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Delimitation Equity Project

Case Study: Australia

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Case Study: Australia

Using Projections to Equalize Electoral District Populations

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In Australia¹ the overriding principle in delimiting electoral boundaries, or redistribution as the process is referred to in Australia, is population equality. Redistributions in Australia endeavor to ensure that each State and Territory is granted representation in the House of Representatives in proportion to the State or Territory's population, and that there are as nearly as practicable the same number of electors in each electoral division (district) for a given State or Territory.²

The electoral law is very specific about how much variation from population equality will be tolerated: At the time of the redistribution, the number of people enrolled in each electoral division may not vary from the population quota (average) by more than ten percent. More unique is the requirement that at the point three and a half years after the expected completion of the redistribution, the division populations should not vary from the average by more or less than 3.5 percent. It is these very precise, objective numerical criteria that drive the redistribution process in Australia.

Timing of Redistributions

The *Commonwealth Electoral Act 1918* provides the machinery and principles for revising the electorate boundaries in each State for the House of Representatives. Under Section 59 of the *Electoral Act*, there are only three situations in which a redistribution of a State or Territory represented in the Parliament can be initiated:

- When changes in the distribution of population require a change in the number of members of the House of Representatives to be allocated to a State or Territory;
- When more than one third of the divisions within a State deviate from the average divisional enrolment for the State by more than ten percent, and have done so for more than two consecutive months; or

¹ This case study was prepared by Michael Maley for the Administration and Cost of Elections (ACE) Project and updated by Lisa Handley. Much of the information in this case study can be found in an article authored by Michael Maley, Trevor Morling and Robin Bell entitled "Alternative ways of redistricting with single-member seats: the case of Australia," which appeared in *Fixing the Boundaries: Defining and Redefining Single-Member Electoral Districts*, edited by Iain McLean and David Butler and published by Dartmouth Publishing Company: England, 1996. The website of the Australian Election Commission (www.aec.org.au) also proved invaluable in preparing and updating this study.

² The Australian parliament is bicameral, with the Senate elected using a proportional representation system and the House of Representatives elected from single member districts. To ensure equal representation, the boundaries of these divisions must be redrawn periodically. Australia is not redistributed as a single entity; redistributions are undertaken separately for each State and Territory.

- When seven years have elapsed since the State or Territory was last redistributed

Of the three possible “triggers” for redistributions, change in representation entitlements has accounted for the majority of redistributions initiated since 1984; redistributions triggered by malapportionment (deviating from the divisional enrolment by more than ten percent) are rare. (Appendix A provides a list and the dates of all redistributions commenced since 1901).

Calculating Apportionment

The method used to determine the number of House of Representative seats each State is entitled to is specified both in section 24 of *The Constitution* and section 48 of the *Commonwealth Electoral Act 1918*. During the thirteenth month after the first sitting of the House of Representatives, the Electoral Commissioner is required to ascertain the population of the Commonwealth (excluding the Territories) according to the latest official statistics available from the Australian Statistician. These figures are then used to determine how many Members of the House of Representatives (and therefore divisions) each State is entitled to. A similar exercise is used to calculate the entitlements of the Territories.³

Section 48 of the *Electoral Act* prescribes the calculation as follows:

- (a) A quota shall be ascertained by dividing the number of people of the Commonwealth, as ascertained in accordance with section 46, by twice the number of Senators for the States;
- (b) The number of members to be chosen in each State shall be determined by dividing the number of people of the State, as ascertained in accordance with section 46, by the quota, and had if on such a division there is a remainder greater than one-half of the quota, one more member shall be chosen for the State.

For example, the determination of representation entitlements on 19 February 2003 was made as follows:

$$\begin{aligned} \text{Step 1: Quota} &= \frac{\text{total population of the six states}}{2 \times \text{number of Senators for the States}} \\ &= \frac{19205190}{72 \times 2} \\ &= 133369.375 \end{aligned}$$

³ The Commonwealth of Australia is composed of six States (New South Wales, Victoria, Queensland, Western Australia, South Australia, and Tasmania) and two Territories, the Northern Territory and the Australian Capital Territory (which was formed as Australia’s seat of Parliament).

Step 2: Number of Divisions = $\frac{\text{total population of individual State or Territory}}{\text{Quota}}$

Based on these calculations, the following apportionment of Members (and electoral divisions) was announced:

Table 6.1: 2003 Apportionment

	Population	Entitlement	Number of Members	Change
New South Wales	6657478	49.9176	50	
Victoria	4888243	36.6519	37	
Queensland	3729123	27.9609	28	+1
Western Australia	1934508	14.5049	15	
South Australia	1522467	11.4154	11	-1
Tasmania	473371	3.5493	5*	
Australian Capital Territory (ACT)	322871	2.4209	2	
Northern Territory	199760	1.4978	1	-1
Total			149	

* The Constitution states that at least five Members shall be chosen from each of the original six States and therefore Tasmania is guaranteed a minimum of five Members.

A redistribution must ensue if the number of Members allocated to a State or Territory changes relative to the previous number. The 2003 apportionment triggered redistributions in Queensland (which gained a Member relative to the previous allocation) and South Australia (which lost a Member relative to the previous allocation).

Redistribution Authority

Once it is determined that a State or Territory must be redistributed, a Redistribution Committee for that State or Territory is established. The *Commonwealth Electoral Act 1918* requires that each committee consist of the following people:

- The Electoral Commissioner (EC) of the Australian Electoral Commission – this statutory officer is the administrative head and one of three members of the national commission
- The Australian Electoral Officer (AEO) for the particular State or Territory – this statutory officer heads the Australian Electoral Commission’s administrative structures in the State
- The Surveyor-General (SG) for the State (or, if the State has no Surveyor-General, the person holding an equivalent office)
- The Auditor-General (AG) for the State (or, if unavailable, a senior Australian public servant)

The Redistribution Committee has the task of producing a set of boundaries and names for electoral divisions for the House of Representatives in that particular State or Territory.

After the proposed redistribution has been published, an augmented Electoral Commission is established to consider these objections and make a final determination of the boundaries. This body consists of the Redistribution Committee for the State, plus the two members of the three-member Australian Electoral Commission who were not members of the Redistribution Committee: the Chairperson of the Commission and the so-called non-judicial Commissioner (the Australian Statistician).

There appears to be a consensus among Australia's main political parties that the membership of the Redistribution Committees and augmented Electoral Commissions is appropriate and that these bodies operate in an independent and politically neutral manner.

Steps in the Redistribution Process

Once the Electoral Commission directs the commencement of the redistribution, the enrolment quota for the particular State or Territory is determined by the Electoral Commissioner and the Redistribution Committee for that State or Territory is appointed by the Electoral Commission.

The Electoral Commissioner invites written suggestions from interested person or organizations which must be provided to the Redistribution Committee within 30 days. The suggestions are made available for public inspection and comments may be lodged within 14 days.

The Redistribution Committee then considers the public suggestions and comments and develops a set of proposed boundaries. The plan is published and maps showing the suggested boundaries and names are publicly exhibited. The public has 28 days to lodge objections to the proposals. Then there is a period of 14 days in which interested people and organizations may make comments on the objections.

The augmented Electoral Commission is established to consider these objections and make a final determination of the boundaries. The augmented Electoral Commission has 60 days to consider objections (including initial and any further objections). After considering any further objections, the augmented Electoral Commission makes a final determination of the boundaries of the electoral divisions. The Commission is required to state in writing its reasons for its final determination, and provision exists for any member who dissents to indicate his or her reasons for doing so.⁴ (Appendix B provides the timetable for redistribution).

⁴ While the *Commonwealth Electoral Act 1918* makes provisions for a redistribution to be made even in cases where the augmented Electoral Commission is not unanimous in its view – four votes out for six, including at least two from members of the Australian Electoral Commission,

The determination made by the augmented Electoral Commission is final and cannot be vetoed at the political level.⁵ It is also not subject to judicial review, except on very limited constitutional grounds.

Provision for Public Input

Extensive provision is made for public input into the redistribution process. Redistribution Committees are required by law to call for public suggestions at the outset of the redistribution process, and any suggestions received are made publicly available, and can be the subject of further public comment. All suggestions and comments are required to be considered.

After a proposed redistribution has been published, objections to it may be lodged. The augmented Electoral Commission is required to conduct a public inquiry into an objection unless the objection covers matters which were already substantially raised in earlier suggestions or comments, or is frivolous or vexatious. Submissions regarding the objection may be made at the public inquiry by the person or organization objecting, and any person who or organization that made suggestions or comments. The augmented Electoral Commission may also invite other witnesses to appear.

The augmented Electoral Commission is not bound by the legal rules of evidence, and in general has considerable flexibility in determining how inquiries will be conducted. Inquiries are typically held in the capital city of the State, but on some occasions in the past, an augmented Electoral Commission has chosen to hold an inquiry in a provincial city, particularly where such an approach facilitated the examination of a controversial proposed boundary.

Having held such public inquiries as are necessary, the augmented Electoral Commission is required to make a further proposed redistribution. As part of that process, the augmented Electoral Commission must determine whether in its view the proposed redistribution is “significantly different” from that put forward earlier by the Redistribution Committee. If the proposed redistribution is not regarded as significantly different from that of the Redistribution Committee, there is no provision for further objections, and the proposed redistribution is in practice reflected in the final determination made by the augmented Electoral Commission. If the proposed redistribution is regarded as significantly different, further objections can be lodged, and another public inquiry, or series of public inquiries, must be held.

Participants at inquiries into objections have typically been given extensive opportunities to elaborate on their submissions such that the augmented Electoral Commission gains the maximum benefit from their views and so that the participants can be satisfied that

suffice to carry the day – the lodging of a dissent by a member of a Redistribution Committee or augmented Electoral Commission has been a rare event.

⁵ *The Commonwealth Electoral Act 1918* was amended in 1983 to ensure that the final determination was not subject to veto by the Parliament. Prior to this date the redistribution was subject to approval by the House of Representatives, who on a number of occasions either delayed or rejected the boundary changes.

they received a proper hearing. In addition, the Redistribution Committees and augmented Electoral Commissions have tended to provide substantial explanations of their proposals, addressing in some detail the suggestions, comments, and objections have been raised, in their statements of reason. As a result, those who have made suggestions, comments, or objections can better appreciate why their own preferred positions may not have been accepted.

The net effect of these provisions for public input has been to make the redistribution process open and accountable and to ensure that arguments of the substance of a particular redistribution have tended to be worked out within the framework of the process, rather than forming the basis for ongoing questioning of the legitimacy of a particular redistribution.

Criteria Governing the Drawing of Electoral Boundaries

The criteria in accordance with which boundaries are to be devised are fully spelt out in the *Commonwealth Electoral Act 1918*. These criteria are as follows:

- The State or Territory must be distributed into a number of electoral divisions equal to its representation entitlement in the House of Representatives as most recently determined.
- A quota is determined by dividing the State or Territory's total electoral enrolment as at the end of the period for the lodging of comments by its representation entitlement in the House of Representatives. An electoral division which deviates in enrolment from the quota by more than ten percent cannot be proposed.
- Subject to the rules above, the Redistribution Committee or augmented Electoral Commission must, as far as practicable, endeavor to ensure that the boundaries of the electoral divisions are such that the number of electors enrolled in each division will not, at the point three-and-a-half years after the redistribution has come into effect, be less than 98 percent nor more than 102 percent of the average divisional enrolment for the State or Territory at that time.
- Subject to the three rules above, due consideration must be given, in relation to each proposed division, to:
 - Community of interests within the proposed division, including economic, social and regional interests;
 - Means of communication and travel within the proposed division;
 - The physical features and area of the proposed division; and
 - The boundaries of existing divisions.

The criteria listed in the final paragraph are clearly subordinate to the numerical criteria outlined in preceding points and, as such, tend to come into play "at the margins," when

the issue is not the major structure of the redistribution, but rather the precise positioning of a few of the boundaries.

The relative importance of the criteria is clearly defined in the legislation, and is not a matter on which the bodies conducting redistributions have any significant discretion. Furthermore, the Redistribution Committee and the augmented Electoral Commission are not required to take any account of the possible partisan implications of redistributions, and in fact have not done so.

Population Equality

In determining electoral boundaries within a State, the overriding consideration in Australia is population equality.

While the total population is used in allocating Members to the States and Territories, actual voter numbers are used in determining the delineation of electoral districts. Since voter registration is compulsory in Australia, these figures are readily available and are for all practical purposes accurate at the time of calculation.

In applying the principle of “one person, one vote,” the starting point is to determine the ideal population for each electoral district. This is calculated by dividing the total number of electors in a particular State or Territory by the number of House of Representative seats allocated to the State or Territory. The result is rounded to the nearest integer. The population of electoral districts within a given State or Territory can deviate from this ideal population by as much as ten percent at the time of the redistribution.

In addition to the requirement that an electoral district population not deviate by more than ten percent from the ideal population at the time of redistribution, another metric is used to prevent malapportionment occurring during the life of the redistribution: Each electoral district can deviate by no more than 3.5 percent in three years and six months from the expected completion of the redistribution (or the midpoint in the possible seven year period since the last redistribution). This requirement necessitates the production of population projections.⁶

Because of this latter requirement, two enrolment quotas must be calculated during the redistribution process:

- The current quota or average district enrolment; and
- The projected quota or average district enrolment three and a half years after the expected completion of the redistribution

⁶ Population projections are calculated using a demographic algorithm based on the widely accepted cohort-component method. This involves applying fertility, mortality, and interstate migration rates to the base population to produce a cohort population 3.5 years from the assigned date.

In each case, the quota is calculated by dividing the number of people enrolled by the number of members to which the State or Territory is entitled.

The current quota uses the number of electors on the roll when the redistribution commences and is permitted to vary up to ten percent in each district. The projected quota, on the other hand, is based on a projected enrolment figure three and a half years after the expected completion of the redistribution and may vary by no more than 3.5 percent in each division. In aiming for this quota, the Redistribution Committee is able to allow for population growth or contraction in particular areas.

For example, a determination of enrolment quotes for the State of Victoria at the beginning of the redistribution process in 2003 was as follows:

Number of electors enrolled in VIC (3259454) = 88093
Number of districts in which VIC is to be distributed (37)

Therefore, at the time of the redistribution the number of electors in the electoral districts could vary up to ten percent from 88,093 (with the acceptable population range therefore being 79,284 to 96,902).

The projected quota for the State of Victoria was calculated as follows:

Projected enrolment in VIC at 31.03.2006 (33473637) = 93882
Number of members VIC is entitled to (37)

The projected average enrolment at March 2006 (in three and a half years time), on which the Redistribution Committee based its proposal was 93,882 electors, with the acceptable population range therefore being from 97,168 to 90,596 electors. (See Appendix C for the complete summary statistical report outlining the current and projected population totals and population deviations for the federal redistribution of Victoria in 2002).

Computerization of Redistribution Process

The basic building blocks used to draw electoral districts are referred to as Census Collection Districts (CCDs). These small geographical units are used by the Australian Bureau of Statistics in the collection of the five yearly census. Each unit contains detailed demographic and electoral data such as population, elector population and projected population.

The geographic boundaries for the CCDs, as well as the associated demographic and electoral data, are computerized and available for the Redistribution Committee to use for redistribution. The manual manipulation and amalgamation of these units within the

context of GIS has been named “passive redistributing.” Using GIS has shortened the timeframe for redistributions considerably throughout the years.

Conclusion

The assumption underpinning the current Australian redistribution process, spelled out in the *Commonwealth Electoral Act 1918* and substantially implemented in 1984, is that the legitimacy of the process can be guaranteed by:

- Timing of redistributions: Provisions are made for redistributions to be conducted with sufficient frequency to limit the development of malapportionment. In addition, the timing is specified by law and cannot be manipulated for political advantage.
- Independent redistribution authority: Redistributions are undertaken by politically neutral and independent bodies.
- Public input: The redistribution process is very public and the views of interested individuals and organizations must be taken into account
- Established criteria for drawing boundaries: Redistribution Committees are required to work in accordance with a specific set of well-defined criteria which are broadly supported across the political spectrum
- Automatic implementation of redistributions: The final redistribution proposal is not subject to veto at the political level, or by Parliament.

According to Maley, Morling and Bell, “the emphasis in the Australian scheme is very much on the legitimacy of [the redistribution] processes rather than specific outcomes, it being generally believed that if the mechanisms leading to a specific redistribution are acceptable, then the redistribution itself will be accepted, even by participants in the electoral process who see themselves as being disadvantaged by it.”⁷ In fact, federal redistributions in Australia have largely ceased to be a matter for partisan debate.

⁷ Michael Maley, Trevor Morling and Robin Bell, “Alternative ways of redistricting with single-member seats: the case of Australia,” *Fixing the Boundaries: Defining and Redefining Single-Member Electoral Districts*, edited by Iain McLean and David Butler, Dartmouth Publishing Company: England, 1996, p. 120.

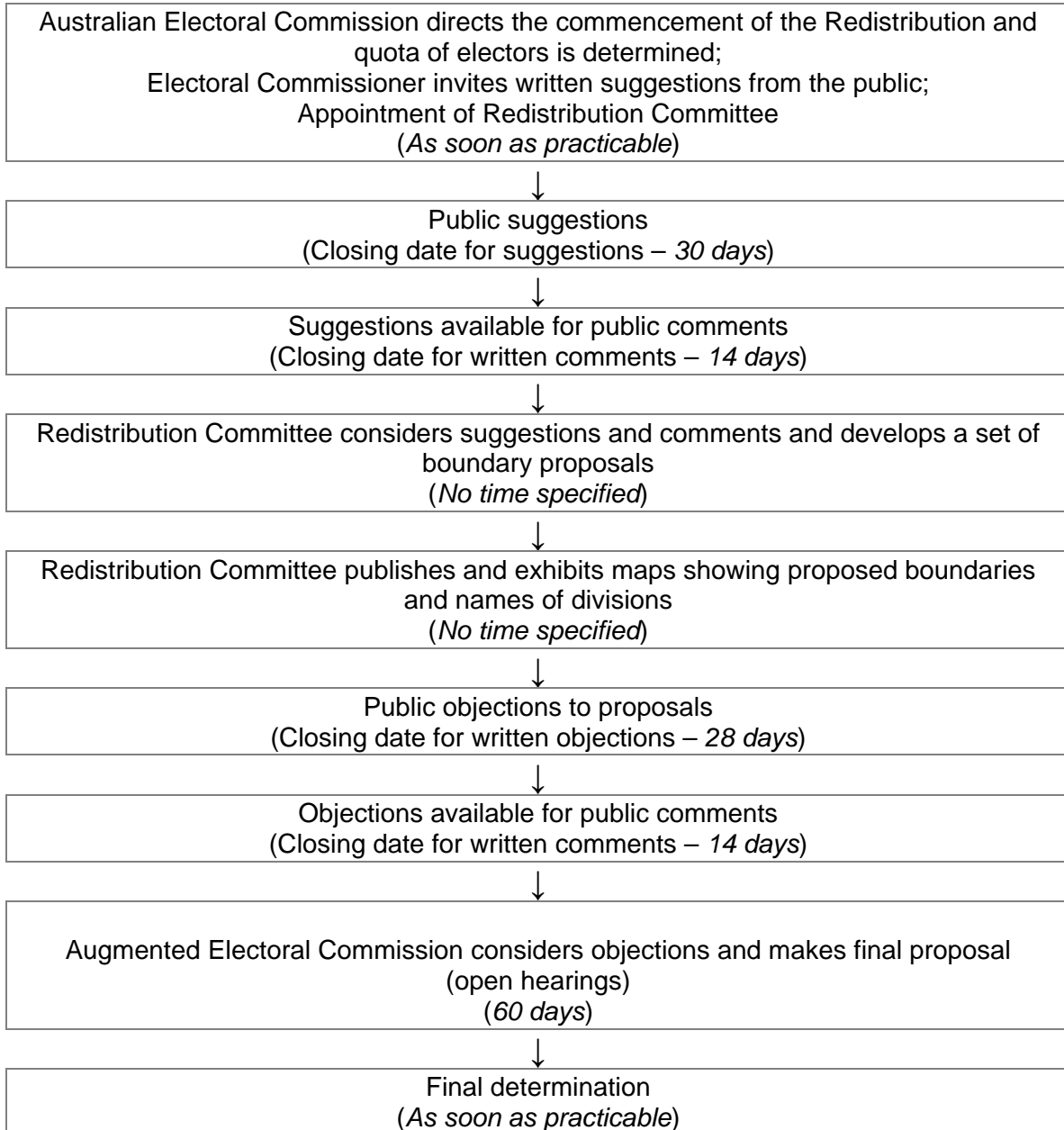
Appendix: Australia

Appendix A: Dates of Redistribution since 1901

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
1900	11 Dec	26 Sep	04 Dec	05 Dec				
1903					02 Oct	02 Oct		
1906	13 Jul	13 Jul	13 Jul	13 Jul				
1913	27 Feb	01 Feb	01 Feb	01 Feb				
1922	13 Sep	04 Oct	13 Sep	13 Sep	13 Sep	13 Sep		
1934	01 Aug		01 Aug		01 Aug			
1937		21 Jul		28 Jul				
1949	11 May	11 May	11 May	11 May	11 May	11 May		
1955	30 Aug	10 Aug	10 Aug	10 Aug	19 Oct	30 Aug		
1968	21 Nov	21 Nov		21 Nov	21 Nov	21 Nov		
1969			27 Feb					
1974				19 Apr			19 Apr	
1977	31 Oct	31 Oct	31 Oct	07 Nov	31 Oct	31 Oct		
1980				28 Feb				
1984	11 Oct	14 Sep	13 Sep	31 Aug	03 Sep	12 Sep	23 Aug	
1989		05 Jun		31 Mar				
1992	31 Jan		28 Jan		17 Jan	01 Apr	23 Mar	
1994		20 Dec	01 Dec				30 Sep	
1997			10 Dec	06 Mar			10 Dec	
1999					13 Aug			
2000	11 Feb			20 Nov		11 Feb		21 Dec
2003		29 Jan						19 Feb*

** NT did not undergo a redistribution, but reverted to a single division as a result of the determination of entitlement made on 19 February 2003.*

Appendix B: Redistribution Timetable



Appendix C: Statistical Summary for State of Victoria Redistribution, 2002

1.4 STATISTICAL SUMMARY

TABLE 1 – STATISTICAL REQUIREMENTS FOR THE REDISTRIBUTION

Number of Divisions into which Victoria is to be distributed	37
Number of Electors in Victoria as at 18 January 2002	3,259,454
Quota for Victoria	88,093
Permissible maximum number of electors (+10%) in a Division	96,902
Permissible minimum number of electors (-10%) in a Division	79,284

TABLE 2 – ENROLMENT PROJECTIONS FOR 31 MARCH 2006

Number of Divisions into which Victoria is to be distributed	37
Projected number of electors in Victoria as at 31 March 2006	3,473,637
Average enrolment for Victoria projected at 31 March 2006	93,882
103.5% of average enrolment projected at 31 March 2006	97,168
96.5% of average enrolment projected at 31 March 2006	90,596