain remain stable over decades. DMP makes this possible because it does not depend on having equal-sized constituencies.

The first table includes a column showing normalized constituency size. Most of the constituencies are within 15% of the average. Over all of our data runs, the variance across the areas remained between 0.02 and 0.03. With FPTP this would be an unacceptable spread, potentially causing significant bias. It would even be problematic with small-constituency STV, exacerbating that system’s tendency to give disproportionate results.

DMP is immune to this problem because it establishes proportionality at a higher level in the hierarchy. It is like AMS in this respect, but of course, without having two categories of Assembly member.

**2. Voting results**

To show the kind of results that DMP would deliver we have used the votes from the 2017 General Election, looking just at the 40 Welsh constituencies. DMP as defined at <https://DMPforCanada.com> gives the following results.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Party** | **Labour** | **Conservative** | **Plaid Cymru** | **Lib Dem** | **UKIP** |
| Seats | 40 | 28 | 8 | 4 | 0 |

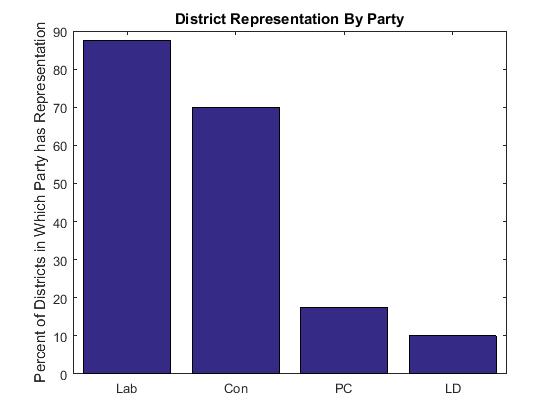
The full DMP results are shown overleaf. 25 of the constituencies have one Labour member and one Conservative member. Here is a summary of the constituency compositions. The number 25 appears where the Labour stripe crosses the Conservative stripe. The numbers at the other crossings do the same job for the other combinations. Only 6 constituencies return a pair of members from the same party.. Five Labour and one Plaid Cymru.

**Labour**

**Conservative**

**Plaid Cymru**

**Lib Dem**



|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Lab** | **Cons** | **PC** | **LD** |  | **Lab** | **Cons** | **PC** | **LD** | **UKIP** | **Green** | **other** |
| Aberavon |  | **2** |  |  |  |  | 22662 | 5901 | 2761 | 599 | 1345 | 0 | 0 |
| Aberconwy |  | **1** | **1** |  |  |  | 13702 | 14337 | 3170 | 941 | 0 | 0 | 0 |
| Alyn and Deeside |  | **1** | **1** |  |  |  | 23315 | 18080 | 1171 | 1077 | 1117 | 0 | 0 |
| Arfon |  | **1** |  | **1** |  |  | 11427 | 4614 | 11519 | 648 | 0 | 0 | 0 |
| Blaenau Gwent |  | **1** |  | **1** |  |  | 18787 | 4783 | 6880 | 295 | 973 | 0 | 666 |
| Brecon and Radnorshire |  |  | **1** |  | **1** |  | 7335 | 20081 | 1299 | 12043 | 576 | 0 | 0 |
| Bridgend |  | **1** | **1** |  |  |  | 21913 | 17213 | 1783 | 919 | 781 | 0 | 646 |
| Caerphilly |  | **1** | **1** |  |  |  | 22491 | 10413 | 5962 | 725 | 1259 | 447 | 0 |
| Cardiff Central |  | **1** |  |  | **1** |  | 25193 | 7997 | 999 | 5415 | 343 | 420 | 0 |
| Cardiff North |  | **1** | **1** |  |  |  | 26081 | 21907 | 1738 | 1714 | 582 | 0 | 0 |
| Cardiff South and Penarth |  | **1** | **1** |  |  |  | 30182 | 15318 | 2162 | 1430 | 942 | 532 | 170 |
| Cardiff West |  | **1** | **1** |  |  |  | 26425 | 13874 | 4418 | 1214 | 698 | 0 | 0 |
| Carmarthen East and Dinefwr |  |  |  | **2** |  |  | 12219 | 10778 | 16127 | 920 | 985 | 0 | 0 |
| Carmarthen West and South Pembrokeshire |  | **1** | **1** |  |  |  | 16661 | 19771 | 3933 | 956 | 905 | 0 | 0 |
| Ceredigion |  |  |  | **1** | **1** |  | 8017 | 7307 | 11623 | 11519 | 602 | 542 | 157 |
| Clwyd South |  | **1** | **1** |  |  |  | 19002 | 14646 | 2293 | 731 | 802 | 0 | 0 |
| Clwyd West |  | **1** | **1** |  |  |  | 16104 | 19541 | 3918 | 1091 | 0 | 0 | 0 |
| Cynon Valley |  | **2** |  |  |  |  | 19404 | 6166 | 4376 | 585 | 1271 | 0 | 0 |
| Delyn |  | **1** | **1** |  |  |  | 20573 | 16333 | 1481 | 1031 | 0 | 0 | 0 |
| Dwyfor Meirionnydd |  |  | **1** | **1** |  |  | 6273 | 8837 | 13687 | 937 | 614 | 0 | 0 |
| Gower |  | **1** | **1** |  |  |  | 22727 | 19458 | 1669 | 931 | 642 | 0 | 149 |
| Islwyn |  | **1** | **1** |  |  |  | 21238 | 9826 | 2739 | 685 | 1605 | 0 | 0 |
| Llanelli |  | **1** |  | **1** |  |  | 21568 | 9544 | 7351 | 548 | 1331 | 0 | 0 |
| Merthyr Tydfil and Rhymney |  | **2** |  |  |  |  | 22407 | 6073 | 2740 | 841 | 1484 | 0 | 0 |
| Monmouth |  | **1** | **1** |  |  |  | 18205 | 26411 | 1338 | 2064 | 762 | 954 | 0 |
| Montgomeryshire |  |  | **1** |  | **1** |  | 5542 | 18075 | 1960 | 8790 | 0 | 524 | 0 |
| Neath |  | **1** | **1** |  |  |  | 21713 | 9082 | 5339 | 732 | 1419 | 0 | 0 |
| Newport East |  | **1** | **1** |  |  |  | 20804 | 12801 | 881 | 966 | 1180 | 0 | 188 |
| Newport West |  | **1** | **1** |  |  |  | 22723 | 17065 | 1077 | 976 | 1100 | 497 | 0 |
| Ogmore |  | **2** |  |  |  |  | 23225 | 9354 | 2796 | 594 | 1235 | 0 | 0 |
| Pontypridd |  | **1** | **1** |  |  |  | 22103 | 10655 | 4102 | 1963 | 1071 | 0 | 0 |
| Preseli Pembrokeshire |  | **1** | **1** |  |  |  | 17988 | 18302 | 2711 | 1106 | 850 | 0 | 1240 |
| Rhondda |  | **1** |  | **1** |  |  | 21096 | 3333 | 7350 | 277 | 880 | 0 | 0 |
| Swansea East |  | **2** |  |  |  |  | 22307 | 9139 | 1689 | 625 | 1040 | 359 | 0 |
| Swansea West |  | **1** | **1** |  |  |  | 22278 | 11680 | 1529 | 1269 | 0 | 434 | 92 |
| Torfaen |  | **1** | **1** |  |  |  | 22134 | 11894 | 2059 | 852 | 1490 | 0 | 0 |
| Vale Of Clwyd |  | **1** | **1** |  |  |  | 19423 | 17044 | 1551 | 666 | 0 | 0 | 0 |
| Vale Of Glamorgan |  | **1** | **1** |  |  |  | 23311 | 25501 | 2295 | 1020 | 868 | 419 | 304 |
| Wrexham |  | **1** | **1** |  |  |  | 17153 | 15321 | 1753 | 865 | 0 | 0 | 0 |
| Ynys Mon |  | **1** | **1** |  |  |  | 15643 | 10384 | 10237 | 479 | 624 | 0 | 0 |

Sean Graham and I would be very happy to bring a more-detailed DMP submission to the Panel, if there is interest.