

Making Local Government More, not Less, Democratic

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The government's proposed 2018 Local Government Act was a backward step in terms of democracy. The latest proposal is a backward leap. It is based on a complete lack of understanding of democratic principles, electoral systems and modern local government. It is so archaic that it belongs in the era of Roman numerals. It takes us back to the Middle Ages when the knights of each county and the burgesses of each borough sent representatives to England's House of Commons. It sees representative institutions as small-scale United Nations, in which the ambassadors from each area come together to negotiate over local interests; e.g., "I'll support your footpath if you support my football field".

Representative bodies should represent the views of the people who vote for them in whatever proportion those voters decide. The current Local Government Act demands that electoral structures be "fair and equitable", even though it allows for structures that are manifestly unfair and inequitable. The proposed Local Government Act would deny the overwhelming majority of Victorians even the possibility of having a "fair and equitable" electoral structure. It would force the archaic, unrepresentative single-councillor ward structure on almost every council in the state, restricting truly representative and democratic councils to a few large rural areas.

Executive Summary

Almost every step towards democracy or equity is opposed vehemently when it is made but eventually accepted.

It is appalling that the forces of reaction are strong enough to get the party that made the single transferable vote the standard method for Victorian councils to reverse itself and propose returning council electoral structures to the unrepresentative past.

Local government is a community enterprise. Local councils need to represent their whole communities in proportion to the diverse views of those communities.

The Local Government Act does not define "fair" or "equitable", but a fair and equitable electoral structure would ensure

- * that the council is as representative as possible of the way the voters voted,
- * that as many voters as possible had a vote that counted towards the result
- * that no group could win a majority of positions on the council without first winning a majority of the vote in the municipal district, and
- * that all voters were treated equally.

The only voting system that meets the first three criteria is the single transferable vote version of proportional representation.

Councils ought to represent the different views of their communities in proportion to the number of people who hold those views, and voters are entitled to group themselves in any way they like, not be told they must vote as a geographic "community of interest" when they do not want to because they are divided by issues of far greater significance.

As a matter of simple efficiency, the Act should set out a schedule of councillor numbers based on the population and geographic size of the municipal district. There is no need for any electoral representation reviews – ever.

Unsubdivided councils allow voters to vote on the basis of their geographic community of interest, but do not compel them to do so.

List systems of proportional representation do favour political parties, but the single transferable vote does not. It is specifically designed to elect individuals.

The arguments put against unsubdivided councils and those for single-councillor wards do not stack up. They are archaic and contrary to modern principle and practice.

Electoral structures with multi-councillor wards are more representative than those with single-councillor wards, but they leave fewer voters with effective votes than unsubdivided structures do and still allow groups to win control of the council on a minority of the vote, something that is impossible under unsubdivided structures.

Single-councillor wards allow minority control, while leaving some minorities with no representation at all, and leave the fewest number of voters with effective votes. They should not even exist much less imposed on all councils.

The Fight Against Progress

It is a fact of human history that almost every step towards democracy or equity is opposed vehemently when it is made but eventually accepted as being so obviously justified that no one of any standing advocates going backwards.

Trade unions were once banned as illegal conspiracies. Think of the Masters and Servants Act or the Tolpuddle Martyrs. Now they are accepted, even if there is some disagreement over their role, rights and powers.

Medibank was opposed vociferously, requiring the only joint sitting in Australian history to be passed into law. It was then repealed and then re-introduced as Medicare. Now no party of any status opposes it. It is as good as universally accepted as an obvious benefit to the community.

Manhood suffrage was opposed by those who thought people should be governed by their betters. No one today suggests returning to the property franchise.

Giving votes to women was opposed by the male-dominated parliaments of the nineteenth and, in some jurisdictions, the early twentieth century. No one today suggests returning to the days of male-only votes.

Aborigines in Queensland and Western Australia were banned from voting in federal elections in 1902. (Those in the other states already had the state vote and so could not be denied a federal vote because Section 41 of the Constitution means that it is unconstitutional to remove the right to vote in federal elections from anyone who has it for state elections.) The right to vote in federal elections was gradually extended to all Aborigines from the 1940s on and fully required by 1962. No one today suggests returning to the days of race-based voting in any state.

Compulsory voting was opposed by those who did not want the poor and disengaged having a say in politics. Apart from a few libertarians on the fringe, no one today suggests returning to the days of voluntary voting.

The single transferable vote for the Senate was opposed by those who profited from the winner-take all farce that had existed since 1901 and gave such unrepresentative results as in 1910 (when the Liberal Party won 45.6 per cent of the vote and no seats, while the ALP won 50.3 per cent of the vote and all 18 seats) and in 1917 (when the Nationalist Party won 55.4 per cent of the vote and all 18 seats, while the ALP won 43.7 per cent of the vote and no seats). No one today suggests returning to the days of grossly distorted Senate election results, despite the Coalition/Greens/Xenophon rigging of the voting system, which for all its manifest faults is not as bad as the pre-1949 system.

Requiring electorates to have equal numbers of voters was opposed by country MPs, who appreciated the extra weight it gave their voices. No one today suggests returning to the days of a country vote being worth twice a city vote.

The single transferable vote for the Victorian Legislative Council was opposed by those who appreciated the advantage the old single-member-at-each-election-seats gave to the non-Labor side of politics in Victoria. No one today suggests returning to the days of an unrepresentative Legislative Council, even though there is some argument over some of the details of the voting system.

Unions, Medicare, universal suffrage, compulsory voting, requiring electorates to have equal numbers of voters and the single transferable vote for the Senate and the Legislative Council were all moves to a more equitable and democratic society. All were strongly opposed. All are now widely accepted, so widely that it is inconceivable that anyone would try nowadays to have them undone. Progress is resisted by special interests, which predict gloom and doom, and is then accepted as part of the unchallengeable fabric of life.

Going Backwards with Local Government

That brings us to local government, where the forces of reaction still have some life in them, so much life that they can get the side of politics that introduced Medibank, Medicare, equal electorates and the single transferable vote for both the Senate and the Legislative Council, that supported trade unions and votes for women, that opposed the property franchise, that took the first steps to extending the federal voting rights of Aborigines and that even made the single transferable vote the standard method for Victorian councils to reverse itself and propose returning council electoral structures to the era of Roman numerals.

The Essence of Local Government

Local government was once thought of as the provider of local infrastructure. It built roads and footpaths, established grounds and collected garbage. It was a contest in which the people of various areas pooled rate revenue and wanted to get something tangible back in their own areas. It was natural that it was seen as essentially representing geographic communities of interest. Local government was established in the Middle Ages, when local areas, counties and boroughs, sent two representatives each, to the House of Commons, irrespective of population. Representation of the interests of an area was so well entrenched as a concept that population was not considered relevant. Furthermore, when local government was established in Victoria, modern voting systems had not even been conceived. The town of Melbourne was created in 1842 (before separation from New South Wales). The first use of the single transferable vote was in 1856 for the Danish Rigsdag. It did not become known in the English-speaking world until Thomas Hare proposed it in 1857. It did not reach Australia until 1896, when it was used to elect the Tasmanian House

of Assembly. The consequence of this history is that local councils have been trapped by old-fashioned concepts of representation and outdated understandings of their roles.

Under the current Local Government Act, the Victorian Electoral Commission is tasked with recommending the electoral structure for each municipal district. It may recommend an unsubdivided council (the most democratic and representative of all structures), multi-councillor wards (the mid-point), single-councillor wards (the most undemocratic and unrepresentative of all structures) or a combination of multi-councillor wards and single-councillor wards (the weird option). Over the long term, it has gradually been increasing the number of councils with at least some councillors elected by the single transferable vote, whether from unsubdivided councils, councils with multi-councillor wards or councils with combinations. More recently, it has gone backwards in recommending some unsubdivided councils be divided into wards and overturning its own preferred option for the Shire of Nillumbik to be divided into multi-councillor wards and extending the highly undemocratic and unrepresentative single-councillor ward structure first imposed on Nillumbik in 2002 for an intended total of 30 long years. It may have taken these otherwise inexplicable steps because it knew the government intended to turn back the clock in the new Local Government Act. There is no logical explanation, just as there would be no logical explanation for denying the vote to Aborigines or women or those who do not own property, for returning to the days of electorates of unequal numbers of voters, for reintroducing the electoral system that gave one party no seats in the Senate in an election and the other party all of them, for reintroducing the electoral system that ensured one side of politics could not win an ongoing majority in the Legislative Council for over 100 years or for reintroducing the electoral system that denied the one third of the voters who did not vote for major parties representation in either the Senate or the Legislative Council.

Local government is not just about who gets a footpath and who gets a football oval. It's about the overall life of the community. It is not a collection of ward ambassadors fighting over the pie, trading spending on one area for spending on another. It's not a collection of district roads boards anymore. Local government is a community enterprise. Local councils need a strategic focus. They need to represent their whole communities in proportion to the diverse views of those communities.

Fair and Equitable

Council electoral structures need to be "fair and equitable" as the current Local Government Act demands and allows (when the Victorian Electoral Commission so decrees) but does not enforce and as the proposed Local Government Act would prevent whatever it may say it demands.

The Local Government Act does not define "fair" or "equitable", but one would assume that a fair and equitable electoral structure would ensure that the council is as representative as possible of the way the voters voted, that as many voters as possible had a vote that counted towards the result, that no group could win a majority of positions on the council without first winning a majority of the vote in the municipal district and that all voters were treated equally.

The only voting system that meets the first three criteria is the single transferable vote version of proportional representation. Other systems can meet the fourth criterion, but only by treating voters equally badly.

We can illustrate the complete failure of single-councillor wards to meet the standard of being fair and equitable by looking at the numbers for the Shire of Nillumbik electoral representation review.

Option A, multi-councillor wards, gives only 70.23 per cent of Nillumbik voters an effective vote, while Option B, single-councillor wards, is even worse, giving only 50.01 per cent an effective vote. By contrast, the ideal, an unsubdivided council of seven councillors, would give 87.53 per cent of Nillumbik voters an effective vote.

Option A allows as few as 40.44 per cent of voters to get control of the council, while Option B allows an even smaller number, 27.31 per cent, to get control. By contrast, the ideal, an unsubdivided council of seven councillors, would mean that no group could win a majority on the council unless it polled 50.02 per cent of the total vote in the Shire. Such a majority would reflect the will of the people. It would be democratic. The majorities possible under Options A and B do not reflect the will of the people. They are not democratic.

Furthermore, Option A discriminates against voters in the two two-councillor wards because they have to reach 33.34 per cent of the vote to elect a councillor, while voters in the three-councillor ward need to reach only just over 25.00 per cent.

In summary, the ideal, an unsubdivided council, scores 137.53 on the Democracy Index (the top score of which is 150.01). By contrast, Option A scores a mere 105.88, and Option B scores a very low 77.32.

The details of these calculations are in the Appendix 1.

While the precise figures vary, the pattern is the same for every council in the state: an unsubdivided electoral structure always comes first by a long way, one of multi-councillor wards always comes in the middle and one of single-councillor wards always comes last by a long way. An unsubdivided council will always give the largest number of voters an effective vote. It will always ensure that no group can win a majority on a council without winning a majority of the vote. It will always represent the voters in the proportions in which they voted. A council with several multi-councillor wards will always give fewer voters an effective vote. It will always allow a minority of voters to win a majority on the council. It will always fail to represent voters in the proportions in which they voted. If it has wards with different numbers of councillors, it will also discriminate against the voters in the wards with the lower number of councillors by requiring them to reach a higher percentage quota in order to elect a councillor. A council with single-councillor wards will always give the lowest number of voters an effective vote. It will always allow a allow the smallest minority of voters to win a majority on the council. It will always fail to represent voters in the proportions in which they voted to a greater extent than a council with multi-councillor wards. Appendix 2 gives precise calculations from several other councils in the state, but simple maths tells us that just over one quarter of the vote will always be sufficient for a group to win control of such a council.

It needs to be understood that the single transferable vote is not about political parties but about individuals. List systems of proportional representation are about parties because voters vote for party lists and the parties fill the seats with their chosen candidates. Under the single transferable vote, they vote for individual candidates. Group voting tickets and above-

the-line votes are not essential to the single transferable vote and do not apply to local council elections.

The Advantages of Unsubdivided Councils

The advantages of an unsubdivided council are set out by the Victorian Electoral Commissions:

Promotes the concept of a council-wide focus with councillors being elected by, and concerned for, the local council as a whole, rather than parochial interests.

Gives residents and ratepayers a choice of councillors to approach with their concerns.

Each voter has the opportunity to express a preference for every candidate for the Council election.

Removes the need to define internal ward boundaries.

If a councillor resigns or is unable to complete their term, a replacement councillor is elected through a countback system, negating the need for a by-election.

(p 8, *Local Council Representation Review - Submission Guide Nillumbik Shire Council 2019*)

Democracy and Efficiency

First of all, if councils are to be truly representative of their communities, they cannot be elected from single-member wards. This has been explained in submission after submission by reference to the huge swings in pro- and anti-green wedge councillor numbers in the Shire of Nillumbik way beyond any swings in community sentiment. This occurs in election after election and is particularly destabilising to that community. Nillumbik is only an illustration, but the point is clear: councils ought to represent the different views of their communities in proportion to the number of people who hold those views, and voters are entitled to group themselves in any way they like, not be told they must vote as a geographic “community of interest” when they do not want to because they are divided by an issue of far greater significance.

Secondly, if as the explanatory memorandum to the 2018 bill says, “It is intended that the prescribed criteria [for councillor numbers] will be based on the population and geographic size of the municipality”, those criteria should be specified in the Act. In addition, if those criteria determine councillor numbers, there is no need for electoral representation reviews: once you have the size and population of a municipal district, you know the councillor numbers it must have. All that is required is a ward boundary review for any subdivided council, and there would be very few of those if the first point regarding representation were taken seriously. Taking this approach would give a quantum leap in efficiency as the Victorian Electoral Commission would not have to devote any resources at all to deciding how many councillors or wards a council should have.

Given that the council with largest area in the state, Mildura Rural City, and that with the second largest area, East Gippsland Shire, are unsubdivided, it is not necessary to subdivide any council on the basis of the distance councillors may have to travel to deal with their constituents. That leaves the number of councillors as the only reason to subdivide the council. The bill specifies 12 as the maximum number. Given the number of residents in some municipal districts, that number should be higher. There is also good reason, the avoidance of a 50-50 vote, for it to be an uneven number. Wards in any council should have the same number of councillors as each other so that each councillor requires the same percentage of the vote to be elected.

The following schedule should be in the Act:

For municipal districts of fewer than 3,000 square kilometres:

with up to 40,000 people	5 Councillors elected at large
with between 40,001 and 80,000 people	7 Councillors elected at large
with between 80,001 and 120,000 people	9 Councillors elected at large
with between 120,001 and 160,000 people	11 Councillors elected at large
with between 160,001 and 200,000 people	13 Councillors elected at large
with more than 200,000 people	15 Councillors elected from three wards of five councillors each

For municipal districts of between 3,000 and 10,000 square kilometres:

with up to 30,000 people	5 Councillors elected at large
with between 30,001 and 60,000 people	7 Councillors elected at large
with between 60,001 and 90,000 people	9 Councillors elected at large
with between 90,001 and 120,000 people	11 Councillors elected at large
with between 120,001 and 150,000 people	13 Councillors elected at large
with more than 150,000 people	15 Councillors elected from three wards of five councillors each

For municipal districts of more than 10,000 square kilometres:

with up to 20,000 people	5 Councillors elected at large
with between 20,001 and 40,000 people	7 Councillors elected at large
with between 40,001 and 60,000 people	9 Councillors elected at large
with between 60,001 and 80,000 people	11 Councillors elected at large
with between 80,001 and 100,000 people	13 Councillors elected at large
with more than 100,000 people	15 Councillors elected from three wards of five councillors each.

Thirdly, the continuation of the compulsory marking of all preferences is an imposition in elections with very large numbers of candidates. It is true that the principle behind compulsory voting, your duty as a citizen to choose, is the same principle behind the compulsory marking of preferences, but there comes a point at which that marking of preferences is unreasonable. For Legislative Council elections that point is legally speaking five. For Senate elections, it is legally speaking six below the line though, thanks to the disgusting deal between the Greens, the Xenophon Team and the Coalition, people are told it is 12. The same principle ought to apply to council elections, particularly given that the widespread existence of unsubdivided councils can mean dozens of candidates on the ballot paper.

Fourthly, it is undemocratic to allow the mayor to override the majority of councillors in appointing chairs to council committees.

Fifthly, it is undemocratic to ban MPs, electorate officers and various others from running for council, a practice that would have ruled out Ben Chifley from either the Abercrombie Shire Council or the prime ministership.

Sixthly, it is undemocratic to impose a rate cap on the budgetary decisions of elected councils, just as it would be undemocratic for the federal parliament to impose a taxation cap on state parliaments.

Letting the Community Decide its own Communities of Interest

The single transferable vote allows voters to group themselves in any way they like. They are not forced to vote as geographic communities of interest. They may vote as younger people, older people, low-income people, high-income people and so forth. They may even vote not as communities of interest but as citizens with a view on the issues confronting their municipal district.

Again, Nillumbik serves as an illustration:

“Each local council contains a number of communities of interest. Where practicable, the electoral structure should be designed to ensure they are fairly represented, and that geographic communities of interest are not split by ward boundaries. This allows elected councillors to be more effective representatives of the people and interests in their particular local council or ward.” (p 4, *Local Council Representation Review – Preliminary Report Nillumbik Shire Council 2019*)

If a council is to be subdivided it is reasonable that geographic communities of interest be not split between wards. Equally, non-geographic communities of interest should not be split. There is no need to split or even define any communities of interest in an unsubdivided council. In such a council, the voters themselves get to decide if they want to vote on the basis of their geographic community of interest or a non-geographic community of interest (e.g., age, family situation) or an actual political issue that they feel strongly about (e.g., rates, the green wedge).

There are 61,273 residents in Nillumbik (*Local Council Representation Review - Submission Guide Nillumbik Shire Council 2019*, p 21). We can assume that none of those aged 0-14 are voters and that some 30 per cent of those aged 15-24 are not either. That suggests that the residents aged 18-24 are 9.8 per cent of residents. If there are 48,969 voters out of 61,273 residents, the 9.8 per cent of residents who are aged 18-24 make up 13.0 per cent of the voters, those aged 25-44, 30.3 per cent; those aged 45-64, 40.0 per cent; those aged 65+, 16.7 per cent; those born overseas, 20.7 per cent; those with a non-English-speaking background, 12.2 per cent; low-income earners, 39.7 per cent; high-income earners, 15.8 per cent. None of those communities of interest is numerous enough to win any representation at all under Option B, while the only ward in Option A in which those aged 25-44 could win a position is Montsalvat, with its lower quota of 25.01 per cent. But those aged 18-24, those aged 65+, those born overseas, those with a non-English-speaking background and high-income earners could not win a position even there. By contrast, in an unsubdivided council, those aged 18-24, those aged 25-44, those aged 45-64, those aged 65+, those born overseas, low-income earners and high-income earners could all win a quota of 12.51 per cent and thus a position if voters voted according to those communities of interest. Those with a non-English-speaking background would come close. Some non-geographic communities of interest could win two or three quotas and thus two or three positions

Table 1. Non-geographic Communities of Interest

Non-geographic Communities of Interest	Percentage of Population	Estimated Percentage of Voters	Possible Seats in Ideal	...in Option A	... in Option B
Those aged 0-14	20.0	0.0	-	-	-
Those aged 15-17	4.4 est.	0.0	-	-	-
Those aged 18-24	9.8 est.	13.0	1	0	0
Those aged 25-44	22.9	30.3	2	1 in M	0
Those aged 45-64	30.2	40.0	3	1 in all	0
Those aged 65+	12.6	16.7	1	0	0
Those born overseas	15.6	20.7	1	0	0
Those with a non-English-speaking background	9.2	12.2	0	0	0
Low-income earners	31.8	39.7	3	1 in all	0
High-income earners	11.9	15.8	1	0	0
Total numbers	61,273	48,969	-	-	-

M is Montsalvat ward.

An unsubdivided council allows voters to choose a councillor from their area simply by voting for one, but it does not force them to do so. They are permitted to choose any candidate at all.

“In considering which electoral structure is most appropriate, the VEC considers the following matters:

- the VEC’s recommendation at the previous representation review and the reasons for that recommendation
- the longevity of the structure, with the aim of keeping voter numbers per councillor within the 10% tolerance for as long as possible (Principle 2)
- communities of interest, consisting of people who share a range of common concerns, such as geographic, economic or cultural associations (Principle 3)
- the number of candidates in previous elections, as outcomes from previous elections indicate, large numbers of candidates can lead to an increase in the number of informal (invalid) votes
- geographic factors, such as size and topography
- clear ward boundaries.” (p 6, *Local Council Representation Review - Submission Guide Nillumbik Shire Council 2019*.)

An unsubdivided council does not need any consideration of future population movements because there are no ward boundaries to be changed. An unsubdivided council does not privilege geographic communities of interest over economic or cultural ones. An unsubdivided council does not need to be concerned with size or topography. An unsubdivided council, elected by the single transferable vote represents the communities of interest that the voters themselves decide on.

If the voters in an unsubdivided council wish to vote on geographic liens they are free to do so. Again, calculations for Nillumbik illustrate this, but the principles are exactly the same for every council in the state. The only things that vary are the precise figures.

“Submitters that preferred multi-councillor wards argued that there remain distinct experiences and interests for people living in the urban parts of Nillumbik Shire compared to those living in rural areas of the Shire, which would be better served by councillors in wards representing broad geographic areas.” (p 10, *Local Council Representation Review – Preliminary Report Nillumbik Shire Council 2019*)

First of all, even if a council is subdivided into wards, voters do not have to vote for someone from the ward they live in. Candidates from elsewhere in the Shire are free to nominate and voters are free to vote for them. In fact, the current Bunjil ward councillor lives in Sugarloaf, and the current Sugarloaf councillor lives in Bunjil.

Secondly, in an unsubdivided structure, if voters in a locality wish to vote for a candidate from that locality they are still free to do so. Nillumbik illustrates the matter. The quota for an unsubdivided council is 6,123 votes. If 6,123 of the 12,971 voters in the proposed Artisan Hills area want to elect a local person they can do so in an unsubdivided council. If another 6,123 voters in that area also want to, they can do so. If 6,123 of the 15,207 voters in the proposed Plenty Valley area want to elect a local person they can do so in an unsubdivided council. If another 6,123 voters in that area also want to so, they also can. If 6,123 of the 20,841 voters in the proposed Montsalvat area want to elect a local person they can do so in an unsubdivided council. If another 6,123 voters in that area also want to do so, they also can. If yet another 6,123 voters in that area also want to do so, they also can. More specifically, if 6,123 of the 9,521 voters in Diamond Creek want to elect a councillor from Diamond Creek, they may do so in an unsubdivided council; if 6,123 of the 14,586 voters want to elect a councillor from Eltham, they may do so in an unsubdivided council, and if 12,246 so wish, they may elect two such councillors. Equally, in an unsubdivided council, if the voters in Plenty Valley, Artisan Hills or Montsalvat areas want to elect someone from elsewhere, they can. They are not forced to choose from the limited range of candidates.

It is open under an unsubdivided structure for all seven councillors to come from the areas suggested as wards under Option A – two from Artisan Hills, three from Montsalvat and two from Plenty Valley. All they require is for the people living in those areas to vote for them.

“These submitters also based their support for multi-councillor wards on the less positive features of an unsubdivided electoral structure. In an unsubdivided electoral structure, these submitters noted that all of the councillors could be elected from the urban areas of the Shire leaving the rural areas unrepresented.” (p 10, *Local Council Representation Review – Preliminary Report Nillumbik Shire Council 2019*)

If all the councillors came from the urban part of the Shire, that would be because not even 6,123 voters from the rural areas wanted a councillor from the rural area. That would be their democratic choice. In any case, under the current structure of seven wards, voters in rural areas can also elect candidates from urban areas.

“Other submitters supportive of single councillor wards also commonly expressed concern that other electoral structures would not adequately serve the interests of rural landowners in the Shire. They argued that the single-councillor ward structure ensured a distribution of elected representatives from all parts of the Shire and noted that in an unsubdivided electoral structure and in multi-councillor wards, the number of councillors from the urban areas could dominate, leaving the rural areas under represented. As it stands, the current 5:2 ratio of ‘urban’ councillors to ‘rural’ councillors in the Shire was not as fair as it could be, according to the Nillumbik Pro Active Landowners who argued that maintaining seven single-councillor wards, while not ideal supported ‘the best spread of representation’ and would ensure that councillors ‘remain directly answerable to their respective electorate’.” (pp 10-11, *Local Council Representation Review – Preliminary Report Nillumbik Shire Council 2019*)

As already explained, the only way that councillors from urban areas can dominate in an unsubdivided structure is if they are elected to a majority by the majority of voters, which would be a perfectly democratic result.

The single-councillor structure does not ensure a distribution of elected representatives from all parts of a municipal district.

The number of councillors from the urban area can dominate under the current structure too because most people live in the urban area and most wards are in the urban area, and people in the rural area can vote for councillors who live in the urban area and vice versa.

“One submitter (Alexander Collum) claimed that changing the electoral structure would not address the swings in Council, which have occurred for a long time in Nillumbik Shire. Instead, Mr Collum drew attention to the general positive features of the single-councillor ward structure. While recognising significant support for the proportional representation system, Mr Collum stated that in the current structure, a candidate ‘must attain over 50% of the two-candidate preferred vote to be elected’ – which he considered to be more representative than reaching a quota of votes (for example, 12.5% in an unsubdivided electoral structure with seven councillors).” (p 11, *Local Council Representation Review – Preliminary Report Nillumbik Shire Council 2019*)

Obtaining just over 50 per cent of the votes in a single ward (from 3,271 votes in Sugarloaf to 3,744 votes in Swipers Gully) is not more representative than obtaining 12.51 per cent of the vote across the whole Shire (6,123 votes). In the first case, 24,488 voters (50.01 per cent) would be represented and 24,481 (49.99 per cent) would not be. In the second case, 42,861 (87.53 per cent) would be represented and 6,108 votes (12.47 per cent) would not be.

Arguments Against Proportional Representation

Several arguments are advanced against, whether for unsubdivided councils or multi-councillor wards. Most are completely illogical, even contemptuous of democracy, while those have some internal validity raise problems that are easily solvable by other arrangements.

It is said that proportional representation advances the interest of political parties. List systems do, but the single transferable vote does not. It is specifically designed to allow voters to elect individuals because the vote moves from person to person. It is not locked up inside a party list. This fact is obscured by the grouping of candidates by party in Senate and Legislative Council elections and by the existence of above-the-line preferences and group voting tickets, but they do not have to be so grouped, and they are not in Tasmanian state elections. Nor are they in Victorian local government elections. Nor do Victorian local government elections have above-the-line preferences or group voting tickets.

In any case, it is not the job of the law to help or hinder political parties or independents by proposing an electoral structure in favour of or against either category. It is the job of the law to provide a fair and equitable structure that lets the voters make the decision about whether or not they want political parties on local councils.

Most Victorian councillors are elected by the single transferable vote, yet the overwhelming majority of them – 502 out of 645, or 77.8 per cent – are independents (https://en.wikipedia.org/wiki/Local_government_in_Victoria, 11/7/2019). The voting system has not had the effect predicted.

It is argued that large electorates unfairly favour political parties because they have the resources that independents do not. This argument has some validity. However, it does not outweigh the principle that the electoral structure be fair and equitable; i.e., ensure that the council is as representative as possible of the way the voters voted, that as many voters as

possible have a vote that counts towards the result, that no group can win a majority of positions on the council without first winning a majority of the vote in the municipal district and that all voters are treated equally. It is absurd to argue that it is better to allow a group with just over one quarter of the vote to win control of a council than to allow political parties to be slightly advantaged.

In any case, a well-regarded independent can attract resources and the Act can restrict donations and campaign expenditure and provide some public funding to candidates.

The Big Obstacle to an Unsubdivided Council

The VEC recognises the advantages of an unsubdivided council. It says

“Nonetheless, the VEC appreciated submitters’ views that an unsubdivided electoral structure or multi-councillor wards would give voters greater choice at election time and may bring broader perspectives to council decision-making and greater stability of council.

“The VEC also recognised that there are some advantages to an unsubdivided electoral structure for Nillumbik Shire. An unsubdivided electoral structure would provide voters with the widest possible choice of candidates at elections, enable both geographic and non-geographic communities of interest to elect a representative, and encourage councillors to take a whole-of-shire approach to local representation.”

(p12, *Local Council Representation Review Final Report – Nillumbik Shire Council*)

Nonetheless, it puts forward one big reason for denying the people of Nillumbik these advantages:

“However, the VEC ultimately determined that an unsubdivided electoral structure was not viable as an option based on the large numbers of candidates during Nillumbik Shire Council elections. With consistently large numbers of candidates, an unsubdivided electoral structure for Nillumbik Shire Council would result in a very lengthy ballot paper. In the VEC’s experience, longer ballot papers can be confusing for voters and more difficult to fill out correctly, leading to higher levels of informal voting through voter error, thereby effectively disenfranchising these voters.”

(p12, *Local Council Representation Review Final Report – Nillumbik Shire*)

and

“Mr Curtis acknowledged, however, that the ballot paper in an unsubdivided structure would pose a problem for the voters of Nillumbik Shire Council, which has tended to have large numbers of candidates at local council elections. Other submitters who expressed strong support for an unsubdivided electoral structure requested the VEC advocate to change the requirement that all boxes need to be filled out on local government election ballot papers, which is another matter that is outside the scope of these reviews.”

(p 19, *Local Council Representation Review Final Report – Nillumbik Shire Council*)

and

“The VEC considered an unsubdivided electoral structure at the preliminary stage of the review. As discussed in its preliminary report, an unsubdivided electoral structure, while presenting several advantages, would not be viable given the large number of candidates in Nillumbik Shire Council’s elections. As several submitters have also noted, a legislative change in the electoral system to allow for optional preferential voting would be required for an unsubdivided electoral structure to be viable for Nillumbik Shire Council.”

(p 22, *Local Council Representation Review Final Report – Nillumbik Shire Council*)

The VEC recognises the solution to this problem is legislative change but rightly states that such change is outside the scope of its review. We thus have the situation of 100 per cent of the people having an unrepresentative structure imposed on them because a few may unintentionally vote informal.

In 1999, there were 27 candidates contesting four shire-wide positions. There were 2,786 informal votes out of a total of 33,072 (1999 COUNCIL ELECTION RESULTS – supplied by VEC, 12/6/2019). That is 8.42 per cent. In the 2016 elections, there were 1,433 informal votes (218 in Blue Lake, 150 in Bunjil, 308 in Edendale, 148 in Ellis, 296 in Sugarloaf, 174 in Swipers Gully and 139 in Wingrove) in 39,037 total votes (<https://www.vec.vic.gov.au/Results/Council2016/nillumbikresult.html>). That is 3.67 per cent. So, the informal vote was 4.75 percentage points higher in a shire-wide electorate with 27 candidates than in seven single-councillor wards with between five and 14 candidates in each.

In essence, the VEC is saying that cutting the percentage of effective votes by 20.22 per cent (in the case of Option B over Option A) or 37.52 per cent (in the case of Option B over the unsubdivided council) is acceptable in order to cut the informal vote by 4.75 per cent. It is also saying that cutting the votes required to win a majority on council by 13.13 per cent (in the case of Option B over Option A) or 22.71 per cent (in the case of Option B over the unsubdivided council) is acceptable in order to cut the informal vote by 4.75 per cent. In combination, it is saying that cutting the rating on the Democracy Index by 28.56 points (in the case of Option B over Option A) or 60.21 points (in the case of Option B over the unsubdivided council) is acceptable in order to cut the informal vote by 4.75 per cent. Far more formal voters are to be denied fair representation to protect the interests of a very small number of informal voters. At the very least, almost three times as many formal voters suffer as informal voters gain. At the most, twelve-and-a-half times as many formal voters suffer as informal voters gain. There is nothing fair or equitable about this.

To put it starkly, the VEC is saying that it is better to have council controlled by the representatives of 27 per cent of the voters and the remaining 73 per cent in a minority than to have an extra 4.75 per cent of voters vote informally.

Note the following 2016 voting figures:

Ellis – 5 candidates, 2.77 per cent informal

Swipers Gully– 9 candidates, 3.18 per cent informal

Blue Lake – 9 candidates, 3.76 per cent informal

Wingrove – 10 candidates, 2.59 per cent informal

Bunjil – 10 candidates, 2.79 per cent informal

Edendale – 12 candidates, 5.27 per cent informal

Sugarloaf – 14 candidates, 5.07 per cent informal

There is a tendency for the informal vote percentage to increase with the number of candidates, but it is not an absolute rule: Wingrove, with 10 candidates, had a lower informal vote than any other ward, including wards with 9 and 5 candidates; Bunjil, with 10 candidates, had a lower informal vote than Swipers Gully and Blue Lake, with 9 candidates each; and Sugarloaf, with 14 candidates, had a lower informal vote than Edendale, with 12 candidates.

It is a matter of urgency that the Local Government Act be amended to provide for the marking of preferences to be optional after the first 12. The proposal in some quarters that the compulsory number be the number of vacancies to be filled has no logical or mathematical justification.

There are 20 unsubdivided councils, which range from 36 square kilometres (Melbourne City) to 22,330 square kilometres (Mildura Rural City). 16 of them cover larger areas than Nillumbik, with those 16 beginning at almost five times Nillumbik's area at 2,044 square kilometres (Indigo Shire) and the largest covering 20 times the area (Mildura Rural City). Given the much smaller areas most councils cover, it seems complaints about the huge area councillors would have to cover cannot be sustained.

The following councils are unsubdivided:

Melbourne City – 36 km²,
 Queenscliffe Borough – 36 km²,
 Warrnambool City – 120 km²,
 Wodonga City – 433 km²,
 Indigo Shire – 2,044 km²,
 Benalla Rural City – 2,375 km²
 Greater Shepparton City – 2,422 km²,
 Golden Plain Shire – 2,704 km²,
 Colac Otway Shire – 3,433 km²,
 Moira Shire – 4,045 km²,
 Ararat Rural City – 4,230 km²,
 Horsham Rural City – 4,249 km²,
 Alpine Shire – 4,787 km²,
 Moyne Shire – 5,478 km²,
 Glenelg Shire – 6,212 km²,
 Southern Grampians Shire – 6,652 km²,
 Towong Shire – 6,673 km²,
 West Wimmera Shire – 9,107 km²
 East Gippsland Shire – 20,931 km²,
 Mildura Rural City – 22,330 km².

(pp 22-27, *Local Council Representation Review - Submission Guide Nillumbik Shire Council 2019*)

It is argued that an unsubdivided council may lead to significant communities of interest and points of view being unrepresented.

Impossible! Communities of interest are spread across municipal districts not geographically concentrated. The number of councillors to be elected determines the quota and so the size of any group to be represented. If there are seven councillors, the quota would be 12.51 per cent, meaning that any group comprising just over one eighth of the voters would be represented. By contrast, a ward of four councillors would require a quota of 20.01 per cent, meaning that a group would have to comprise just over one fifth of the voters to be represented, and a ward of three councillors would require a quota of 25.01 per cent, meaning that a group would have to comprise just over one quarter of the voters to be represented. Even worse, single-councillor wards would require a group to have more than half the voters in any one ward to be represented. It is possible that a group representing just over half the voters in all seven wards could win all seven council positions, leaving 49.99 per cent of the voters completely unrepresented on the council.

It is argued that an unsubdivided council may lead to confusion of responsibilities and duplication of effort on the part of councillors.

It may, but this consideration does not outweigh the need for the council to represent the voters, it has not stopped one quarter of the councils in the state being unsubdivided, and

elected councillors ought to be able to set up protocols to avoid this problem; e.g., by allocating specific responsibilities to each councillor and by informing the citizens of the location of each councillor, making the closest one the first point of contact for locals.

It is argued that an unsubdivided council may have a large number of candidates and thus be confusing for voters.

They may, but this consideration does not outweigh the need for the council to represent the voters, and it has not stopped one quarter of the councils in the state being unsubdivided. It is beyond the scope of this review, but legislative change is required to deal with this issue by making preferences after the first 12 optional and by having the Victorian Electoral Commission provide an app that would allow people to create their own formal how-to-vote card.

It is argued that an unsubdivided council may lead to councillors being relatively inaccessible for residents in parts of the local council.

It may, but this consideration does not outweigh the need for the council to represent the voters, it has not stopped one quarter of the councils in the state being unsubdivided, voters can take accessibility into account when they cast their votes, people can use email these days, and elected councillors ought to be able to set up protocols to avoid this problem; e.g., by informing the citizens of the location of each councillor, making the closest one the first point of contact for locals.

It is argued that an unsubdivided council may make it difficult for voters to assess the performance of individual councillors.

It may, but very few voters spend much time assessing the performance of councillors as it is, whether they are in unsubdivided councils or from wards, and voters do not have to assess the performance of every councillor, just the ones they feel strongly about.

It is argued that an unsubdivided council may have only a few candidates contest the general election and thus the countback system may elect a candidate who only polled a small percentage of the vote.

It may, but so what? The starting vote is irrelevant. What counts is the quota. Also, long experience of the vibrant communities tells us there will always be plenty of candidates to choose from.

The Problem with Multi-councillor Wards

Councils with several multi-councillor wards are certainly more representative than those with single-councillor wards, but they are significantly less representative than unsubdivided councils. This is because the quota for election will always be higher in each ward of a subdivided council than it would be in an unsubdivided council with the same number of councillors and the higher the quota, the higher the number of wasted votes. It also follows that once a council were subdivided it would never be necessary for a group to win a majority of the vote across the council to win a majority of councillors. A group would always be able to win a majority of councillors by winning a small majority of the vote in only some wards while winning a very small minority of the vote in the other ward or wards.

Appendix 3 analyses all the possible structures for a council of seven members in a council with 49,000 voters, based on the general ratio of councillors to residents throughout the councils of the state and the not-always-followed principle that councils should have an odd number of councillors to avoid the undemocratic practice of giving the mayor two votes – a

deliberative one and a casting one. The Appendix also analyses a structure of nine councillors, both unsubdivided and subdivided into three wards. It does so to show that an unsubdivided structure with nine councillors would be more representative than any structure with seven but that a structure of nine councillors in three wards of three councillors each would not be. It does not analyse all the possible structures of nine councillors because only unsubdivided structures and structures with wards with the same number of councillors each do not discriminate against some voters by requiring them to reach a higher percentage to elect a councillor.

The result is absolutely clear. Only an unsubdivided council can fairly represent voters. An unsubdivided council of nine councillors would be the most representative by far, while an unsubdivided council of seven councillors would be the second most representative by far. The first scores 140.03 out of a possible 150.01. The second scores 137.52. Various mixtures of multi-councillor wards and of multi-councillor wards and single-councillor wards fall in between these two extremes, with the best of these scoring 120.02, a long way behind the top two. A structure of seven single-councillor wards ranks sixteenth of the 17 listed possibilities – second last. It scores 78.59.

The table overleaf summarises the scores for various structures. Appendix 3 explains the concepts and demonstrates the calculations.

Table 2. Democratic Representativeness of Various Electoral Structures
(from the most democratic to the least democratic)

Wards X Cllrs	Quota(s) (per cent)	Wasted Votes	Effect ive Votes	Votes> Majorit y	Demo Index 1	- Discrimi nation	Demo Index 2
<i>9</i>	<i>4,901 (10.002)</i>	<i>9.98</i>	<i>90.02</i>	<i>50.01</i>	<i>140.03</i>	<i>- 0.00</i>	<i>140.03</i>
7	6,126 (14.29)	12.49	87.51	50.01	137.52	- 0.00	137.52
1X4 + 1X3	5,601 (20.01) 5,251 (25.01)	22.13	77.87	44.29	122.17	- 2.15	120.02
1 X 6 + 1 X 1	6,001 (14.29) 3,501 (50.01)	19.37	80.63	43.89	124.52	- 5.10	119.42
1 X 5 + 1 X 2	5,834 (16.67) 4,668 (33.34)	21.42	78.58	45.24	123.82	- 4.76	119.0
3 X 3	4,085 (25.01)	24.97	75.03	41.61	116.64	- 0.00	116.64
1 X 3 + 2 X 2	5,251 (25.01) 4,668 (33.34)	29.74	70.26	40.49	110.75	- 2.39	108.36
2 X 3 + 1 X 1	5,251 (25.01) 3,501 (50.01)	28.56	71.44	39.29	110.73	- 3.57	107.16
1 X 4 + 1 X 2 + 1 X 1	5,601 (20.01) 4,668 (33.34) 3,501 (50.01)	28.08	71.92	39.53	111.45	- 8.14	103.31
1 X 5 + 2 X 1	5,834 (16.67) 3,501 (50.01)	26.18	73.82	38.10	111.92	- 9.53	102.39
3 X 2 + 1 X 1	4,668 (33.34) 3,501 (50.01)	35.70	64.30	35.72	100.02	- 2.39	97.63
1 X 3 + 1 X 2 2 X 1	5,251 (25.01) 4,668 (33.34) 3,501 (50.01)	34.51	65.49	38.10	103.59	- 9.72	93.87
1 X 4 + 3 X 1	5,601 (20.01) 3,501 (50.01)	32.84	67.16	37.15	104.31	- 12.99	91.32
2 X 2 + 3 X 1	4,668 (33.34) 3,501 (50.01)	40.46	59.54	33.34	92.88	- 7.14	85.74
1 X 3 + 4 X 1	5,251 (25.01) 3,501 (50.01)	39.27	60.73	32.15	92.88	- 14.29	78.59
7 X 1	3,501 (50.01)	49.99	50.01	28.58	78.59	- 0.00	78.59
1 X 2 + 5 X 1	4,668 (33.34) 3,501 (50.01)	45.22	54.78	30.96	85.74	- 11.91	73.83

Italicised numbers are for councils of nine councillors. All others are for councils of seven councillors.

The colours are for various bands of scores.

Wards X Cllrs: The number of wards by the number of councillors in each. A single number means an unsubdivided council.

Quota(s): The number of votes required to win a position.

Wasted Votes: The percentage of votes that do not contribute towards the election of a candidate, either because they elect no one or because they are more than needed to elect a person who is elected.

Effective Votes: The percentage of votes that contribute towards the election of a candidate.

Votes > Majority: The minimum percentage of votes required for a group to win a majority of positions.

Demo Index 1: Democracy Index 1, a measurement of how democratic and representative the structure is, calculated by adding the percentage of votes that contribute to the election of a candidate with the minimum percentage of votes needed for a group to win a majority. The highest possible score is 150.01. The two factors are equally weighted. Changing the respective weightings would change the results.

Discrimination: Discrimination Factor, a measurement of the extent to which voters in some wards are discriminated against in the value of their votes as opposed to voters in other wards.

Demo Index 2: Democracy Index 2, a measurement of how democratic and representative the structure is, calculated by subtracting the discrimination factor from Democracy Index 1.

Having multi-councillor wards has advantages over single-councillor wards but not over an unsubdivided council in which the only practical configuration is one ward with four councillors and one with three.

It is argued that having multi-councillor wards can accommodate a large community of interest.

They can if it is a geographic community of interest, but an unsubdivided council can do so much more effectively and efficiently as it allows for smaller communities of interests to be represented, especially when those communities of interest are spread across the municipal district. In the case of a seven-councillor council, this would be a community of interest comprising just over one eighth of the population as opposed to one comprising just over one quarter in one ward and just over one fifth in the other.

It is argued that having multi-councillor wards can focus on issues may be broader than in single-councillor wards (though councillors may have a more local focus than in an unsubdivided local council).

Exactly! The focus is less on the council as a whole than in an unsubdivided council.

It is argued that having multi-councillor wards may make councillors more accessible than in an unsubdivided local council and oive electors have a choice of councillors to approach.

They do, but as described above, there are ways to improve the accessibility of councillors in an unsubdivided council.

It is argued that having multi-councillor wards may get councillors to share workloads more effectively.

They may or they may not. Councillors can allocate responsibilities among themselves in an unsubdivided shire as easily as in any other.

It is argued that having multi-councillor wards may make ward boundaries easy to identify and less susceptible to change as a result of population growth or decline than in single councillor wards.

They would be easier to identify than with single-councillor wards, but an unsubdivided council has no need to identify ward boundaries at all and is a much more efficient approach to take to almost all councils in Victoria.

It is good practice for councils to have an uneven number of councillors so that any decision has a clear majority and is not dependent on the casting vote of the mayor, a policy that gives

the mayor two votes – a deliberative one as well as a casting one. It is also good policy to have the same number of councillors from each ward so that the quota for election is the same throughout the municipality. It follows that the only number of councillors that can meet both these two requirements under the current Victorian law is nine, giving three wards of three councillors each.

There are serious disadvantages in having multi-councillor wards.

- **Unequally sized wards**
It is impossible to divide a council of five, seven, eleven or thirteen into wards with equal numbers, so, in a council of seven councillors, for example, we would have a situation in which councillors in a four-councillor ward would need only 20.01 per cent of the vote to be elected whereas councillors in a three-councillor-ward would need 25.01 per cent of the vote. This distorts the representative nature of councils. Additionally, if the four-councillor ward was predominantly urban and the three-councillor ward predominantly rural, we would open the way to complaints about the rural area being dominated by the urban area. The discrepancy in quotas would be even greater if there were three-councillor wards and two-councillor wards: 25.01 per cent versus 33.34 per cent.
- **Less minority representation**
The more wards there are, the fewer councillors there will be for each one and the higher the quota for election will be, making the council less representative of smaller groups.
- **Easier domination by one group**
An organised group needs a lower percentage of the vote (55.73 per cent) to win five out of seven council positions from one ward of three councillors and one ward of four than from one unsubdivided council of seven (62.55 per cent), while a group with minority support could win the majority of positions if there were a three-councillor ward and two two-councillor wards.

It is impossible to divide a council of seven into wards with equal numbers of voters, so we would have situation in which councillors in a four-councillor ward would need only 20.01 per cent of the vote to be elected, whereas councillors in a three-councillor-ward would need 25.01 per cent of the vote; or councillors in a three-councillor ward would need 25.01 per cent of the vote whereas councillors in a two-councillor ward would need 33.34 per cent of the vote. This distorts the representative nature of councils. By contrast, an unsubdivided council of seven would have a quota of 12.51 per cent and thus be far more able to represent minority groups in the shire. The smaller the quota, the more representative the council would be. A council of two wards is likely to swing more wildly than a council of no wards. To win two out of three positions in a three-councillor ward requires only 50.02 per cent of the vote. To win three out of four positions in a four-councillor ward requires only 60.03 per cent of the vote, high but not unachievable for an organised group. These two results would give that group five out of seven councillors, the problem we are trying to solve. A group that got 50.02 per cent in the three-councillor ward and 60.03 per cent in the four-councillor ward would get 55.73 per cent overall. In an unsubdivided council, that group with that vote would get only four councillors out of seven and the opposing group would get three, not two. For the major group to win five out of seven councillors in an unsubdivided council, it would need 62.55 per cent of the vote across the whole shire.; i.e., five quotas of just under 12.51 per cent each. By contrast, the minority group in the first scenario could get 44.27 per

cent of the vote across the whole municipal district and end up with only two of the seven councillors. This is “case closed” against two wards with a small number of councillors each.

In a council with a three-councillor ward and two two-councillor wards, it would be possible for one group to win a majority of four positions with only 40.49 per cent of the vote and for another group to win only three positions with 59.51 per cent of the vote. This sort of outrageous result would be impossible with an unsubdivided council.

Calculations

In a four-councillor ward of 20,000 voters, the quota for election would be 4,001 votes, so a group winning 12,003 votes would win three positions. In a three-councillor ward of 15,000 votes, the quota for election would be 3,751 votes, so a group winning 7,502 votes would win two positions. That group’s total vote across the shire would be 19, 505 votes out of 35,000, or 55.73 per cent. The majority would have won five positions for 55.73 per cent of the vote and the minority would have won only two positions for 44.27 per cent of the vote.

In a three-councillor ward of 15,000 voter, the quota for election would be 3,751 votes, so a group winning 7,502 votes would win two positions. In a two-councillor ward of 10,000 voters, the quota for election would be 3,334 votes. A group could win two positions in the three-councillor ward and one in each of the two-councillor wards with a total vote of 14,170 votes out of 325,000. The majority would have won four positions for 40.49 per cent of the vote and the minority would have won only three positions for 59.51 per cent of the vote because so many votes would be locked up and wasted in the two-councillor wards.

Having four councillors would provide a majority of one in a seven-councillor council, but having five would provide a majority of three, giving the majority absolute dominance. The whole point is to remove the wild swings we have had in Nillumbik and make the distribution of councillors more in tune with the distribution of community views so each side can be pushed towards compromise and give the council some consistency.

Giving two fifths a majority on the council and three fifths a minority, as a 3-2-2 structure could do, would be appallingly undemocratic.

Arguments Put for Getting Rid of Representative Councils

The government’s statements for the imposition of unrepresentative electoral structures on almost all Victorian councils is sparse to say the least:

Single member wards for each council enable residents to more effectively receive direct representation. Councillors will be more accountable to local communities, fostering true ‘local’ government.

Consistent application of this model also ensures that all councillors are elected under the same system with equal vote shares within their council. This more closely reflects the way members of Parliament are elected.

(p 8, *Local Government Bill – A reform proposal*)

No evidence or reasoning is presented to support any of these claims. Residents throughout the world manage with multi-councillor wards and unsubdivided councils. It is up to voters to decide if they want a “local” representative or one who shares their views on the issue that confront their municipal district. “True ‘local’ government” is not government of each locality that is made a ward but government of the whole municipal district.

Unsubdivided councils elected by the single transferable vote give each councillor a precisely equal vote share within the council. Every councillor has one vote (unless the government persists with councils with even numbers of councillors, in which case the councillor chosen as the mayor gets double the vote share of any other councillor when called on to exercise a casting vote). Having unsubdivided councils also ensure every councillor elected has had to reach the precise same number of votes to be elected and this represent precisely the same number of voters as every other councillor.

Members of Parliament are not all elected from single-member seats. The House of Representatives and the Legislative Assembly are, but the Senate and the Legislative Council are not. The Senate has been elected by the single transferable vote since Labor's 1949 reforms. The Legislative Council has been elected by the single transferable vote since Labor's 2003 reforms. The voting public is well aware of the advantages of the single transferable vote and has been using it for 70 years to elect representatives that far better reflect the range of public opinion than those in the House of Representatives and the Legislative Assembly. Most Victorians have now also had experience of using the single transferable vote to elect more representative councils in the last few years, though some have been denied this right by poor decisions by the Victorian Electoral Commission in its electoral representation reviews, a right that would not have been denied to them if the Local Government Act had required "fair and equitable" representation for all local council voters.

There are many reasons advanced for making councils less democratic that the government does not mention. Almost all are illogical. Below are several of them and the logical responses to them.

Stopping the voters voting for the "wrong" people

It is argued that a structure with single-councillor wards makes it easier for independents to win instead of political parties.

If this were true, the unsubdivided councils would be full of political party candidates and devoid of independents, but they are not. In any case, it is not the job of the law to help or hinder political parties or independents by proposing an electoral structure in favour of or against either category. It is the job of the law to provide a fair and equitable structure that lets the voters make the decision about whether or not they want political parties on local councils.

It is argued that a structure with single-councillor wards will stop "suburban elites flood[ing] the elections with candidates pushing their own particular brand of environmental bastardry".

It remains up to the voters to decide whether or not to vote for such candidates under any structure. It is improper for the law to consider the view of candidates who might stand under any structure as that is an issue for the voters, not something to be predetermined by Parliament.

It is argued that a structure with single-councillor wards will stop "extremist environmentalists" being elected.

It might indeed. In the case of Nillumbik, such "extremists" would had to poll more votes to be elected in a multi-councillor ward structure - from 4,308 votes in Artisan Hills (8.25 per cent of the total votes in the shire) to 5,212 votes in Montsalvat (10.64 per cent of the total votes in the shire) - and thus be more representative of the community than under a single-councillor ward structure - from 3,271 votes in Sugarloaf (6.68 per cent of the total votes in

the shire) to 3,705 votes in Blue Lake (7.57 per cent of the total votes in the Shire). It has to be conceded that to elect two extreme environmental activists under the unsubdivided ideal would require even more votes - 6,123 votes each (12.51 per cent of the total votes in the shire). It is quite strange to see those opposed to extreme environmental activists advocating a structure that allows them to be elected with the fewest votes until you realise that this is not about representativeness, but about allowing a minority to control the council by winning only four of the single-councillor wards.

It is argued that a structure with single-councillor wards would correct the mistake of having a system that gave the Greens a foothold.

This is a highly improper argument. It is up to the voters to decide who they wish to represent them. They have as much right to vote for the Greens as for One Nation or the Labor Party or the Liberal Party or an independent. If the Greens can win sufficient votes, they are entitled to be elected. The rigging of the Senate voting system because the “wrong” people got elected is one of the most disgraceful features of Australia’s electoral history. We have to go back to the era of country votes being worth double city votes to find an equally reprehensible feature. It is outrageous to design electoral systems to either help or hinder particular parties or points of view. The system is meant to represent the people, not be rigged to favour country voters or to remove micro-parties from the Senate or to stop the Greens being represented on municipal councils.

It is argued that a structure with single-councillor wards would stop several councillors being elected from the same area.

Yes, that would be because the voters had freely voted for several councillors from the same area, as is their right. That is also possible under a single-councillor ward structure as there is no requirement that candidates live in the ward for which they stand.

Supporting some communities of interest

It is argued that a structure with single-councillor wards mean major geographical communities of interest are likely to be represented.

This is the heart of the problem – the assumption that geographic communities of interest are far more important than other communities of interest and any municipal-wide issues of concern to the whole community. An unsubdivided council leaves it to the community members to group themselves according to their own communities of interest. It does not say to them that they must vote as members of a geographic community of interest, but it does leave them free to do so. If local people want a local representative, all they have to do is vote for one under any structure. If they choose not to, obviously they didn’t really want one at all and the argument in favour of single-councillor wards turns out to be false. An unsubdivided council and, to a lesser extent, multi-councillor ward structures, allow voters to vote as members of non-geographic communities of interest if they so choose. A of single-councillor ward structure stops them.

It is argued that a structure with single-councillor wards will have fewer candidates for voters to choose from.

Indeed, a single-councillor ward structure does restrict voters’ choices: they cannot vote for the best people in the Shire but only the best in their ward.

It is argued that a structure with single-councillor wards is better because it would not divide voters by issues.

If this is so, it does not make a single-councillor ward structure better because, if such issues do not divide the community, voters will elect locals under multi-councillor ward structures or an unsubdivided structure. Only an unsubdivided council or, to a lesser extent, multi-councillor ward structure, allows the voters themselves to decide if they are divided by issues or not.

It is argued that a structure with single-councillor wards best serves the number of diverse communities and wards can be aligned with communities of interest.

This assumes that “communities of interest” are the same as “geographic communities of interest” and this is manifestly not the case. Ever since its foundation, the issues in Nillumbik have been the green wedge and rates. They are shire-wide issues. Wards cannot be aligned with communities of interests other than geographic ones, and, as explained below, they cannot even do that well.

It is argued that a structure with single-councillor wards ensures that all areas are more equitably represented in the sense that all wards have a specific councillor as their representative. In multi-councillor wards, it is possible that all councillors would be from the one suburb/township, to the exclusion of outlying areas.

Should all councillors be from the one suburb or township, that would be because the voters of all the suburbs and townships had elected them over more local candidates. They would have explicitly rejected the idea that all they cared about was where the councillor lived instead of what the councillor believed.

Giving minorities control

It is argued that in some urban areas with smaller rural parts a structure with single-councillor wards stops the majority “urban” councillors dominating the minority “rural” ones.

This is the silliest of all the arguments. If there are sufficient urban voters to elect majority “urban” councillors under an unsubdivided structure if they are so minded and there are only enough “rural” voters to elect a minority “rural” councillors under an unsubdivided structure if they are so minded, then there are sufficient urban voters to elect majority “urban” councillors from single-councillor wards if they are so minded and there are only enough “rural” voters to elect a minority “rural” councillors from single-councillor wards if they are so minded, because there would be more urban wards than rural wards.

If single-councillor wards predominate, the majority of them will be in urban areas, and the views of the urban areas will predominate, for the simple democratic reason that they are the majority, but only if people in urban areas have one view and people in rural areas the opposite. It is more likely that people in urban areas have different views among themselves, as would people in rural areas. In other words, whether a council is unsubdivided or broken into single-councillor wards, the urban majority will prevail, but at least whatever view prevails in an unsubdivided council we can be confident it really is the majority view, unlike in single-councillor wards.

It is argued that a structure with single-councillor wards is better because it does not let someone representing less than 50 per cent of the vote be elected.

In fact, it does. It allows control of the council to be gained by just over one quarter of the votes. In Nillumbik, for example, 27 per cent of the voters could control the council because all a group has to do is win in four of the seven wards. Councillors can be elected with as few as from 3,271 votes in Sugarloaf (6.68 per cent of the total votes in the shire) to 3,705

votes in Blue Lake (7.57 per cent of the total votes in the Shire), whereas under an unsubdivided council, they have to reach 6,123 votes (12.51 per cent of the total votes in the shire). In Option A, they have to reach from 4,308 votes in Artisan Hills (8.25 per cent of the total votes in the shire) to 5,212 votes in Montsalvat (10.64 per cent of the total votes in the shire). It is obvious which system produces more representative councillors.

It is argued that a structure with single-councillor wards is better because it doesn't discriminate against voters in the percentage quota required to elect someone as happens in multi-councillor wards with different numbers of councillors.

Indeed. This is an argument against wards with different numbers of councillors and in favour of an unsubdivided council or, at least, a council with multi-councillor wards with the same number of councillors in each.

It is argued that a structure with single-councillor wards would give power to community.

Given that single-councillor ward structures allow a group with just over one quarter of the votes to win a majority on a council, it is obvious that single-councillor ward structures do the opposite: they take power from the community.

It is argued that a structure with single-councillor wards would mean more accountability as councillors would be held responsible for their own areas, rather than have councillors in multi-councillor ward structures and unsubdivided councils there for good news and absent for bad news.

This is based on the idea that the job of councillors is to look after their area, when it is their job to look after the whole municipal district. Unsubdivided councils are able to allocate portfolio responsibilities to councillors.

It is argued that a structure with single-councillor wards makes sense because there is little justification for proportional representation in absence of parties – no strong tradition of endorsing candidates by major parties – not sure what social cleavages we are representing under proportional representation system

This argument would make sense if Australia used the list system of proportional representation, under which the parties present lists of candidates and the voters vote for the lists, not the individuals. Australia uses the single transferable vote, under which voters vote in order of preference for individuals. In local elections, members of parties may stand but they are not even grouped together. Nor should they be. The single transferable vote is designed to elect individuals.

Making life easier for councillors

It is argued that a structure with single-councillor wards makes it easy for councillors to know their own area and be accessible to locals.

It does, but most councils in the state cope with being unsubdivided or having multi-councillor wards and they get candidates who are willing to serve under these circumstances. Under both an unsubdivided council and a multi-councillor ward structure, voters who still want a locally accessible councillor can get one by voting for one. Those who have other priorities can exercise their vote to support those priorities

It is argued that a structure with single-councillor wards ensures there is no confusion of responsibilities.

Almost every council operates unsubdivided or with multi-councillor wards, and yet we hear of no reports of confusion.

It is argued that a structure with single-councillor wards allows councillors to contain issues to each councillor's local area.

That's an argument for an unsubdivided council so councillors can look to wider strategic issues in the municipal district.

It is argued that a structure with single-councillor wards would substantially increase each councillor's workload.

That assumes everybody who would once have contacted their ward councillor would now contact all councillors. This is unlikely, and most councillors in the state cope with the workload of being unsubdivided or having multi-councillor wards. In addition, it is possible to indicate each councillor's residential area so that people who wish to contact the closest councillor can easily do so.

It is argued that it is easier to campaign in a small ward whereas in a huge ward, candidates may have 10,000s of people to mail out to, which advantages people with means and party machines.

If the idea that geographic communities of interest were all that counted were true, candidates would not have to mail out material to the whole population. They could restrict their mail-out to their own area. In other words, if this argument is true, the one in favour of locality cannot be. But we know that geographic communities are not all that count.

If a candidate cannot raise a bare minimum of resources from local people, then that candidate does not really have much support to start with.

The law can set limits on donations and expenditure and provide some public funding so that the very heavily resourced do not have an advantage in campaigning.

It is argued that a structure with single-councillor wards would be better for women because they are primary care-givers.

This is one of the very few arguments with even a modicum of sense in it. It is difficult to be a councillor for anyone with child-rearing responsibilities. The best approach to this issue is to provide childcare support for such councillors, not condemn almost the entire state to unrepresentative, undemocratic and potentially minority-controlled councils.

It is argued that a structure with single-councillor wards residents, ratepayers and voters have a clearer understanding of who represents them.

They will have a clearer idea, but many more of them will be represented by someone they do not want than in an unsubdivided council elected by proportional representation. Consequently, many voters across the shire as a whole are less likely to be represented by someone they want.

It is argued that a structure with single-councillor wards ensures that residents, ratepayers and voters are clear as to the identity of the councillor and the problem of residents making representations to multiple councillors does not occur.

There is no problem in a resident making representations to more than one councillor. If there is a big issue in the shire, that would be a perfectly rational thing to do. If the issue is more local in nature, the council can let the public know which area each councillor resides in and suggest that councillor as the first port of call.

It is argued that a structure with single-councillor wards ensures that the ward councillor can develop a comprehensive understanding of the ward across a range of issues including service provision, traffic management and planning and development.

This true to some extent, but it does not override the imperative to make the council truly representative of the different views of voters across the shire, including the views of small minorities. Our society is always talking about inclusion. You would think that inclusion in the decision-making process would be the most important inclusion of all. In any case, the council can still ask councillors to take a special interest in their areas they come from, and it can allocate specific responsibilities to councillors and let the public know which councillor has each responsibility.

It is argued that a structure with single-councillor wards ensures responsibility for an issue is less likely to be passed from one councillor to another.

The council can divide responsibilities for different policy areas among the various councillors and let the public know. If councillors push responsibilities away, the voters can replace them.

What people are used to

It is argued that a structure with single-councillor wards is good because the public is familiar with single-member electorates at the state and federal level.

Yet, the public is also familiar with the Legislative Council, which has been elected in multi-member electorates by proportional representation since 2006, and the Senate, which has been elected in multi-member electorates by proportional representation since 1949. In addition, most councils in Victoria are unsubdivided or have multi-councillor wards and are elected by proportional representation.

The Disadvantages of Single-councillor Wards

Councillors may be elected on minor or parochial issues and lack a council-wide perspective.

Ward boundaries may divide communities of interest and may be difficult to define.

Voters may have a restricted choice of candidates in elections for individual wards.

Small populations in each ward may make ward boundaries more susceptible to change as a result of population growth or decline.

Where major groups support candidates in multiple wards, it is possible that one group can dominate the council. This is the crucial problem in Nillumbik, as the key division in the shire is between those who support the green wedge and those who don't. The supporters and the opponents (who often pretend to support the green wedge) can easily win 5-2 majorities under single-councillor wards and have done so regularly, basically alternating dominance in every election for the past 20 years. An unsubdivided council would probably result in 4-3 majorities either way and thus improve consistency and compromise. It would also allow the election of one or two more moderate voices to balance the competing views in the shire. Single-councillor wards make the election of such a moderate dependent on the voters in one ward and thus random.

Conclusion

The government's proposed Local Government Act is seriously deficient in democracy and needs to be fixed.

All councils with fewer than 15 councillors should be unsubdivided. Those with 15 should be subdivided into three wards with three councillors each. Really large councils, those with 200,000 residents, should be split into smaller councils.

The Act should include a schedule determining the number of councillors for each municipal district based on population and area. There should be no electoral representation reviews. The VEC's only role would be to review ward boundary sin the very small number of councils that still had wards.

The marking or preferences should be optional after the first 12.

The mayor should not be able to override the council in its decisions.

Persons should not be banned from standing for council because of their other jobs.

Councils should be free to set their own rates in accordance with the democratic wishes of their communities.

Chris Curtis

14/7/2019

Appendix 1: Calculations for Nillumbik

The Ideal

There are 48,969 voters in Nillumbik. The quota for an unsubdivided council of seven would be 6,123 votes ($48,969/(7+1) + 1$). Seven quotas of 6,123 votes (42,861 in total) would elect someone, and the remaining 6,108 votes would not. So, with an unsubdivided council, 6,108 votes (12.47 per cent) would be wasted and 42,861 (87.53 per cent) would be effective.

To win a majority on the council a group would have to win an actual majority of the vote; i.e., four quotas of 6,123 votes each, or 24,492 votes in total (50.02 per cent). Ideally, 50.01 per cent should be sufficient, but 50.02 per cent is pretty close. The percentage of votes required to win a majority 50.02 is the same distance from the ideal of 50.01 as 50.00, so its score drops to 50.00.

Adding the percentage of effective votes and the adjusted percentage of votes required to win a majority together gives an unsubdivided council with seven councillors 137.53 on the Democracy Index.

Option A

Artisan Hills Ward has 12,921 voters and two councillors, so the quota to elect someone is 4,308 votes (33.34 per cent). 8,616 voters will elect two councillors and 4,305 will elect none. Montsalvat Ward has 20,841 voters and three councillors, so the quota to elect someone is 5,212 votes (25.00 per cent). 15,636 voters will elect three councillors and 5,205 will elect none. Plenty Valley Ward has 15,207 voters and two councillors, so the quota to elect someone is 5,070 votes (33.34 per cent). 10,140 voters will elect two councillors and 5,067 will elect none. In total, 34,392 voters will elect someone and 14,577 will not. That is a wasted vote rate of 29.77 per cent and an effective vote rate of 70.23 per cent.

A group with 19,802 votes across the Shire (one quota of 4,308 in Artisan Hills, two quotas of 5,212 each in Montsalvat and one quota of 5,070 in Plenty Valley) could win a majority of positions on the council. That's 40.44 per cent of the total vote.

Adding the percentage of effective votes and the percentage of votes required to win a majority together gives Option A a score of 110.67 on the Democracy Index.

But it gets worse. Voters in Montsalvat need only just over 25.00 per cent of the vote to elect someone, whereas voters in Artisan Hills and Plenty Valley need 33.34 per cent. In each case, 8.34 per cent more voters are needed to elect someone in the two-councillor wards than in the three-councillor ward. That equals 2,346 voters across the Shire (1,078 in Artisan Hills and 1,268 in Plenty Valley), 4.79 per cent of the total number of voters. This brings Option A's score on the Democracy Index down to 105.88.

Option B

Blue Lake Ward has 7,409 voters, so 3,705 votes could elect someone. Bunjil Ward has 6,658 voters, so 3,330 votes could elect someone. Edendale Ward has 7,331 voters, so 3,666 votes could elect someone. Ellis Ward has 6,927 voters, so 3,464 votes could elect someone. Sugarloaf Ward has 6,541 voters, so 3,271 votes could elect someone. Swipers Gully Ward has 7,487 voters, so 3,744 votes could elect someone. Wingrove Ward has 6,616 voters, so 3,308 votes could elect someone. 24,488 voters (50.01 per cent) will be represented and the remaining 24,481 (49.99 per cent) will not be.

A group with 13,373 votes across the Shire (3,330 in Bunjil, 3,464 in Ellis, 3,271 in Sugarloaf and 3,308 in Wingrove) could win a majority of positions on the council. That means 27.31 per cent of the total voters could win control of the council.

Adding the percentage of effective votes and the percentage of votes required to win a majority together gives Option B a very low score of 77.32 on the Democracy Index.

Appendix 2: Calculations for Other Municipal Districts

Ararat

(Ararat Electoral Representation Review Submission)

Option A

An unsubdivided Ararat Council of seven councillors with 9,311 voters would have a quota of 1,168 votes. Seven quotas would equal 8,176 votes, leaving 1,135 votes wasted, votes that did not contribute to the election of anyone. This is a wastage rate of 12.19 per cent and an effective vote rate of 87.81 per cent.

To win a majority of four seats on the council, a group would have to win four quotas, 4,672 votes. That is 50.17 per cent. Ideally, 50.01 per cent should be sufficient, but 50.17 per cent is pretty close. 50.17 is the same distance from the ideal of 50.01 as 49.85, so its score drops to 49.85.

Adding the percentage of effective votes and the adjusted percentage of votes required to win a majority together gives Option A a score of 137.66 on the Democracy Index.

Option B

In Option B, the four-councillor ward has 5,647 voters, and the one-councillor wards have 1,226, 1,231 and 1,207 voters each. The quota in four-councillor ward would be 1,131 votes (20.03 per cent), meaning that four quotas totalling 4,524 votes would elect four councillors and 943 votes would be wasted. The quota in each of the one-councillor wards would be 614 (50.08 per cent), 616 (50.04 per cent) and 604 (50.04 per cent) respectively, meaning three quotas totalling 1,834 votes would elect three councillors and 1,830 votes would be wasted. Under Option B, 2,773 votes (1,943 in the four-councillor ward and 1,830 in the three one-councillor wards) would be wasted. This is a wastage rate of 29.78 per cent and effective vote rate of 70.22 per cent.

To win a majority of seats in Option B, a group would need to win one seat in each of the one-councillor wards (quotas of 614, 616 and 607 votes respectively) and one seat in the four-councillor ward (one quota of 1,131 votes). That is a total 2,965 votes, only 31.84 per cent of all the voters in the Rural City.

Adding the percentage of effective votes and the percentage of votes required to win a majority together gives Option B a score of 102.06 on the Democracy Index, 35.60 behind Option A.

But it gets worse. By having wards of different numbers of councillors, Option B discriminates against voters in the one-councillor wards. Voters need to reach 50.08 per cent of the vote to elect someone in Langi Ghiran, 50.04 per cent in Lake Bolac and 50.04 per cent in Duwil whereas those in the four-councillor ward can do so by reaching only 20.03 per cent of the vote. This is a discrimination factor of 30.07 per cent in Langi Ghiran (376 voters), 30.01 per cent in Lake Bolac (369 voters) and 30.01 per cent in Duwil (362 voters). Across all three one-councillor wards, 1,107 voters would be discriminated against. This is 11.89 per cent of the voters of the Rural City, so Option B's Democracy Index score drops to 90.71, 46.95 behind Option A.

Benalla

*(Benalla Electoral Representation Review Submission)***Option A**

An unsubdivided Benalla Council of seven councillors with 12,131 voters would have a quota of 1,518 votes. Seven quotas would equal 10,626 votes, leaving 1,505 votes wasted, votes that did not contribute to the election of anyone. This is a wastage rate of 12.41 per cent and an effective vote rate of 87.59 per cent.

To win a majority of four seats on the council, a group would have to win four quotas, 6,072 votes. That is 50.05 per cent. Ideally, 50.01 per cent should be sufficient, but 50.05 per cent is pretty close. 50.05 is the same distance above the ideal of 50.01 as 49.97 is below it, so its score drops to 49.97.

Adding the percentage of effective votes and the adjusted percentage of votes required to win a majority together gives Option A a score of 137.56 on the Democracy Index.

Colac Otway*(Colac Otway Electoral Representation Review Submission)***Option A**

An unsubdivided Colac Otway Council of seven councillors with 20,750 voters would have a quota of 2,595 votes. Seven quotas would equal 18,165 votes, leaving 2,585 votes wasted, votes that did not contribute to the election of anyone. This is a wastage rate of 12.46 per cent and an effective vote rate of 87.54 per cent.

To win a majority of four seats on the council, a group would have to win four quotas, 10,380 votes. That is 50.02 per cent. Ideally, 50.01 per cent should be sufficient, but 50.02 per cent is pretty close. 50.02 is the same distance from the ideal of 50.01 as 50.00, so its score drops to 50.00.

Adding the percentage of effective votes and the adjusted percentage of votes required to win a majority together gives Option A a score of 137.54 on the Democracy Index.

Option B

In Option B, Colac ward has 9,523 voters, and Northern ward has 2,767 voters, and Otway ward has 8,460 voters. The quota in Colac ward would be 2,382 votes (25.01 per cent), meaning that three quotas totalling 7,146 votes would elect three councillors and 2,377 votes would be wasted. The quota in Northern ward would be 1,384 votes (50.02 per cent), meaning 1,384 votes would elect a councillor and 1,383 votes would be wasted. The quota in Otway ward would be 2,116 votes (25.01 per cent), meaning that three quotas totalling 6,348 votes would elect three councillors and 2,112 votes would be wasted. Under Option B, 5,872 votes (2,377 in Colac ward, 1,383 in Northern ward and 2,112 in Otway ward) would be wasted. This is a wastage rate of 28.30 per cent and effective vote rate of 71.70 per cent.

To win a majority of seats in Option B, a group would need to win one seat in Colac ward (2,382 votes), one seat in Northern ward (1,384 votes) and two seats in Otway ward (two quotas of 2,116 votes). That is a total 7,998 votes, only 38.54 per cent of all the voters in the shire.

Adding the percentage of effective votes and the percentage of votes required to win a majority together gives Option B a score of 110.24 on the Democracy Index, 27.30 behind Option A.

But it gets worse. By having wards of different numbers of councillors, Option B discriminates against voters in the one-councillor ward. Voters need to reach 50.02 per cent of the vote to elect someone in the one-councillor ward, whereas those in the three-councillor wards can do so by reaching only 25.01 per cent of the vote. This is a discrimination factor of 25.01 per cent, or 692 voters would be discriminated against. This is 3.33 per cent of the voters of the shire, so Option B's Democracy Index score drops to 106.91, 30.63 behind Option A.

Option C

In Option C, Colac ward has 9,680 voters, Otway ward has 6,448 voters, Red Rock ward has 2,215 voters, and Stoney Plains ward has 2,407 voters. The quota in Colac ward would be 1,937 votes (20.01 per cent), meaning that four quotas totalling 7,748 votes would elect four councillors and 1,932 votes would be wasted. The quota in Otway ward would be 1,613 votes (25.01 per cent), meaning that three quotas totalling 4,839 votes would elect three councillors and 1,609 votes would be wasted. The quota in Red Rock ward would be 1,108 votes (50.02 per cent), meaning 1,108 votes would elect a councillor and 1,107 votes would be wasted. The quota in Stoney Plains ward would be 1,204 votes (25.01 per cent), meaning that three quotas totalling 1,204 votes would elect a councillor and 1,203 votes would be wasted. Under Option C, 5,855 votes (1,932 in Colac ward, 1,613 in Otway ward, 1,107 in Red Rock ward and 1,203 in Stoney Plains ward) would be wasted. This is a wastage rate of 28.22 per cent and effective vote rate of 71.78 per cent.

To win a majority of seats in Option C, a group would need to win two seats in Colac ward (two quotas of 1,937 votes) one seat in Otway ward (1,613 votes), one seat in Red Rock ward (1,108 votes) and one seat in Stoney Plains ward (1,204 votes). That is a total 7,799 votes, only 37.59 per cent of all the voters in the shire.

Adding the percentage of effective votes and the percentage of votes required to win a majority together gives Option C a score of 109.37 on the Democracy Index, 28.17 behind Option A.

But it gets worse. By having wards of different numbers of councillors, Option C discriminates against voters in the three-councillor ward and the one-councillor wards. Voters need to reach 50.02 per cent of the vote to elect someone in the one-councillor wards, whereas those in the four-councillor ward can do so by reaching only 20.01 per cent of the vote. This is a discrimination factor of 30.01 per cent (665 voters in Red Rock and 722 in Stoney Plains). Voters need to reach 25.01 per cent of the vote to elect someone in the three-councillor ward, whereas those in the four-councillor ward can do so by reaching only 20.01 per cent of the vote. This is a discrimination factor of 5.00 per cent (322 voters). 1,709 voters in total would be discriminated against. This is 8.24 per cent of the voters of the shire, so Option C's Democracy Index score drops to 101.13, 36.41 behind Option A.

Appendix 3: Democracy Index Calculations**Table 2. Democratic Representativeness of Various Electoral Structures**

(from the most democratic to the least democratic)

Wards X Cllrs	Quota(s) (per cent)	Wasted Votes	Effect ive Votes	Votes> Majorit y	Demo Index 1	- Discrimi nation	Demo Index 2
9	<i>4,901 (10.002)</i>	<i>9.98</i>	<i>90.02</i>	<i>50.01</i>	<i>140.03</i>	<i>- 0.00</i>	<i>140.03</i>
7	<i>6,126 (14.29)</i>	<i>12.49</i>	<i>87.51</i>	<i>50.01</i>	<i>137.52</i>	<i>- 0.00</i>	<i>137.52</i>
1X4 + 1X3	5,601 (20.01) 5,251 (25.01)	22.13	77.87	44.29	122.17	- 2.15	120.02
1 X 6 + 1 X 1	6,001 (14.29) 3,501 (50.01)	19.37	80.63	43.89	124.52	- 5.10	119.42
1 X 5 + 1 X 2	5,834 (16.67) 4,668 (33.34)	21.42	78.58	45.24	123.82	- 4.76	119.0
3 X 3	<i>4,085 (25.01)</i>	<i>24.97</i>	<i>75.03</i>	<i>41.61</i>	<i>116.64</i>	<i>- 0.00</i>	<i>116.64</i>
4 X 2	<i>4,085 (20.01)</i>	<i>33.31</i>	<i>66.69</i>	<i>41.68</i>	<i>108.37</i>	<i>- 0.00</i>	<i>108.37</i>
1 X 3 + 2 X 2	5,251 (25.01) 4,668 (33.34)	29.74	70.26	40.49	110.75	- 2.39	108.36
2 X 3 + 1 X 1	5,251 (25.01) 3,501 (50.01)	28.56	71.44	39.29	110.73	- 3.57	107.16
1 X 4 + 1 X 2 + 1 X 1	5,601 (20.01) 4,668 (33.34) 3,501 (50.01)	28.08	71.92	39.53	111.45	- 8.14	103.31
1 X 5 + 2 X 1	5,834 (16.67) 3,501 (50.01)	26.18	73.82	38.10	111.92	- 9.53	102.39
3 X 2 + 1 X 1	4,668 (33.34) 3,501 (50.01)	35.70	64.30	35.72	100.02	- 2.39	97.63
1 X 3 + 1 X 2 2 X 1	5,251 (25.01) 4,668 (33.34) 3,501 (50.01)	34.51	65.49	38.10	103.59	- 9.72	93.87
2 X 3 + 3 X 1	<i>4,085 (25.01)</i> <i>2,723 (50.01)</i>	<i>33.30</i>	<i>66.70</i>	<i>33.30</i>	<i>100.00</i>	<i>- 8.34</i>	<i>91.66</i>
1 X 4 + 3 X 1	5,601 (20.01) 3,501 (50.01)	32.84	67.16	37.15	104.31	- 12.99	91.32
2 X 2 + 3 X 1	4,668 (33.34) 3,501 (50.01)	40.46	59.54	33.34	92.88	- 7.14	85.74
1 X 3 + 4 X 1	5,251 (25.01) 3,501 (50.01)	39.27	60.73	32.15	92.88	- 14.29	78.59
7 X 1	3,501 (50.01)	49.99	50.01	28.58	78.59	- 0.00	78.59
1 X 2 + 5 X 1	4,668 (33.34) 3,501 (50.01)	45.22	54.78	30.96	85.74	- 11.91	73.83

Italicised numbers are for councils nine councillors. All others are for councils of seven councillors.

The colours are for various bands of scores.

Wards X Cllrs: The number of wards by the number of councillors in each. A single number means an unsubdivided council.

Quota(s): The number of votes required to win a position.

Wasted Votes: The percentage of votes that do not contribute towards the election of a candidate, either because they elect no one or because they are more than needed to elect a person who is elected.

Effective Votes: The percentage of votes that contribute towards the election of a candidate.

Votes > Majority: The minimum percentage of votes required for a group to win a majority of positions.

Demo Index 1: Democracy Index 1, a measurement of how democratic and representative the structure is, calculated by adding the percentage of votes that contribute to the election of a candidate with the minimum percentage of votes needed for a group to win a majority. The highest possible score is 150.01. The two factors are equally weighted. Changing the respective weightings would change the results.

Discrimination: Discrimination Factor, a measurement of the extent to which voters in some wards are discriminated against in the value of their votes as opposed to voters in other wards.

Demo Index 2: Democracy Index 2, a measurement of how democratic and representative the structure is, calculated by subtracting the discrimination factor from Democracy Index 1.

PART ONE: A COUNCIL OF SEVEN COUNCILLORS

Possible Combinations

The possible structures for a council of seven councillors are:

An unsubdivided council of seven councillors (7),

One ward of six councillors and one ward of one councillor (6+1),

One ward of five councillors and one ward of two councillors (5+2),

One ward of four councillors and one ward of three councillors (4+3),

One ward of five councillors and two wards of one councillor each (5+2X1),

One ward of four councillors, one ward of two councillors and one ward of one councillor (4+2+1),

Two wards of three councillors each and one ward of one councillor (2X3+1),

One ward of three councillors and two wards of two councillors each (3+2X2),

One ward of four councillors and three wards of one councillor each (4+3X1),

One ward of three councillors, one ward of two councillors and two wards of one councillor each (3+2+2X1)

Three wards of two councillors each and one ward of one councillor (3X2+1),

One ward of three councillors and four wards of one councillor each (3+4X1)

Two wards of two councillors each and three wards of one councillor each (2X2+3X1),

One ward of two councillors and five wards of one councillor each (2+5X1),

Seven wards of one councillor each (7X1).

Explanation of Quotas

There are approximately 49,000 voters in the Shire of Nillumbik. That means 7,000 voters per councillor, or 7,000 voters per ward in a one-councillor ward, 14,000 voters in a two-councillor ward, 21,000 voters in a three-councillor ward, 28,000 voters in a four-councillor ward, 35,000 voters in a five-councillor ward and 42,000 voters in a six-councillor ward.

Under the single transferable vote version of proportional representation, a candidate is elected when he or she reaches a quota, whether by primary votes or preferences. The quota is derived by dividing the number of voters by the number of positions to be filled plus one and then adding one to the result:

$$Q = V/(P+1) + 1.$$

In the case of seven councillors elected from an unsubdivided Shire:

$$\begin{aligned} Q &= 49,000/(7+1) + 1 \\ &= 49,000/8 + 1 \\ &= 6,125+1 \\ &= 6,126 \end{aligned}$$

The quota for a one-councillor ward is 3,501 (50.01 per cent).

The quota for a two-councillor ward is 4,668 (33.34 per cent).

The quota for a three-councillor ward is 5,251 (25.01 per cent).

The quota for a four-councillor ward is 5,601 (20.01 per cent).

The quota for a five-councillor ward is 5,834 (16.67 per cent).

The quota for a six-councillor ward is 6,001 (14.29 per cent).

The quota for an unsubdivided Shire of seven councillors is 6,126 (14.29 per cent).

Wasted Votes in Wards of Different Numbers of Councillors

The quota for a one-councillor ward is 3,501 (50.01 per cent), so 3,499 votes are wasted; i.e., they do not contribute to the election of anyone. A group with 3,501 votes (50.01 per cent) can get one position and a group with 3,499 votes (49.99 per cent) can get no positions.

The quota for a two-councillor ward is 4,668 (33.34 per cent), so two councillors are elected with 9,336 votes, and 4,664 votes are wasted. A group with 4,668 (33.34 per cent) votes can get one position, and group with 9,332 votes (66.66 per cent) can get one position too; i.e., two groups with one having almost double the support of the other can end up with exactly the same number of councillors.

The quota for a three-councillor ward is 5,251 (25.01 per cent), so three councillors are elected with 15,753 votes, and 5,247 votes are wasted. A group with 10,502 votes (50.01 per cent) can get two positions, and group with 10,498 votes (49.99 per cent) can get only one position; i.e., a group with almost the same number of votes as another group can end up with twice as many councillors as that other group.

The quota for a four-councillor ward is 5,601 (20.01 per cent), so four councillors are elected with 22,404 votes, and 5,596 votes are wasted. A group with 11,202 votes (40.01 per cent) can get two positions, and group with 16,798 votes (59.99 per cent) can get only two positions. A group with 16,803 (60.01 per cent) votes can get three positions, and a group with 11,197 votes (39.99 per cent) can get only one position.

The quota for a five-councillor ward is 5,834 (16.67 per cent), so five councillors are elected with 29,170 votes, and 5,830 votes are wasted. A group with 17,502 (50.01 per cent) votes can get three positions, and group with 17,498 votes (49.99 per cent) can get only two positions.

The quota for a six-councillor ward is 6,001 (14.29 per cent), so six councillors are elected with 36,006 votes, and 5,994 votes are wasted. A group with 18,003 (42.86 per cent) votes can get three positions, and group with 23,997 votes (57.14 per cent) can get only three positions.

The quota for an unsubdivided Shire of seven councillors is 6,126 (14.29 per cent), so seven councillors are elected with 42,882 votes, and 6,118 votes are wasted. A group with 24,504 (50.01 per cent) votes can get four positions, and group with 24,496 votes (49.99 per cent) can get only three positions.

Total Wasted Votes in Possible Combinations of Wards

(from the most democratic and representative structure to the least)

These are votes that do not elect anyone or go to a candidate who does not need them to be elected. The calculation for the number of wasted votes for each ward is explained in the previous section. Where there is more than one ward with a particular number of councillors, the number of wasted votes is multiplied by the number of wards; e.g., if there are one ward of five councillors and two wards of one councillor each, there are 5,830 wasted votes in the five-councillor ward and two lots of 3,499 wasted votes in the two one-councillor wards, producing a total of 12,828 wasted votes.

An unsubdivided council of seven councillors (7)

Wasted votes: 6,118 (12.49 per cent)

Votes that elect someone: 87.51 per cent

One ward of six councillors and one ward of one councillor

Wasted votes: $5,994 + 3,499 = 9,493$ (19.37 per cent)

Votes that elect someone: 80.63 per cent

One ward of five councillors and one ward of two councillors

Wasted votes: $5,830 + 4,664 = 10,494$ (21.42 per cent)

Votes that elect someone: 78.58 per cent

One ward of four councillors and one ward of three councillors

Wasted votes: $5,596 + 5,247 = 10,843$ (22.13 per cent)

Votes that elect someone: 77.87 per cent

One ward of five councillors and two wards of one councillor each

Wasted votes: $5,830 + 2 \times 3,499 = 12,828$ (26.18 per cent)

Votes that elect someone: 73.82 per cent

One ward of four councillors, one ward of two councillors and one ward of one councillor

Wasted votes: $5,596 + 4,664 + 3,499 = 13,759$ (28.08 per cent)

Votes that elect someone: 71.92 per cent

Two wards of three councillors each and one ward of one councillor

Wasted votes: $2 \times 5,247 + 3,499 = 13,993$ (28.56 per cent)

Votes that elect someone: 71.44 per cent

One ward of three councillors and two wards of two councillors each

Wasted votes: $5,247 + 2 \times 4,664 = 14,575$ (29.74 per cent)

Votes that elect someone: 70.26 per cent

One ward of four councillors and three wards of one councillor each

Wasted votes: $5,596 + 3 \times 3,499 = 16,093$ (32.84 per cent)

Votes that elect someone: 67.16 per cent

One ward of three councillors, one ward of two councillors and two wards of one councillor each

Wasted votes: $5,247 + 4,664 + 2 \times 3,499 = 16,909$ (34.51 per cent)

Votes that elect someone: 65.49 per cent

Three wards of two councillors each and one ward of one councillor

Wasted votes: $3 \times 4,664 + 3,499 = 7,491$ (35.70 per cent)

Votes that elect someone: 64.30 per cent

One ward of three councillors and four wards of one councillor each

Wasted votes: $5,247 + 4 \times 3,499 = 19,243$ (39.27 per cent)

Votes that elect someone: 60.73 per cent

Two wards of two councillors each and three wards of one councillor each

Wasted votes: $2 \times 4,664 + 3 \times 3,499 = 19,825$ (40.46 per cent)

Votes that elect someone: 59.54 per cent

One ward of two councillors and five wards of one councillor each

Wasted votes: $4,664 + 5 \times 3,499 = 22,159$ (45.22 per cent)

Votes that elect someone: 54.78 per cent

Seven wards of one councillor each

Wasted votes: $7 \times 3,499 = 24,493$ (49.99 per cent)

Votes that elect someone: 50.01 per cent

Differences in Votes Required to Elect Councillors between Wards of Different Numbers of Councillors

A combination of one-councillor and two-councillor wards

If the council had a combination of one-councillor and two-councillor wards, a candidate would need 50.01 per cent to win in the one-councillor ward but only 33.34 per cent to win in the two-councillor ward. In a two-councillor ward, 33.32 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 16.67 per cent, of votes are wasted. 16.67 per cent of 7,000 is 1,167 votes. 1,167 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of one-councillor and three-councillor wards

If the council had a combination of one-councillor and three-councillor wards, a candidate would need 50.01 per cent to win in the one-councillor ward but only 25.01 per cent to win in the three-councillor ward. In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 25.02 per cent, of votes are wasted. 25.02 per cent of 7,000 is 1,751 votes. 1,751 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of one-councillor and four-councillor wards

If the council had a combination of one-councillor and four-councillor wards, a candidate would need 50.01 per cent to win in the one-councillor ward but only 20.01 per cent to win in the four-councillor ward. In a four-councillor ward, 19.96 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 30.03 per cent, of votes are wasted. 30.03 per cent of 7,000 is 2,121 votes. 2,121 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of one-councillor and five-councillor wards

If the council had a combination of one-councillor and five-councillor wards, a candidate would need 50.01 per cent to win in the one-councillor ward but only 16.67 per cent to win in the five-councillor ward. In a five-councillor ward, 16.65 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 33.34 per cent, of votes are wasted. 33.34 per cent of 7,000 is 2,334 votes. 2,334 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of one-councillor and six-councillor wards

If the council had a combination of one-councillor and six-councillor wards, a candidate would need 50.01 per cent to win in the one-councillor ward but only 14.29 per cent to win in the six-councillor ward. In a six-councillor ward, 14.26 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 35.73 per cent, of votes are wasted. 35.73 per cent of 7,000 is 2,501 votes. 2,501 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of two-councillor and three-councillor wards

If the council had a combination of two-councillor and three-councillor wards, a candidate would need 33.34 per cent to win in the two-councillor ward but only 25.01 per cent to win in the three-councillor ward. In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a two-councillor ward, 33.32 per cent, an extra 8.35 per cent, of votes are wasted. 8.35 per cent of 14,000 is 1,169 votes. 1,169 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of two-councillor and four-councillor wards

If the council had a combination of two-councillor and four-councillor wards, a candidate would need 33.34 per cent to win in the two-councillor ward but only 20.01 per cent to win in the four-councillor ward. In a four-councillor ward, 19.96 per cent of votes are wasted, but, in a two-councillor ward, 33.32 per cent, an extra 13.36 per cent, of votes are wasted. 13.36 per cent of 14,000 is 1,870 votes. 1,870 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

A combination of two-councillor and five-councillor wards

If the council had a combination of two-councillor and five-councillor wards, a candidate would need 33.34 per cent to win in the two-councillor ward but only 16.67 per cent to win in the five-councillor ward. In a five-councillor ward, 16.65 per cent of votes are wasted, but, in a two-councillor ward, 33.32 per cent, an extra 16.67 per cent, of votes are wasted. 16.67 per cent of 14,000 is 2,334 votes.

A combination of three-councillor and four-councillor wards

If the council had a combination of three-councillor and four-councillor wards, a candidate would need 25.01 per cent to win in the three-councillor ward but only 20.01 per cent to win in the four-councillor ward. In a four-councillor ward, 19.96 per cent of votes are wasted,

but, in a three-councillor ward, 24.97 per cent, an extra 5.01 per cent, of votes are wasted. 5.01 per cent of 21,000 is 1,052 votes. 1,052 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

Differences in Votes Required to Elect Councillors in Different Structures

An unsubdivided council of seven councillors

There is no difference as everyone is in the same-sized electorate and every candidate requires the same quota to win.

One ward of six councillors and one ward of one councillor

In a six-councillor ward, 14.26 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 35.73 per cent, of votes are wasted in comparison with a six-councillor ward. 35.73 per cent of 7,000 is 2,501 votes. 2,501 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 2,501 is 5.10 per cent of the total voters in the Shire.

One ward of five councillors and one ward of two councillors

In a five-councillor ward, 16.65 per cent of votes are wasted, but, in a two-councillor ward, 33.32 per cent, an extra 16.67 per cent, of votes are wasted in comparison with a five-councillor ward. 16.67 per cent of 14,000 is 2,334 votes. 2,334 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 2,334 is 4.76 per cent of the total voters in the Shire.

One ward of four councillors and one ward of three councillors

In a four-councillor ward, 19.96 per cent of votes are wasted, but, in a three-councillor ward, 24.97 per cent, an extra 5.01 per cent, of votes are wasted in comparison with a four-councillor ward. 5.01 per cent of 21,000 is 1,052 votes. 1,052 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 1,052 is 2.15 per cent of the total voters in the Shire.

One ward of five councillors and two wards of one councillor each

In a five-councillor ward, 16.65 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 33.34 per cent, of votes are wasted. in comparison with a five-councillor ward. 33.34 per cent of 7,000 is 2,334 votes in each single-councillor ward, or 4,668 votes across both single-councillor wards. 4,668 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 4,668 is 9.53 per cent of the total voters in the Shire.

One ward of four councillors, one ward of two councillors and one ward of one councillor

In a four-councillor ward, 19.96 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 30.03 per cent, of votes are wasted in comparison with a four-councillor ward. 30.03 per cent of 7,000 is 2,121 votes. In a two-councillor ward, 33.32 per cent, an extra 13.36 per cent, of votes are wasted. 13.36 per cent of 14,000 is 1,870 votes. 3,991 votes are wasted across the single-councillor and the two-councillor ward. 3,991 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the largest ward. 3,991 is 8.14 per cent of the total voters in the Shire.

Two wards of three councillors each and one ward of one councillor

In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 25.02 per cent, of votes are wasted in comparison with a three-councillor ward. 25.02 per cent of 7,000 is 1,751 votes. 1,751 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 1,751 is 3.57 per cent of the total votes in the Shire.

One ward of three councillors and two wards of two councillors each

In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a two-councillor ward, 33.32 per cent, an extra 8.35 per cent, of votes are wasted in comparison with a three-councillor ward. 8.35 per cent of 14,000 is 1,169 votes. 1,169 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 1,169 is 2.39 per cent of the total votes in the Shire.

One ward of four councillors and three wards of one councillor each

In a four-councillor ward, 19.96 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 30.03 per cent, of votes are wasted in comparison with a four-councillor ward. 30.03 per cent of 7,000 is 2,121 votes. 6,363 votes are wasted across the three single-councillor wards. 6,363 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 6,363 is 12.99 per cent of the total voters in the Shire.

One ward of three councillors, one ward of two councillors and two wards of one councillor each

In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a two-councillor ward, 33.32 per cent, an extra 8.35 per cent, of votes are wasted. 8.35 per cent of 14,000 is 1,169 votes. In a one-councillor ward, 49.99 per cent, an extra 25.02 per cent, of votes are wasted. 25.02 per cent of 7,000 is 1,751 votes. There are two single-councillor wards, so they waste 3,502 votes. Added to the 1,169 votes wasted by the two-councillor ward, there are 4,671 votes wasted in total. 4,761 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the largest ward. 4,761 is 9.72 per cent of the total voters in the Shire.

Three wards of two councillors each and one ward of one councillor

In a two-councillor ward, 33.32 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 16.67 per cent, of votes are wasted in comparison with a two-councillor ward. 16.67 per cent of 7,000 is 1,167 votes. 1,167 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger wards. 1,167 is 2.39 per cent of the total voters in the Shire.

One ward of three councillors and four wards of one councillor each

In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 25.02 per cent, of votes are wasted in comparison with a three-councillor ward. 25.02 per cent of 7,000 is 1,751 votes. 7,004 votes are wasted across the four single-councillor wards. 7,004 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 7,004 is 14.29 per cent of the total voters in the Shire.

Two wards of two councillors each and three wards of one councillor each

In a two-councillor ward, 33.32 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 16.67 per cent, of votes are wasted in comparison with a two-

councillor ward. 16.67 per cent of 7,000 is 1,167 votes. 3,501 votes are wasted across the three single-councillor wards. 3,501 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger wards. 3,501 is 7.14 per cent of the total voters in the Shire.

One ward of two councillors and five wards of one councillor each

In a two-councillor ward, 33.32 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 16.67 per cent, of votes are wasted in comparison with a two-councillor ward. 16.67 per cent of 7,000 is 1,167 votes. 5,835 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 5,835 votes are wasted across the four single-councillor wards. 5,835 is 11.91 per cent of the total voters in the Shire.

Seven wards of one councillor each

There is no difference as everyone is in the same-sized ward and every candidate requires the same quota to win.

Possible Combinations and Likely Minimum Total Vote Needed to Win a Majority (Four Councillors in a Seven-Councillor Council)

(from the most democratic and representative structure to the least)

The calculation uses the most likely path to a majority; i.e., it is more likely that a group would have three candidates in a ward of six councillors and one in a ward of one councillor than four in a ward of six councillors and none in a ward of one councillor. The calculation shows the number of positions won multiplied by the quotas required to win in each ward and then adds the numbers for all wards together. The percentage is of the total number of voters in the Shire.

An unsubdivided council of seven councillors (7)

$$4 \times 6,126 = 24,504 \text{ (50.00 per cent)}$$

One ward of six councillors and one ward of one councillor

$$3 \times 6,001 + 3,501 = 21,504 \text{ (43.89 per cent)}$$

One ward of five councillors and one ward of two councillors

$$3 \times 5,834 + 4,668 = 22,170 \text{ (45.24 per cent)}$$

One ward of four councillors and one ward of three councillors

$$2 \times 5,601 + 2 \times 3,501 = 18,204 \text{ (37.15 per cent)}$$

One ward of five councillors and two wards of one councillor each

$$2 \times 5,834 + 2 \times 3,501 = 18,670 \text{ (38.10 per cent)}$$

One ward of four councillors, one ward of two councillors and one ward of one councillor

$$2 \times 5,601 + 4,668 + 3,501 = 19,371 \text{ (39.53 per cent)}$$

Two wards of three councillors each and one ward of one councillor

$$2 \times 5,251 + 5,251 + 3,501 = 19,254 \text{ (39.329 per cent)}$$

One ward of three councillors and two wards of two councillors each

$$2 \times 5,251 + 4,668 + 4,668 = 19,838 \text{ (40.49 per cent)}$$

One ward of four councillors and three wards of one councillor each

$$2 \times 5,601 + 2 \times 3,501 = 18,204 \text{ (37.1 per cent)}$$

One ward of three councillors, one ward of two councillors and two wards of one councillor each

$$2 \times 5,251 + 4,668 + 3,501 = 18,671 \text{ (38.10 per cent)}$$

Three wards of two councillors each and one ward of one councillor

$$3 \times 4,668 + 3,501 = 17,505 \text{ (35.72 per cent)}$$

One ward of three councillors and four wards of one councillor each

$$1 \times 5,251 + 3 \times 3,501 = 15,755 \text{ (32.15 per cent)}$$

Two wards of two councillors each and three wards of one councillor each

$$2 \times 4,668 + 2 \times 3,501 = 16,338 \text{ (33.34 per cent)}$$

One ward of two councillors and five wards of one councillor each

$$1 \times 4,668 + 3 \times 3,501 = 15,171 \text{ (30.96 per cent)}$$

Seven wards of one councillor each

$$4 \times 3,501 = 14,004 \text{ (28.58 per cent)}$$

Index of Democracy 1

(from most democratic to least democratic structure)

The Index of Democracy is calculated by adding the percentage of the vote that elects someone to the percentage of the vote needed to win a majority of council positions in each arrangement. It assumes both factors are equally weighted – if they were not, the results would be different. Some may say that it is more important that as many people as possible cast an effective vote than that a group require a majority of the vote to win a majority of positions. Others may say that it is more important that a group require a majority of the vote to win a majority of positions than that as many people as possible cast an effective vote. Yet others would counter by saying that if there is one structure that scores best on each criterion, there is no need to consider the weighting. The structure of one ward of six councillors and one ward of one councillor scores better on the percentage of votes that are effective, but the structure of one ward of five councillors and one ward of two councillors scores better on requiring a group to win a majority of the vote to win a majority of positions. The question becomes academic, however, when the structure of an unsubdivided council of seven councillors score best on each criterion and thus overall, meaning there is no reason to choose between the other two structures.

An unsubdivided council of seven councillors

$$87.51 + 50.01 = 137.52$$

One ward of six councillors and one ward of one councillor

$$80.63 + 43.89 = 124.52$$

One ward of five councillors and one ward of two councillors

$$78.58 + 45.24 = 123.82$$

One ward of four councillors and one ward of three councillors

$$77.88 + 44.29 = 122.17$$

One ward of five councillors and two wards of one councillor each

$$73.82 + 38.10 = 111.92$$

One ward of four councillors, one ward of two councillors and one ward of one councillor

$$71.92 + 39.53 = 111.45$$

One ward of three councillors and two wards of two councillors each

$$70.26 + 40.49 = 110.75$$

Two wards of three councillors each and one ward of one councillor

$$71.44 + 39.29 = 110.73$$

One ward of four councillors and three wards of one councillor each

$$67.16 + 37.15 = 104.31$$

One ward of three councillors, one ward of two councillors and two wards of one councillor each

$$65.49 + 38.10 = 103.59$$

Three wards of two councillors each and one ward of one councillor

$$64.30 + 35.72 = 100.02$$

One ward of three councillors and four wards of one councillor each

$$60.73 + 32.15 = 92.88$$

Two wards of two councillors each and three wards of one councillor each

$$59.54 + 33.34 = 92.88$$

One ward of two councillors and five wards of one councillor each

$$54.78 + 30.96 = 85.74$$

Seven wards of one councillor each

$$50.01 + 28.58 = 78.59$$

Index of Democracy 2

(from most democratic to least democratic structure)

The question arises as to how high a price a minority should pay to suit the majority. In some cases, a minority is discriminated against by having its votes devalued. This index is calculated by subtracting the discrimination factor explained under **Differences in Votes Required to Elect a Councillor in Different Structures** from the scores in **Index of Democracy 1**.

An unsubdivided council of seven councillors

$$137.52 - 0.00 = 137.52$$

One ward of four councillors and one ward of three councillors

$$122.17 - 2.15 = 120.02$$

<u>One ward of six councillors and one ward of one councillor</u>	$124.52 - 5.10 = 119.42$
<u>One ward of five councillors and one ward of two councillors</u>	$123.82 - 4.76 = 119.0$
<u>One ward of three councillors and two wards of two councillors each</u>	$110.75 - 2.39 = 108.36$
<u>Two wards of three councillors each and one ward of one councillor</u>	$110.73 - 3.57 = 107.16$
<u>One ward of four councillors, one ward of two councillors and one ward of one councillor</u>	$111.45 - 8.14 = 103.31$
<u>One ward of five councillors and two wards of one councillor each</u>	$111.92 - 9.53 = 102.39$
<u>Three wards of two councillors each and one ward of one councillor</u>	$100.02 - 2.39 = 97.63$
<u>One ward of three councillors, one ward of two councillors and two wards of one councillor each</u>	$103.59 - 9.72 = 93.87$
<u>One ward of four councillors and three wards of one councillor each</u>	$104.31 - 12.99 = 91.32$
<u>Two wards of two councillors each and three wards of one councillor each</u>	$92.88 - 7.14 = 85.74$
<u>One ward of three councillors and four wards of one councillor each</u>	$92.88 - 14.29 = 78.59$
<u>Seven wards of one councillor each</u>	$78.59 - 0.00 = 78.59$
<u>One ward of two councillors and five wards of one councillor each</u>	$85.74 - 11.91 = 73.83$

The fact that a structure that provides fairer representation for at least some voters is rated below the one that provides the worst representation overall raises the question of how much should the few suffer for the many. Of course, the choice is not restricted to the least bad of the bad options because there are substantially better options available, and one very good one that wins hands down, scoring almost double both the worst option and the current single-councillor wards on the democracy index

PART TWO: A COUNCIL OF NINE COUNCILLORS

There are good reasons not to have an even number of councillors and, given the ratio of councillors to population in other councils, there is little likelihood of Nillumbik having more than seven councillors, but the submissions proposing other numbers deserve to be analysed too.

Possible Combinations

The structures proposed in submission that advocate a different number of councillors are:

An unsubdivided council of nine councillors (9),

Three wards of three councillors each (3X3),

Two wards of three councillors each and three wards of one councillor each (2X3+3X1),

Explanation of Quotas

Nine Councillors

That means 5,444 voters per councillor, or 5,444 voters per ward in a one-councillor ward and 16,333 voters in a three-councillor ward.

The quota for a one-councillor ward in a council of nine councillors is 2,723 (50.01 per cent).

The quota for a three-councillor ward in a council of nine councillors is 4,085 (25.01 per cent).

The quota for an unsubdivided Shire of nine councillors is 4,901 (10.002 per cent).

Wasted Votes in Wards with Different Numbers of Councillors

Nine Councillors

The quota for a one-councillor ward in a council of nine councillors is 2,723 (50.01 per cent), so 2,721 votes are wasted; i.e., they do not contribute to the election of anyone. A group with 2,723 votes (50.01 per cent) can get one position and a group with 2,721 votes (49.99 per cent) can get no positions.

The quota for a three-councillor ward in a council of nine councillors is 4,085 (25.01 per cent), so three councillors are elected with 12,255 votes, and 4,078 votes are wasted; i.e., they do not contribute to the election of anyone. A group with 8,170 votes (50.01 per cent) can get two positions and a group with 8,163 votes (49.99 per cent) can get only one position.

The quota for an unsubdivided Shire of nine councillors is 4,901 (10.002 per cent), so nine councillors are elected with 44,109 votes, and 4,891 votes are wasted. A group with 24,505 (50.01 per cent) votes can get five positions, and group with 24,495 votes (49.99 per cent) can get only three positions.

Total Wasted Votes in Possible Combinations of Wards

(from the most democratic and representative structure to the least)

These are votes that do not elect anyone or go to a candidate who does not need them to be elected. The calculation for the number of wasted votes for each ward is explained in the previous section.

An unsubdivided council of nine councillors

Wasted votes: 4,891 (9.98 per cent)

Votes that elect someone: 90.02 per cent

Three wards of three councillors eachWasted votes: $3 \times 4,078 = 12,234$ (24.97 per cent)

Votes that elect someone: 75.03 per cent

Two wards of three councillors each and three wards of one councillor eachWasted votes: $2 \times 4,078 + 3 \times 2,721 = 16,319$ (33.30 per cent)

Votes that elect someone: 66.70 per cent

But it is not just a question of which is most democratic overall but also which is most democratic for the voters of each ward.

Differences in Votes Required to Elect Councillors between Wards of Different Numbers of Councillors

A combination of one-councillor and three-councillor wards in a nine-councillor council

If the council had a combination of one-councillor and three-councillor wards, a candidate would need 50.01 per cent to win in the one-councillor ward but only 25.01 per cent to win in the three-councillor ward. In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 25.02 per cent, of votes are wasted. 25.02 per cent of 5,444 is 1,362. 1,362 more voters in the smaller ward are excluded from having a say than would be the case if they were treated the same as voters in the larger ward.

Differences in Votes Required to Elect Councillors in Different Structures

Two wards of three councillors each and three wards of one councillor each in a nine-councillor council

In a three-councillor ward, 24.97 per cent of votes are wasted, but, in a one-councillor ward, 49.99 per cent, an extra 25.02 per cent, of votes, are wasted in comparison with a three-councillor ward. 25.02 per cent of 5,444 is 1,362 votes in each single-councillor ward. 1,362 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward or 4,086 votes across the three single-councillor wards. 4,086 more voters in the smaller wards are excluded from having a say than would be the case if they were treated the same as voters in the larger ward. 4,086 is 8.34 per cent of the total voters in the Shire.

Possible Combinations and Likely Minimum Total Vote needed to Win a Majority (Five in a Nine-councillor Council)

(from the most democratic and representative structure to the least)

An unsubdivided council of nine councillors

 $5 \times 4,901 = 24,505$ (50.01 per cent)

Three wards of three councillors each

 $2 \times 4,078 + 2 \times 4,078 + 4,078 = 20,390$ (41.61 per cent)

Two wards of three councillors each and three wards of one councillor each

 $2 \times 4,078 + 2,721 + 2,721 + 2,721 = 16,319$ (33.30 per cent)

Index of Democracy 1

(from most democratic to least democratic structure)

The Index of Democracy is calculated by adding the percentage of the vote that elects someone to the percentage of the vote needed to win a majority of council positions in each arrangement.

An unsubdivided council of nine councillors

$$90.02 + 50.01 = 140.03$$

Three wards of three councillors each

$$75.03 + 41.61 = 116.64$$

Two wards of three councillors each and three wards of one councillor each

$$66.70 + 33.30 = 100.00$$

Index of Democracy 2

(from most democratic to least democratic structure)

The question arises as to how high a price a minority should pay to suit the majority. In some cases, a minority is discriminated against by having its votes devalued. This index is calculated by subtracting the discrimination factor explained under **Differences in Votes Required to Elect a Councillor in Different Structures** from the scores in **Index of Democracy 1**.

An unsubdivided council of nine councillors

$$140.03 - 0.00 = 140.03$$

Three wards of three councillors each

$$116.64 - 0.00 = 116.64$$

Two wards of three councillors each and three wards of one councillor each

$$100.00 - 8.34 = 91.66$$

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