

An STV scheme for Westminster

This paper presents a specific scheme for implementing STV for the UK parliament, using constituencies based on Local Authority areas, each (with a few exceptions) electing 3-6 MPs.

This scheme has the well-known advantages of STV, including:

- It scores highly on all the main good system criteria of fair results, voter power and choice, local representation, and ease of use.
- In particular, it avoids the problems of safe seats, wasted votes, and thus the incentives for tactical voting, which significantly affect the two alternatives, and make them vulnerable to public and media criticism.
- Votes that would otherwise be wasted can be transferred, thus encouraging more collaboration between parties.

Additionally, basing constituencies on local government areas has advantages of identity and clarity of responsibility for both voter and MP. Boundaries will only rarely need changing, as demographic changes can normally be allowed for by changing the number of MPs rather than the boundaries. An advantage of this is that the seat allocation can be updated very simply whenever the electoral roll is updated. Thus although drawing boundaries this way means that parity (the number of voters per MP) will vary by on average $\pm 6\%$, this variability will not drift upwards over the years, with a likely political bias, as happens with the traditional boundary revision process.

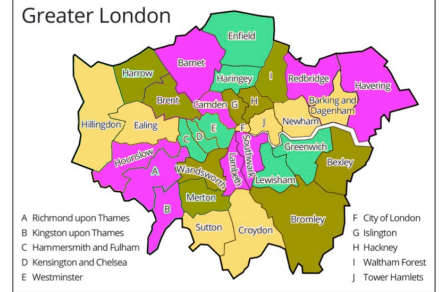
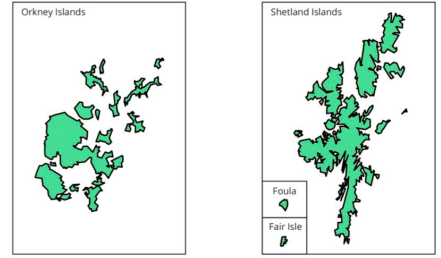
[Probably needs a technical appendix with a few more details of the methodology; this could include a figure comparing the variability in parity with that of current FPTP constituencies.]

STV for Westminster

Constituencies based on Local Authority boundaries, each electing 3-6 MPs

(with a few exceptions, including the single-member Western and Northern Isles seats)

650 MPs from 143 constituencies



Legend

- Unitary authorities
- Local authority districts (including metropolitan districts & London boroughs)
- Council areas (Scotland)
- Local government districts (Northern Ireland)
- Counties (see note below), unitary authorities, council areas or local government districts (county names only shown in bold text)

Boundaries shown are effective as follows: non-metropolitan counties, Greater London Authority, unitary authorities, non-metropolitan districts, London boroughs, metropolitan districts, council areas and local government districts at 31 December 2017. (* *)

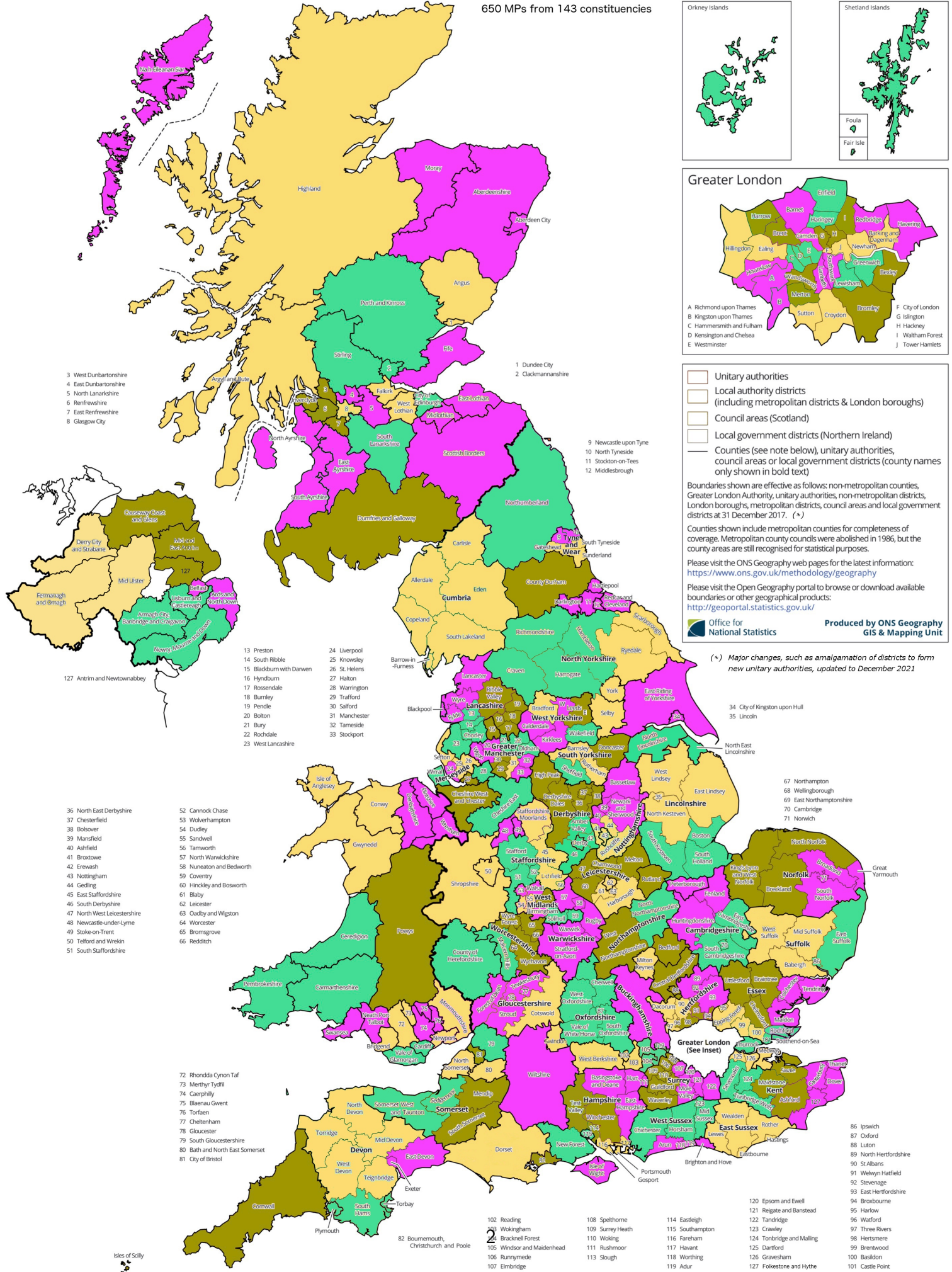
Counties shown include metropolitan counties for completeness of coverage. Metropolitan county councils were abolished in 1986, but the county areas are still recognised for statistical purposes.

Please visit the ONS Geography web pages for the latest information: <https://www.ons.gov.uk/methodology/geography>

Please visit the Open Geography portal to browse or download available boundaries or other geographical products: <http://geoportals.statistics.gov.uk/>

Office for National Statistics
Produced by ONS Geography GIS & Mapping Unit

(* *) Major changes, such as amalgamation of districts to form new unitary authorities, updated to December 2021



1 Council areas in Scotland and local government districts in Northern Ireland are equivalent to unitary authorities in England and Wales, but are shown separately.

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SCHEDULE OF CONSTITUENCIES

ENGLAND (543 seats)

NORTHEAST (27 SEATS)

1 Northumberland

electorate 248062, seats 4

LAs: Northumberland

2 Tyneside North

electorate 343966, seats 5

LAs: Newcastle upon Tyne; North Tyneside

3 Tyneside South

electorate 463667, seats 6

LAs: Gateshead; South Tyneside; Sunderland

4 County Durham

electorate 388779, seats 5

LAs: County Durham

5 Teesside

electorate 490611, seats 7

LAs: Darlington; Hartlepool; Middlesbrough; Redcar and Cleveland; Stockton-on-Tees

NORTHWEST (73 SEATS)

6 Cumbria

electorate 386052, seats 5

LAs: Allerdale; Barrow-in-Furness; Carlisle; Copeland; Eden; South Lakeland

7 Lancashire NW

electorate 359783, seats 5

LAs: Blackpool; Fylde; Lancaster; Wyre

8 Lancashire SW

electorate 352961, seats 5

LAs: Chorley; Preston; South Ribble; West Lancashire

9 Lancashire East

electorate 389125, seats 5

LAs: Blackburn with Darwen; Burnley; Hyndburn; Pendle; Ribble Valley; Rossendale

10 Bury, Rochdale and Oldham

electorate 461828, seats 6

LAs: Bury; Oldham; Rochdale

11 Tameside and Stockport

electorate 386172, seats 5

LAs: Stockport; Tameside

12 Manchester

electorate 349726, seats 5

LAs: Manchester

13 Trafford and Salford

electorate 341258, seats 5

LAs: Salford; Trafford

14 Bolton and Wigan

electorate 435405, seats 6

LAs: Bolton; Wigan

15 St Helens, Knowsley and Sefton

electorate 469910, seats 7

LAs: Knowsley; Sefton; St. Helens

16 Liverpool

electorate 322441, seats 5

LAs: Liverpool

17 Wirral

electorate 240866, seats 3

LAs: Wirral

18 Cheshire West

electorate 362639, seats 5

LAs: Cheshire West and Chester; Halton

19 Cheshire East

electorate 456175, seats 6

LAs: Cheshire East; Warrington

YORKSHIRE AND HUMBER (54 SEATS)

20 Yorkshire NW

electorate 277046, seats 4

LAs: Hambleton; Richmondshire; Craven; Harrogate

21 Yorkshire NE and Selby

electorate 340980, seats 5

LAs: Scarborough; Ryedale; York; Selby

22 Yorkshire East

electorate 442571, seats 6

LAs: East Riding of Yorkshire; Kingston upon Hull

23 Leeds West

electorate 273982, seats 4

LAs: the parts of Leeds in the current single-member constituencies of Leeds NE, Leeds NW, Leeds W and Pudsey

24 Leeds East

electorate 288795, seats 4

LAs: the parts of Leeds not in Leeds West

25 Bradford
 electorate 358903, seats 5
 LAs: Bradford

26 Calderdale and Kirklees
 electorate 456875, seats 6
 LAs: Calderdale; Kirklees

27 Wakefield
 electorate 252412, seats 4
 LAs: Wakefield

28 Sheffield
 electorate 393974, seats 5
 LAs: Sheffield

29 Barnsley and Rotherham
 electorate 372136, seats 5
 LAs: Barnsley; Rotherham

30 Doncaster
 electorate 216359, seats 3
 LAs: Doncaster

31 Lincolnshire North
 electorate 238961, seats 3
 LAs: North East Lincolnshire; North Lincolnshire

WEST MIDLANDS (57 SEATS)

32 Stoke and Newcastle
 electorate 261253, seats 4
 LAs: Newcastle-under-Lyme; Stoke-on-Trent

33 Staffordshire East
 electorate 301824, seats 4
 LAs: East Staffordshire; Lichfield; Staffordshire Moorlands; Tamworth

34 Staffordshire West
 electorate 262745, seats 4
 LAs: Cannock Chase; South Staffordshire; Stafford

35 Shropshire
 electorate 370861, seats 5
 LAs: Shropshire; Telford and Wrekin

36 Herefordshire and Malvern
 electorate 202079, seats 3
 LAs: Herefordshire; Malvern Hills

37 Worcestershire East
 electorate 383812, seats 5
 LAs: Bromsgrove; Redditch; Worcester; Wychavon; Wyre Forest

38 Dudley and Sandwell
 electorate 454969, seats 6
 LAs: Dudley; Sandwell

39 Wolverhampton and Walsall
 electorate 366535, seats 5
 LAs: Walsall; Wolverhampton

40 Birmingham North
 electorate 353590, seats 5
 LAs: the parts of Birmingham in the current single-member constituencies of Birmingham Erdington, Birmingham Hodge Hill, Birmingham Ladywood, Birmingham Perry Barr and Sutton Coldfield

41 Birmingham South
 electorate 362670, seats 5
 LAs: the parts of Birmingham not in Birmingham North

42 Solihull and Coventry
 electorate 374562, seats 5
 LAs: Coventry; Solihull

43 Warwickshire
 electorate 425143, seats 6
 LAs: North Warwickshire; Nuneaton and Bedworth; Rugby; Stratford-on-Avon; Warwick

EAST MIDLANDS (47 SEATS)

44 Lincolnshire Central
 electorate 333349, seats 5
 LAs: East Lindsey; Lincoln; North Kesteven; West Lindsey

45 Lincolnshire South
 electorate 211342, seats 3
 LAs: Boston; South Holland; South Kesteven

46 Nottinghamshire North
 electorate 343107, seats 5
 LAs: Ashfield; Bassetlaw; Mansfield; Newark and Sherwood

47 Nottinghamshire South
 electorate 454550, seats 6
 LAs: Broxtowe; Gedling; Nottingham; Rushcliffe

48 Derbyshire North
 electorate 346603, seats 5
 LAs: Bolsover; Chesterfield; Derbyshire Dales; High Peak; North East Derbyshire

49 Derbyshire South

electorate 440256, seats 6

LAs: Amber Valley; Derby; Erewash; South Derbyshire

50 Leicestershire North and Rutland

electorate 372206, seats 5

LAs: Charnwood; Hinckley and Bosworth; Melton; North West Leicestershire; Rutland

51 Leicestershire South

electorate 402342, seats 5

LAs: Blaby; Harborough; Leicester; Oadby and Wigston

52 West Northamptonshire

electorate 279313, seats 4

LAs: Daventry; Northampton; South Northamptonshire

53 North Northamptonshire

electorate 242263, seats 3

LAs: Corby; East Northamptonshire; Kettering; Wellingborough

EASTERN (61 SEATS)

54 Cambridgeshire North

electorate 323426, seats 4

LAs: Fenland; Huntingdonshire; Peterborough

55 Cambridgeshire South

electorate 261042, seats 4

LAs: Cambridge; East Cambridgeshire; South Cambridgeshire

56 Norfolk West

electorate 298098, seats 4

LAs: Breckland; King's Lynn and West Norfolk; North Norfolk

57 Norfolk East

electorate 376131, seats 5

LAs: Broadland; Great Yarmouth; Norwich; South Norfolk

58 Suffolk West

electorate 269734, seats 4

LAs: Babergh; Mid Suffolk; West Suffolk

59 Suffolk East

electorate 282411, seats 4

LAs: East Suffolk; Ipswich

60 Essex East

electorate 299187, seats 4

LAs: Colchester; Maldon; Tendring

61 Essex North

electorate 309260, seats 4

LAs: Braintree; Chelmsford; Uttlesford

62 Essex West

electorate 349952, seats 5

LAs: Basildon; Brentwood; Epping Forest; Harlow

63 Essex South

electorate 376591, seats 5

LAs: Castle Point; Rochford; Southend-on-Sea; Thurrock

64 Hertfordshire East

electorate 268695, seats 4

LAs: East Hertfordshire; North Hertfordshire; Stevenage

65 Hertfordshire South

electorate 282240, seats 4

LAs: Broxbourne; Hertsmere; Watford; Welwyn Hatfield

66 Hertfordshire West

electorate 281817, seats 4

LAs: Dacorum; St Albans; Three Rivers

67 Bedfordshire

electorate 461241, seats 6

LAs: Bedford; Central Bedfordshire; Luton

LONDON (75 SEATS)

68 East End and Islington

electorate 479466, seats 7

LAs: Hackney; Islington; Tower Hamlets

69 West End

electorate 340933, seats 5

LAs: Camden; City of London; Kensington and Chelsea; Westminster

70 Hammersmith, Fulham and Wandsworth

electorate 315102, seats 4

LAs: Hammersmith and Fulham; Wandsworth

71 Lambeth and Southwark

electorate 406960, seats 6

LAs: Lambeth; Southwark

72 Lewisham and Greenwich

electorate 357354, seats 5

LAs: Greenwich; Lewisham

73 London East

electorate 491122, seats 7

LAs: Barking and Dagenham; Havering; Redbridge

74 Newham and Waltham Forest

electorate 349903, seats 5

LAs: Newham; Waltham Forest

75 Enfield and Haringey

electorate 354719, seats 5

LAs: Enfield; Haringey

76 Barnet and Brent

electorate 427965, seats 6

LAs: Barnet; Brent

77 Harrow and Hillingdon

electorate 355329, seats 5

LAs: Harrow; Hillingdon

78 Ealing and Hounslow

electorate 375469, seats 5

LAs: Ealing; Hounslow

79 London Southwest

electorate 374506, seats 5

LAs: Kingston upon Thames; Merton; Richmond upon Thames

80 Sutton and Croydon

electorate 396729, seats 5

LAs: Croydon; Sutton

81 Bromley and Bexley

electorate 404928, seats 5

LAs: Bexley; Bromley

SOUTHEAST (91 SEATS)

82 Kent North

electorate 342899, seats 5

LAs: Dartford; Gravesham; Medway

83 Kent Central

electorate 321344, seats 4

LAs: Ashford; Maidstone; Swale

84 Kent East

electorate 374645, seats 5

LAs: Canterbury; Dover; Folkestone and Hythe; Thanet

85 Kent West

electorate 269107, seats 4

LAs: Sevenoaks; Tonbridge and Malling; Tunbridge Wells

86 East Sussex

electorate 409854, seats 6

LAs: Eastbourne; Hastings; Lewes; Rother; Wealden

87 Sussex South

electorate 447686, seats 6

LAs: Adur; Arun; Brighton and Hove; Worthing

88 Sussex West

electorate 388290, seats 5

LAs: Chichester; Crawley; Horsham; Mid Sussex

89 Surrey East

electorate 386953, seats 5

LAs: Elmbridge; Epsom and Ewell; Mole Valley; Reigate and Banstead; Tandridge

90 Surrey West

electorate 458283, seats 6

LAs: Guildford; Runnymede; Spelthorne; Surrey Heath; Waverley; Woking

91 Milton Keynes

electorate 180294, seats 3

LAs: Milton Keynes

92 Buckinghamshire

electorate 396713, seats 6

LAs: Buckinghamshire

93 Oxfordshire

electorate 492268, seats 7

LAs: Cherwell; Oxford; South Oxfordshire; Vale of White Horse; West Oxfordshire

94 Berkshire East

electorate 276726, seats 4

LAs: Bracknell Forest; Slough; Windsor and Maidenhead

95 Berkshire West

electorate 349108, seats 5

LAs: Reading; West Berkshire; Wokingham

96 Hampshire NE

electorate 362511, seats 5

LAs: Basingstoke and Deane; East Hampshire; Hart; Rushmoor

97 Hampshire South
electorate 388023, seats 5
LAs: Fareham; Gosport; Havant; Portsmouth

98 Hampshire Central
electorate 288522, seats 4
LAs: Eastleigh; Test Valley; Winchester

99 Southampton and New Forest
electorate 297602, seats 4
LAs: New Forest; Southampton

100 Isle of Wight
electorate 109891, seats 2
LAs: Isle of Wight

SOUTHWEST (58 SEATS)

101 Bournemouth, Christchurch and Poole
electorate 282845, seats 4
LAs: Bournemouth, Christchurch and Poole

102 Dorset
electorate 298106, seats 4
LAs: Dorset

103 Wiltshire
electorate 371728, seats 5
LAs: Wiltshire

104 Swindon and Cotswold
electorate 223414, seats 3
LAs: Cotswold; Swindon

105 Gloucestershire West
electorate 405187, seats 6
LAs: Cheltenham; Forest of Dean; Gloucester; Stroud; Tewkesbury

106 South Gloucestershire
electorate 214339, seats 3
LAs: South Gloucestershire

107 Bristol
electorate 320825, seats 4
LAs: Bristol

108 Somerset North
electorate 298793, seats 4
LAs: Bath and North East Somerset; North Somerset

109 Somerset SE
electorate 216150, seats 3
LAs: Mendip; South Somerset

110 Somerset West
electorate 207628, seats 3
LAs: Sedgemoor; Somerset West and Taunton Deane

111 Devon East
electorate 207013, seats 3
LAs: East Devon; Exeter

112 Devon North
electorate 340471, seats 5
LAs: Mid Devon; North Devon; Teignbridge; Torridge; West Devon

113 Devon South
electorate 361441, seats 5
LAs: Plymouth; South Hams; Torbay

114 Cornwall and Scilly
electorate 431501, seats 6
LAs: Cornwall; Isles of Scilly

WALES (32 seats)

115 Gwynedd
electorate 226626, seats 3
LAs: Conwy; Gwynedd; Isle of Anglesey

116 Clwyd
electorate 285767, seats 4
LAs: Denbighshire; Flintshire; Wrexham

117 Powys
electorate 103433, seats 2
LAs: Powys

118 Dyfed
electorate 292719, seats 4
LAs: Carmarthenshire; Ceredigion; Pembrokeshire

119 West Glamorgan
electorate 283958, seats 4
LAs: Neath Port Talbot; Swansea

120 Mid Glamorgan
electorate 327805, seats 4
LAs: Bridgend; Merthyr Tydfil; Rhondda Cynon Taf

121 South Glamorgan
electorate 350435, seats 5
LAs: Cardiff; Vale of Glamorgan

122 Gwent West
electorate 252108, seats 3
LAs: Blaenau Gwent; Caerphilly; Torfaen

123 Newport and Monmouthshire

electorate 181789, seats 3

LAs: Monmouthshire; Newport

SCOTLAND (57 seats)

124 Orkney and Shetland

electorate 34387, seats 1

LAs: Shetland; Orkney

125 Na h-Eileanan an Iar

electorate 21151, seats 1

LAs: Eilean Siar

126 Highland and Argyll

electorate 245440, seats 4

LAs: Highland; Argyll and Bute

127 Grampian

electorate 418605, seats 6

LAs: Moray; Aberdeenshire; Aberdeen

128 Tayside

electorate 191982, seats 3

LAs: Angus; Dundee

129 Perthshire and Stirling

electorate 217796, seats 3

LAs: Perth and Kinross; Stirling;

Clackmannanshire

130 Fife

electorate 276211, seats 4

LAs: Fife

131 West Central Scotland

electorate 334919, seats 4

LAs: West Dunbartonshire; Inverclyde;

Renfrewshire; East Renfrewshire

132 Glasgow

electorate 437909, seats 6

LAs: Glasgow

**133 North Lanark and East
Dunbartonshire**

electorate 336687, seats 5

LAs: East Dunbartonshire; North Lanarkshire

134 South Lanark

electorate 249304, seats 3

LAs: South Lanarkshire

135 Ayrshire

electorate 289592, seats 4

LAs: North Ayrshire; East Ayrshire; South

Ayrshire

136 Falkirk and West Lothian

electorate 253055, seats 3

LAs: Falkirk; West Lothian

137 Edinburgh

electorate 349398, seats 5

LAs: Edinburgh

138 Southeast Scotland

electorate 241000, seats 3

LAs: Midlothian; East Lothian; Scottish
Borders

139 Dumfries and Galloway

electorate 114993, seats 2

LAs: Dumfries and Galloway

NORTHERN IRELAND (18 seats)

140 Northern Ireland West

electorate 288485, seats 4

LAs: Fermanagh and Omagh; Derry and
Strabane; Mid Ulster

141 Northern Ireland North

electorate 295456, seats 4

LAs: Causeway Coast and Glens; Mid and
East Antrim; Antrim and Newtownabbey

142 Northern Ireland East

electorate 341826, seats 5

LAs: Belfast; Ards and North Down

143 Northern Ireland South

electorate 369921, seats 5

LAs: Lisburn and Castlereagh; Armagh City,
Banbridge and Craigavon; Newry, Mourne
and Down

Methodology

The overall methodology is "boundaries first, allocation second". Thus, using the electoral quota for the UK (electors/650) of about 73 K as a guide, constituencies based on LAs were identified with electorates of 250-400 K where possible, but allowing 200-500 where necessary. That corresponds roughly to "prefer 4 or 5 member constituencies, but 3, 6 or 7 are allowed where necessary. The 3-7 seat range is widely agreed to work best for STV, and is recommended more generally for electoral systems by the electoral experts Carey and Hix.

This roughly 1:2 range of sizes gives sufficient flexibility to draw up boundaries entirely based on LAs, and where grouping several together is required doing so in a way that fits local ties. It is interesting to note that current government guidelines for the size of new Unitary Authorities agree not only in having a 1:2 range of allowed sizes, but choosing almost exactly the same size range - population 300-600 K, which corresponds to roughly 200-400 K electorate.

Once boundaries have been drawn, seats can be allocated by any of the well-established sharing algorithms. I have used the US method for allocations between states, Huntington-Hill (HH); St Lague would give very similar results. Each works in terms of a quota: St L gives seats equal to the nearest whole number of quotas arithmetically, HH does the same in proportional terms. I think HH fairest - certainly its adoption in the US came after careful consideration and after trying out d'Hondt, St L and at least one other method previously. In either case the maximum discrepancy in parity (at the borderline between allocating 3 and 4 seats) is around 15%. But the standard deviation in parity is around 6%, and the scheme has the great advantage that it can be updated very easily to current electorates. Traditional boundary revisions may give a smaller variation in parity initially, but with revisions at best at around 10-year intervals they can easily drift to much greater variability.

I have allowed a number of special cases: the two Scottish island constituencies and the Isle of Wight, plus two very extensive rural LAs, that do not group easily with a neighbour. These are Dumfries and Galloway and Powys, which each have electorates close to that of the Isle of Wight. And I have also made a "+10%" allowance for the geographically huge area of the Highlands which would otherwise fall just short of getting 4 seats. For the 1 and 2-seat cases I used a 1-sided limit on unfairness, so that no seat should have more than 15% electors above quota.