

**REPORT OF THE LEGISLATIVE
APPORTIONMENT BOARD:**
The 2001 Tentative Plan for the Vermont Senate

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1. Introduction

The Vermont Constitution requires reapportionment of the Vermont House and Senate every ten years following the release of the decennial census. This is ultimately a legislative decision, but the preparation of an initial plan is the work of the Legislative Apportionment Board. The law obligates the Board to provide the General Assembly with a Tentative Plan for the redistricting of the Vermont House and Senate by July 1 for the Senate and by August 15 for the House. This is the 2001 Tentative Plan for the Senate.

Apportionment of the Legislature is based on population. It works this way for the Senate: take the Census count for Vermont in 2000 and divide it by the number of seats in the Senate (30). With the numbers in mind, align the various towns and cities into appropriate-sized senatorial districts, enact them into law, and then use those districts in the five General Elections to come.

According to the 2000 Census, there are 608,850 residents in Vermont. According to the Vermont Constitution, there are 30 senators. Dividing the first by the second number equals 20,295 people to make an ideal single-member senatorial district. In the Tentative Senate Plan, only three of the proposed senatorial districts have a single member, however. Six districts have two members, three have three members, and one—the Chittenden Senatorial District—has six senators assigned to it. This is done out of respect for county lines.

The 2001 LAB Tentative Plan differs from the 1992 Senate Plan by minor changes in district makeup, moving one town to another district in some cases to respond to population changes. The details appear below.

2. Constitutional and Statutory Principles

The Vermont Constitution identifies three principles in designing the House and Senate plans for reapportionment. The General Assembly is required to afford equality of representation and to “seek to maintain geographical compactness and contiguity and to adhere to the boundaries of counties and other existing political subdivisions.” Vermont Constitution, Chapter II, Section 73. A statute in the title on elections restates these principles and adds an additional criterion, which encourages “preservation of existing political subdivision lines; recognition and maintenance of patterns of geography, social interaction, trade, political ties and common interests; use of compact and contiguous territory.” 17 V.S.A. § 1903(b).¹

a. Substantial Equality. Numbers make all the difference in reapportionment. Without “equality of representation” or substantial equality, as the courts have defined it, no plan will pass muster in a review by the judicial branch. Perfect equality (20,295 people per district) is unachievable, without subdividing counties and towns. In 1991, the deviation in the final Senate plan was 16.4%.² Twenty years earlier, the Vermont Supreme Court rejected a Senate districting plan using 25.3% as the deviation. *In re Senate Bill 177*, 130 Vt. 358, 370 (1972). Subsequently, the Supreme Court approved a Senate district plan from 1971 that had a deviation of 16.65%. *In re Senate Bills 177 & 83*, 132 Vt. 282 (1974). Numbers alone won’t justify a particular deviation. There is need for findings and a credible argument demonstrating how the other standards beyond equality are met, in order to justify a particular percentage deviation.

In the *Mahan* case, the United States Supreme Court agreed that a state legislative district with a deviation of 16.4% “approach[es] tolerable limits.” It explained that the ultimate inquiry is whether the legislature’s plan “may reasonably be said to advance [a] rational state policy” and, if so, “whether the population disparities among the districts that have resulted from the pursuit of this plan exceed constitutional limits.” *Mahan v. Howell*, 410 U.S. 315, 318 (1972).

In the Tentative Senate Plan, county lines constitute the “rational state policy” in the design of districts with a total deviation of 14.73%, with districts of between a low of 19,040

¹ In the *Hartland* case, the Supreme Court regarded (b)(2) (recognition and maintenance of patterns of geography, social interaction, trade, political ties and common interests) as a natural outgrowth of the other two constitutional principles. See 160 Vt. at 22.

² The percentage of deviation is a measure of the extremes of the final plan from perfect equality. The Vermont Supreme Court explained it best in the *Hartland* case. 160 Vt. at 14, fn. 2, where it wrote, “According to the 1990 census, the state population is 562,758. The size of the ideal representative district--3752--is arrived at by dividing the total population by 150, the number of representatives mandated by Chapter II, § 13 of the Vermont Constitution. Deviations, whether positive or negative, are from this norm. If the number of citizens in the district is below 3752, there is a negative deviation, while a positive deviation results if there are more than 3752 citizens in the district. The overall, or maximum, deviation of a plan is calculated by disregarding the positive or negative signs, and taking the sum of the highest positive and negative deviations within the plan. For example, if the highest positive deviation of any district in a plan were 5.6%, and the highest negative deviation of any district in that plan were -5.6%, the overall deviation of the plan would be 11.2%.”

people per senator in the Caledonia Senatorial District and a high of 22,028 people per senator in the Franklin Senatorial District.

b. Geographical compactness and contiguity. This principle is a measure of the shape of each district. A district strung together in a straight line may not reflect a sense of community for its member towns. A district with parts separated from each other by other districts is certainly going to find it difficult to coalesce as a single unit of representation.

The computer program used by the LAB is Maptitude. It calculates compactness geometrically. Two measures were taken on compactness using this program. The first is the Roeck test, an area-based measure that compares each district to a circle (the most compact shape possible), computing the ratio of the area of the district to the area of the minimum enclosing circle. A perfect circle would have a ratio of one. The other measure is the Polsby-Popper test, which computes the ratio of the district area to the area of a circle with the same perimeter. As with the Roeck test, one represents the most compact district. Of course, none of the districts are circular, but the respective scores on these tests provide some technical measure of the compactness of the proposed districts.³ The highest Roeck rating (meaning the measure of the most compact district) is 0.64 for Rutland Senatorial District; the lowest Roeck score is 0.28 for Caledonia. The highest Polsby-Popper rating is held by Orange with 0.56; the lowest are Caledonia and Chittenden-Grand Isle Senatorial Districts at 0.24. The Tentative Senate Plan is within a reasonable range of compactness by these measurements.

The map of the Tentative District also demonstrates contiguity. While county lines are breached in several instances, the districts remain cohesive.

Of this principle, the Vermont Supreme Court has written, “Voters in a community are less effectively represented when their elected representative's principal constituency lies outside their community and has interests different from their own. (Citations omitted). These considerations are particularly relevant in this state, which has a long history of preserving the independence and integrity of local government.

“Similarly, compactness and contiguity requirements ultimately concern ‘the ability of citizens to relate to each other and their representatives and . . . the ability of representatives to relate effectively to their constituency.’ These relationships are fostered through shared interests and membership in a political community. They are undermined, however, when geographic barriers that severely limit communication and transportation within proposed districts are ignored.” *In re Reapportionment of Town of Hartland*, 160 Vt. 9, 21-22 (1993).

All districts in the Tentative Plan are contiguous, although contiguity is an issue in the Chittenden-Grand Isle Senatorial District, where the Grand Isle County town Alburg has been assigned to Franklin Senatorial District. To reach Isle La Motte from North Hero by road, a traveler passes through a part of Alburg. On the other hand, Isle La Motte is an island, as are three of the towns of the senatorial district. For the purpose of contiguity, the LAB accepts

³ The Roeck and Polsby-Popper tests will be much more valuable in the House districting plan.

water boundaries. In fact, the boundaries of the towns on Lake Champlain include portions of the water, and by this measure, Isle La Motte and North Hero are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. This criterion is a measure of the Plan's respect for existing political subdivision lines. In the case of *In re Senate Bills 177 & 83, supra*, 132 Vt. at 286, the Vermont Supreme Court ruled that other considerations such as maintaining integrity of county lines must yield to that of equal representation. The criterion is addressed in the Tentative Plan.

Washington County and Windsor County are the only counties with all of their towns kept intact within their senatorial districts, but in most other cases county lines have been respected. The Chittenden, Lamoille, Orange, Rutland and Windham Senatorial Districts remain within county lines (although not all county towns are included in any of these districts), while Addison, Bennington, Caledonia, Essex-Orleans and Franklin Senatorial Districts include towns from other counties. The Chittenden-Grand Isle District has less than all the county towns of Grand Isle (Alburg being assigned to the Franklin Senatorial District) and includes one Chittenden County town (Colchester). The Franklin County towns of Montgomery and Richford are placed in Essex-Orleans, as are the Lamoille County towns of Eden and Wolcott. Wilmington, from Windham County, is assigned to Bennington Senatorial District. Brandon, a Rutland County town, is aligned with the Addison Senatorial District. Orange County contributes six towns—Bradford, Fairlee, Newbury, Orange, Topsham and West Fairlee—to the Caledonia Senatorial District. Fourteen towns out of 246 fall outside their county lines.

d. Patterns of geography, social interaction, trade, political ties and common interests. In the *Hartland* case, the Supreme Court explained that these criteria “are an implementation and extension of our constitutional requirements that the Legislature ‘seek to maintain geographical compactness and contiguity and to adhere to boundaries of counties and other existing political subdivisions.’” *In re Reapportionment of Town of Hartland, supra*, 160 Vt. at 22.

In *Hartland*, the Supreme Court rejected the placement of Montgomery in a House district with Franklin County towns. The Court was concerned that the legislative record showed no evidence of any consideration of patterns of geography and social interaction. *In re Reapportionment of Town of Hartland, supra*, 160 Vt. at 24. Two years later, after the legislature made its report, the Court concluded the decision to place Montgomery in Franklin County was neither irrational nor illegitimate, and the plan remained in place for the remainder of the decennium. *In re Reapportionment of Town of Montgomery*, 162 Vt. 617, 618 (1994).

The Tentative Plan addresses these criteria, as well as all other criteria, district by district. Geography is always a consideration. Social interaction and trade are considered by a review of the transportation network, population centers for each district, and memberships in regional organizations. Political ties are not as obvious, but common interests were considered as reflected in the other criteria under this heading. The public hearings of the Board were very instructive in pointing out residents' concerns about alignments with other towns.

e. Incumbency. Incumbency is not a standard the LAB is required to consider, but it has been added to the standards BCAs are to use in subdividing multi-member districts. 17 V.S.A. §§ 1906 b(c)(4) and 1906c(c)(4). When the 1992 House plan was challenged, the Vermont Supreme Court rejected a challenge to the plan by Springfield by recognizing that reapportionment is a political process, and that the design of a district that pits three incumbents against each other for two House seats is acceptable, as long as the other criteria are considered. *In re Reapportionment of Town of Hartland*, 160 Vt. at 32.

3. The Duty of the Legislative Apportionment Board

The Legislative Apportionment Board is governed by provisions in the Vermont Constitution and state statutes. The Board's authority stems from Sections 13, 18, and 73 of the Vermont Constitution. In Section 73, the constitution explains that the General Assembly "may provide for establishment of a legislative apportionment board to advise and assist the General Assembly concerning legislative apportionment." Section 13 relates to the House, Section 18 to the Senate. In each instance, the standards for the design of districts are set out:

In establishing [representative or senatorial] districts, which shall afford equality of representation, the General Assembly shall seek to maintain geographical compactness and contiguity and to adhere to boundaries of counties and other existing political subdivisions.

There is also statutory authority for the Board's work. 17 V.S.A. Chapters 33, 34, & 34A. Chapters 33 and 34 presently contain the work of the former Apportionment Board, from 1992, including an enumeration of districts for the House of Representatives and Senate. Chapter 34A describes the process of reapportionment.

This year's Tentative Senate Plan was drafted by the five members of the Legislative Apportionment Board, led by Special Master Maximilian W. Kempner. Members included Timothy Corcoran of Bennington, Anne Ginevan of Middlebury, John Hall of St. Johnsbury, and Jerry Kreitzer of Rutland City. Staff included Deputy Secretary of State William Dalton, Legal Intern Alexander Lee, State Archivist D. Gregory Sanford and Paul Gillies, Legal Counsel to the Board.

For technical advice, the Board hired Lisa Handley of Frontier International Election Consulting, of Bethesda, Maryland. Ms. Handley provided exceptional assistance to the Board in loading census data, managing the data through the Maptitude software, and advising the Board on computer questions.

The LAB held regular monthly or biweekly meetings beginning in January, and five public hearings in April and May. It took testimony in Winooski, Danville, Rutland City, St. Albans, and Springfield. It received emails, faxes, letters and phone calls from citizens all over Vermont. Because reapportionment is so critical to the interests of the people of a given area, Vermonters feel strongly about how the district maps are drawn. Many had other ideas about the way their town had been treated in the past and in the early proposals for the 2001 Tentative Plan. Not everyone's desires could be accommodated, but the LAB listened to every comment and in many cases found ways of answering the concerns of those who spoke at the hearings.

The LAB is also grateful to Frank Smallwood, who chaired the 1991-1992 LAB, for his helpful comments, as well as the continuing assistance of the staff of the Legislative Council, who have worked closely with the staff of the LAB and will inherit the duties of forming a final House and Senate district plan as soon as the final House plan is submitted to the Clerk of the House on August 15.

State Archivists Gregory Sanford and Christie Carter developed a web page on the apportionment process, accessible from the Secretary of State's home page, which has been very useful in disseminating information about the Board's work.

The Census data arrived in late March, later than in previous years. Consequently, the Board asked the Legislature to extend the deadlines for presenting this Tentative Plan for the Senate and the House Plan, which is to follow, by one month. The Legislature responded quickly with a bill that became law before adjournment, extending the deadlines from June 1 to July 1 for presentation of the Tentative Plan for the Senate and from July 15 to August 15 for presentation of the Tentative Plan for the House.

When the LAB reached the end of its work on the Senate Plan, a formal vote was taken to approve it. Four members voted in favor; one dissented. Jerry Kreitzer voted against the plan for two reasons. First, he objected to the Chittenden Senatorial District with six members, believing strongly that LAB's previous proposal, essentially moving one of the six Senators to a new, expanded Chittenden-Grand Isle Senatorial district with two members, was superior to the plan as proposed. Secondly, he objected to the decision to place the Rutland County town of Brandon in the Addison Senatorial District, believing that a better plan would have left Rutland County intact.

Mr. Kreitzer's views about the Chittenden Senatorial District are a reflection of a discussion that pervaded many of the LAB's meetings. At the start, there was consideration of the idea of establishing single-member districts for the Senate and the House. The idea was promoted as a means to control the alarming increase in the cost of legislative campaigns, ensure greater contact and accessibility of representatives to their constituents and reduce the concentration of regional power in larger-member senatorial districts. This discussion led directly to consideration of the function of the Vermont Senate.

Why a Senate. The Vermont Senate was created by constitutional amendment in 1836, although the idea had been proposed frequently over the years at meetings of the Council of Censors. The 1834-1835 Council of Censors believed a Senate was needed to provide "proper checks and balances in the legislative department, to the end that hasty and improvident legislation might thereby be avoided."⁴ In its Address to the People, the Council explained, "By such a division of legislative authority, a guard is interposed against the evil effects and dangers consequent upon the hasty and premature adoption of measures springing as they sometimes do, from passion, party influence, party intrigue, or local interests, which are often brought to bear with great force, and exert a powerful and dangerous sway in a single assembly."⁵

The idea of a population-based, apportioned Senate was intended to offset the "inequality of representation inconsistent with sound policy" as appeared in the House of Representatives, with its one-town, one-vote organization, according to the Council. That *counties* were chosen as the organizational unit for senators assumes "electors will generally be acquainted with the candidates and their qualifications." Senators, "from their numbers, their deliberative character,

⁴ *Records of the Council of Censors*, ed. P.Gillies & D.G. Sanford (1991), 372.

⁵ *Id.* at 375.

separate action, and entire independence of the other branch, will possess a more controlling influence, and ensure a more steady and consistent direction in the exercise of legislative authority.”⁶

Counties in Vermont have never been the central administrative units they are in other states. Their principal duty is to provide courthouses, offices and assistance to the State’s Attorney, Sheriff, and Assistant Judges. They do not have responsibilities of a general government, plowing snow, offering sewer and water and other services region-wide. Still, there is a consciousness that comes with being a resident of a county, and a difference in political and cultural temperament, in the most generalized of ways.

Part of the reason for adopting a State Senate was to encourage voters to know the people they were voting for. By that reasoning, the closer the legislator is to the smallest number of people, the more likely it is that people will know their candidates. The reelection of incumbents is one measure of this.

For Franklin, Windham, Bennington, and Rutland counties, in particular, the creation of single-member Senate districts would cause unexpected divisiveness between urban and rural areas. These are counties with one large town or city and a host of smaller towns around it. Subdivision of these large towns or cities might be required to figure out such a new Senatorial district plan, but if not, the tensions between the city/large town and the more rural areas would inevitably create problems not present today when State Senators must satisfy residents of the entire county, not just the population centers. The separation of urban and rural areas necessitated by a single-member senatorial district system might polarize Vermont as nothing has done since the reapportionment plan of the House in 1965. Having individuals who represent a mix of populous and not-so-populous areas of a state allows them to see a larger picture; the smaller the constituency, the more narrow the range of interest.

A Senator is not just a legislator representing five times the number of constituents as a Representative. The idea of a Senate is richer than that. Regional interests are by their nature more expansive than those of individual towns or parts of towns, and a regional voice (and from that a statewide consciousness) is what ought to be preserved in the design of a Senate.

4. The 2001 Tentative Plan

⁶ Id. at 379.

The purpose of this report is to show the Vermont Senate and the people of Vermont the product of the work of the Legislative Apportionment Board. That product is what appears in the following section, explaining the Tentative Senate Plan. The idea is to be as open and candid as possible in discussing the hearings and deliberative sessions of the Board, to give the Senate a sense of what was considered and what was rejected, as well as to leave a historical record that may be of use to the next LAB in 2011. The lack of much of the records from previous reapportionment efforts hampered the Board's ability to prepare a plan this year.

Working Principles. When the Board first met, it spent some time discussing the working principles it would use in building the tentative plans. Some of this was statutory, although not specific in the law. That the Senate plan would consist solely of towns, and not parts of towns, for instance, was obvious from the lack of any statutory scheme for sending the Senate plan to the towns for further subdivision. That the residences of incumbents would be considered, a factor for BCAs to consider pursuant to statute, was also extra-statutory for the LAB. The plan does not set incumbents against each other. Incumbents are each located in the senatorial district from which they were elected in 2000, and they remain in the same districts of the Tentative Senate Plan.

Other Plans. The LAB considered a separate plan to subdivide the Caledonia Senatorial District into two single-member districts. The towns of Burke, Kirby, Lyndon, Newark, Sheffield, Stannard, Waterford and Wheelock would constitute the Caledonia Senatorial District. The towns of Barnet, Danville, Groton, Hardwick, Peacham, Ryegate and Walden would make up a new Caledonia-Orange Senatorial District. Ultimately, the Board chose to include all of these towns in a two-member senatorial district, since there was no obvious geographical, cultural or historical reason to justify splitting this district into two.

The Board also considered moving the towns of Milton, Westford and Winooski to an expanded two-member Chittenden-Grand Isle Senatorial District, which would have left Chittenden County with five Senators, as a way of addressing what some members felt was an unnecessary concentration of interest in the largest county (and senatorial district) in Vermont. As noted above, this proposition, falling between the more radical single-member senatorial district concept and the more traditional rendering of districts that is provided in the Tentative Plan, was ultimately rejected by the Board, out of respect for the wishes of incumbent senators and respect for history.

The Board's plan is bound to disappoint some people. Those who wanted Alburg kept with the Chittenden-Grand Isle Senatorial district will not be happy with its placement in the Franklin Senatorial District. The numbers just did not work in this small district. Wilmington, not Whitingham as in previous plans, has been assigned to the Bennington Senatorial District. Orange County is right to feel bisected again. Montgomery is still in the Essex-Orleans Senatorial District.

The Board was able to return Huntington and Buel's Gore to the Chittenden Senatorial District, after having it associated with Washington Senatorial District through earlier versions of the plan. While Huntington will be assigned to Chittenden-Washington-1, a two-member

House district, with the Washington County towns of Waterbury and Duxbury—a decision which will not be well received in Huntington—the Board was relieved to be able to keep Huntington in Chittenden Senatorial District in the Senate plan.

Overview. The Tentative Plan is conservative, in making as few changes to the existing senatorial districts as possible. The adjustments of towns from one district to another are minimal, and in keeping with historic patterns, based on the previous four apportionment plans.

Thirteen senatorial districts are proposed, including three single-member districts, six two-member districts, three three-member districts, and one six-member district.

Addison Senatorial District

The Addison Senatorial District will be composed of the Addison County towns of Addison, Bridport, Bristol, Cornwall, Ferrisburgh, Goshen, Granville, Hancock, Leicester, Lincoln, Middlebury, Monkton, New Haven, Orwell, Panton, Ripton, Salisbury, Shoreham, Starksboro, Waltham, Weybridge, and Whiting and the City of Vergennes. It also includes the Rutland County town of Brandon. The district will have two Senators.

The district is identical to the 1982 and 1992 Addison Senatorial Districts. In 1973, the district included all Addison County towns, plus the Rutland County towns of Benson, Brandon and Sudbury. The first apportionment gave Addison County the Chittenden County town of St. George and the Rutland County towns of Benson and West Haven.

b. Substantial Equality. With two Senators, the new district will have a population of 39,891, or 19,946 per Senator, and 349 people fewer than the norm. The district's deviation is -1.72 %.

b. Geographical compactness and contiguity. Addison County remains intact, and only Brandon is from outside the county. Using Maptitude's measure of compactness, it earns a Roeck score of 0.61 and a Polsby-Popper rating of 0.50. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. With the exception of Brandon, the district encompasses all the towns in Addison County. Addison County towns are members of the same Regional Planning Commission. They make up Environmental District #5. Goshen, Leicester and Whiting are part of a school supervisory union with Brandon.

d. Patterns of geography, social interaction, trade, political ties and common interests. The land is principally flat or rolling hills. The eastern part of the district borders the Green Mountain chain, the western edge is Lake Champlain. Routes 22a and 7 are the principal north-south highways; Routes 17, 125 and 73 are the major east-west corridors. Brandon is connected to Addison County by Route 7. The Otter Creek and the New Haven River flow

through the county. Topographically, Brandon shares the same lowland agricultural features as the majority of Addison County.

e. Incumbency. The county's two senators remain within the district. Senator Gerry Gossens resides in Salisbury; Senator Tom Bahre resides in the town of Addison. Both towns are within the district.

Bennington Senatorial District

The Bennington Senatorial District is composed of the Bennington County towns of Arlington, Bennington, Dorset, Landgrove, Manchester, Peru, Pownal, Readsboro, Rupert, Sandgate, Searsburg, Shaftsbury, Stamford, Sunderland, Winhall, Woodford and the unorganized town of Glastenbury. It also includes the Windham County town of Wilmington. It qualifies for two Senators.

In the 1992 plan, Whitingham, not Wilmington, from Windham County, was aligned with the Bennington Senatorial District. In the 1982 Senate plan, the population of the county did not require the addition of any towns from outside the County. Whitingham was part of the Windham Senatorial District. In the 1973 plan, however, the Bennington Senatorial district included Whitingham. The first apportionment, in 1965, placed Rupert in the Rutland Senatorial District, with the other towns of the county forming this district.

a. Substantial Equality. The district contains 39,219 people, or 19,610 persons per Senator, 685 shy of the norm, with a deviation of -3.37 %.

b. Geographical compactness and contiguity. The district has a Roeck score of 0.46 and a Polsby-Popper rating of 0.42. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The district includes all of the towns of Bennington County, plus the Windham County town of Wilmington. The Bennington County towns of Winhall, Searsburg and Readsboro are members of the Windham Regional Commission. They are included in Environmental District #9. Searsburg and Readsboro share a supervisory district with Wilmington and other Windham County towns. The other towns of Bennington County make up the Bennington Regional Commission and Environmental District #10.

d. Patterns of geography, social interaction, trade, political ties and common interests. Routes 7 and 7a connect Bennington County north to south. The Valley of Vermont divides the Taconic Mountains on the west with the Green Mountains on the east. Route 9 connects Bennington, Woodford, and Wilmington, running west to east. The other major east-west highways are Routes 30 and 11.

e. Incumbency. Senator Gerald Morrissey and Senator Richard Sears, Jr. both reside in the town of Bennington, which is within the Bennington Senatorial District.

Caledonia Senatorial District

The Caledonia Senatorial District includes the Caledonia County towns of Barnet, Burke, Danville, Groton, Hardwick, Kirby, Lyndon, Newark, Peacham, Ryegate, St. Johnsbury, Sheffield, Stannard, Sutton, Walden, Waterford and Wheelock; and the Orange County towns of Bradford, Fairlee, Newbury, Orange, Topsham, and West Fairlee. It is entitled to two Senators.

In the 1992 plan, this district contained all the towns of Caledonia County, plus the Orange County towns of Fairlee, Newbury, Topsham, and West Fairlee. In the 1982 plan, Caledonia County towns remained intact, with Bradford, Newbury and Topsham added from Orange County and Wolcott added from Lamoille County.⁷ The 1973 Senate plan added Bradford, Topsham, and West Fairlee from Orange County and Woodbury from Washington County to the towns of Caledonia County. The 1965 apportionment plan linked all of Caledonia County plus the Essex County towns of Concord and East Haven.

Caledonia Senatorial District (along with Orange) is one of the districts that has the most difficult history maintaining county lines, due to the exigencies of its population relative to the rest of the state.

a. **Substantial Equality.** The Caledonia Senatorial District contains 38,076 people, or 19,038 persons for Senator, which is 1,256 people less than the norm, and has a deviation of -6.19 %.

b. **Geographical compactness and contiguity.** The district has a Roeck score of 0.28 and a Polsby-Popper rating of 0.24. All towns within the district are contiguous.

c. **Adherence to county boundaries and other existing political subdivisions.** The district is a mixture of two counties, including all the towns of Caledonia County and the five most northeasterly towns of Orange County. The towns of Caledonia County are part of the Northeastern Vermont Development Agency; the Orange County towns in the senatorial district are members of the Two-Rivers Ottauquechee Regional Planning Commission.

d. **Patterns of geography, social interaction, trade, political ties and common interests.** The district is within the Vermont Piedmont physiographic region of Vermont, with its northerly section part of the Northeastern Highlands. The Connecticut River and Route 5 form its eastern boundary, and Interstate 91 (and a small part of I-93) run north and south through the district. Routes 2, 302 and 25 are the major east-west highways. The Passumpsic River runs from the northern end of Lake Willoughby to St. Johnsbury.

⁷ Wolcott in the Tentative Plan is placed in Essex-Orleans Senatorial District. It was in Lamoille Senatorial District in 1965 and 1973, in the Caledonia Senatorial District in 1982, and then returned to Lamoille in 1992.

e. Incumbency. The incumbents are Senator Julius Canns of St. Johnsbury and Senator Robert Ide of Peacham, both within the senatorial district.

Chittenden Senatorial District

The Chittenden Senatorial District joins the towns of Bolton, Charlotte, Essex, Hinesburg, Huntington, Jericho, Milton, Richmond, St. George, Shelburne, Underhill, Westford, Williston, and Buel's Gore with the cities of Burlington, South Burlington and Winooski. All of the towns of the county are included in the district with the exception of Colchester, which has historically been assigned to Grand Isle. The district will have six Senators.

In the 1973, 1982 and 1992 Senate plans, Chittenden County towns, with the exception of Colchester, were entitled to six Senators. The 1965 apportionment placed all the towns of Chittenden and Grand Isle counties, except Ferrisburgh, Hinesburg and St. George (which were included in the Addison Senatorial District) in the Chittenden-Grand Isle district.

a. Substantial Equality. The district contains 129,585 people, the largest in population of all the districts. With six members, this amounts to 21,598 per Senator, or 1,304 people over the size of the norm, a deviation of +6.42%.

b. Geographical compactness and contiguity. This district has a Roeck score of 0.42 and a Polsby-Popper rating of 0.33. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The district respects county boundaries, with the exception of Colchester, which belongs with Grand Isle Senatorial District. Chittenden County towns make up the Chittenden County Regional Planning Commission and Environmental District #4. There are ten supervisory unions in the county.

d. Patterns of geography, social interaction, trade, political ties and common interests. The district is principally Champlain lowlands, with rolling hills on the east leading into the Green Mountain Chain. Interstate 89 runs from east to west until it reaches South Burlington, and then heads north parallel with Lake Champlain. Burlington is the largest city in the district, and surrounding towns have developed residentially and commercially from Burlington outward.

e. Incumbency. The Senatorial District is now represented by Senator Jean Ankeney of St. George, Janet Munt of South Burlington, Jim Condos of South Burlington, Senator James Leddy of South Burlington, Senator Virginia Lyons of Williston, and Senator Barbara Snelling of Shelburne. All reside within the senatorial district.

Chittenden-Grand Isle Senatorial District

The Chittenden-Grand Isle Senatorial District consists of the towns of Grand Isle, Isle La Motte, North Hero and South Hero in Grand Isle County, and the town of Colchester from Chittenden County, to create a single-member district. The Grand Isle town of Alburg has been assigned to Franklin Senatorial District. The district has one Senator.

Colchester has been joined with the towns of Grand Isle County as a single-member senatorial district since 1982. In 1973, the district (then called the Grand Isle senatorial district) included the Grand Isle County towns, plus Colchester and Georgia. In the 1965 apportionment plan, there was no separate Chittenden-Grand Isle district; a district with that name contained all of the towns of Chittenden and Grand Isle counties, except Ferrisburgh, Hinesburg and St. George, which were included in the Addison Senatorial District.

Until reapportionment in 1966, Grand Isle County was entitled to one vote, regardless of its population. The Vermont Constitution recognized this principle, and Grand Isle County enjoyed a greater proportionate vote in the Senate than its population entitled it to after the federal court decision beginning in 1965. Incumbents in this district, since Colchester arrived, have come from that town.

a. Substantial Equality. The population of the district is 21,935 people, which is 1,641 or 8.09% over the norm.

b. Geographical compactness and contiguity. This district has a Roeck score of 0.27 and a Polsby-Popper rating of 0.24. Isle La Motte is only accessible by automobile by passing through a portion of Alburg. Most Lake Champlain towns own to the midpoint of the lake or a middle line between islands, and this makes the towns of this district contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The district contains four of the five towns of Grand Isle County and one town from Chittenden County. Colchester is a member of the Chittenden County Regional Planning Commission, while the Grand Isle County towns are members of the Franklin-Grand Isle Regional Planning Commission. Grand Isle County towns also join with Franklin County towns in Environmental District #1.

d. Patterns of geography, social interaction, trade, political ties and common interests. You cannot reach the islands from the south on a highway without passing through Colchester (and a small part of Milton). Colchester is then the gateway to the islands, and Route 2 connects all of the towns, with the exception of Isle La Motte, which is reached by Route 129 from North Hero, through the south end of Alburg. Lake Champlain defines the entire senatorial district, with its recreational opportunities in all seasons and island agriculture, including dairy farms and apple orchards.

e. Incumbency. The present incumbent is Senator Richard Mazza, a resident of Colchester, a town within this district.

Essex-Orleans Senatorial District

The Essex-Orleans Senatorial District combines towns from Essex, Franklin, Lamoille, and Orleans in a two-member district. The Essex County towns are Bloomfield, Brighton, Brunswick, Canaan, Concord, East Haven, Granby, Guildhall, Lemington, Lunenburg, Maidstone, Norton, and Victory; the gores of Avery's Gore, Warner's Grant, and Warren Gore; and the unorganized towns of Averill, Ferdinand and Lewis. The Franklin County towns are Montgomery and Richford. Lamoille County contributes Eden and Wolcott. The Orleans County towns are Albany, Barton, Brownington, Charleston, Coventry, Craftsbury, Derby, Glover, Greensboro, Holland, Irasburg, Jay, Lowell, Morgan, Newport, Troy, Westfield and Westmore and the city of Newport. There are 41 towns, gores, grants, and unorganized towns, and one city in the district, making it the largest in geographic size of all the senatorial districts. It is entitled to two Senators.

The district was nearly the same size in the 1982 and 1992 plans, with the exception of Eden which was in the Lamoille Senatorial District and Montgomery which was a part of the Franklin Senatorial District. In 1973, the district included all the towns of Essex and Orleans Counties, Richford from Franklin County, and Newark from Caledonia County. The 1965 apportionment included all the towns of Orleans County and all of Essex County except Concord and East Haven, which were linked with Caledonia Senatorial District.

Over time, this district has added towns to maintain its continued two-member district. It is the largest district in number of political subdivisions represented.

a. Substantial Equality. This district contains 38,657 people, or 19,329 per Senator, amounting to 966 fewer people than the norm and a deviation of -4.26%.

b. Geographical compactness and contiguity. The district has a Roeck score of .45 and a Polsby-Popper rating of .25. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. Essex County and Orleans County are both intact in the design of this district. The towns of these two counties are members of the Northeastern Vermont Development Agency. With the towns of Caledonia County, these two counties form Environmental District #2. Montgomery and Richford, Eden and Wolcott, are in other regional planning commissions and environmental districts.

d. Patterns of geography, social interaction, trade, political ties and common interests. The western part of the senatorial district is within the northern section of the Green Mountains; the middle section is within the Vermont Piedmont; the eastern section is part of the Northeastern Highlands, rolling hills and valleys. The largest municipality in the district is Newport. Island Pond, Hardwick and Barton are also centers of commercial and retail activity within the district. Most of the district is rural and agricultural.

e. Incumbency. The incumbents are Senator James Greenwood of Barton and Senator Vincent Illuzzi of Newport, and both are residents of the senatorial district.

Franklin Senatorial District

The Franklin Senatorial District consists of the Franklin County towns of Bakersfield, Berkshire, Enosburg, Fairfax, Fairfield, Fletcher, Franklin, Georgia, Highgate, St. Albans, Sheldon, Swanton and the city of St. Albans, and the Grand Isle County town of Alburg. It qualifies for two Senators. The remaining two towns of Franklin County--Montgomery and Richford—are included in the Essex-Orleans district. The district has two Senators.

In the 1982 and 1992 plans, Montgomery was included in the Essex-Orleans Senatorial District, while Richford remained with other Franklin County towns. In 1973, the county contributed Richford to the Essex-Orleans district and Georgia to the Grand Isle Senatorial District. In the first apportionment plan, enacted in 1965, Georgia was placed in the Chittenden-Grand Isle district and Fletcher was located in the Lamoille Senatorial District.

a. Substantial Equality. The district consists of 44,056 people, or 22,028 people per Senator. This is 1,734 people more per Senator than the norm, with a deviation of +8.54%, giving it the largest deviation of any senatorial district in the 2001 plan.

b. Geographical compactness and contiguity. The district has a Roeck score of 0.63 and a Polsby-Popper rating of 0.52. Alburg is connected to Franklin County by a bridge over a part of Lake Champlain. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The district includes all the towns of Franklin County except Montgomery and Richford, as well as the Grand Isle town of Alburg. Alburg is part of the Northwest Regional Planning Commission, with other Grand Isle towns, and also part of Environmental District #1, which is made up of Franklin and Grand Isle Counties.

d. Patterns of geography, social interaction, trade, political ties and common interests. The largest municipality in the district is the City of St. Albans. Route 7 and Interstate 89 link the district towns north and south, and Routes 36 and 105 run east and west. Lake Champlain forms its western border and the Green Mountains are on its east. Most of the district is Champlain lowlands, with dairy and recreational industries dominant. Many in the district commute to Chittenden County for work.

e. Incumbency. Senator George T. Costes of St. Albans City and Senator Sara Kittell of Fairfield are the incumbents. Both reside in the proposed district.

Lamoille Senatorial District

The Lamoille Senatorial District is composed of the towns of Belvidere, Cambridge, Elmore, Hyde Park, Johnson, Morristown, Stowe, and Waterville. Eden and Wolcott have been moved to the Essex-Orleans district. The district has one Senator.

In the 1982 and 1992 plans, the county was intact, with two exceptions: Eden was included in the Lamoille district, while Wolcott was part of the Essex-Orleans district. In the 1973 Senatorial District final plan, Eden and Wolcott were part of the Lamoille district, with all the other Lamoille County towns, plus the Orleans County town of Craftsbury. The 1965 apportionment placed the Franklin County town of Fletcher in this district.

Over the years of apportionment, Lamoille County has grown proportionately larger than the rest of the state, necessitating the sharing of some towns with other districts to justify a single-member district.

a. Substantial Equality. The district contains 20,625 people, or 331 more than the norm, with a deviation of 1.63 %. This is the district with the least deviation among all senatorial districts.

b. Geographical compactness and contiguity. The district has a Roeck score of 0.57 and a Polsby-Popper rating of 0.43. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The district includes all of the towns in Lamoille County with the exception of Eden and Wolcott, which have not been part of the district since before the 1982 reapportionment plan. Lamoille County towns are members of the Lamoille County Planning Commission and Environmental District #3.

d. Patterns of geography, social interaction, trade, political ties and common interests. Morristown, Stowe and Johnson are the largest population centers in the district. Route 100 runs north and south; Routes 15 and 109 travel generally east and west. The Green Mountains define the county, and skiing and tourism are major industries in the region.

e. Incumbency. The incumbent is Senator Susan Bartlett of Hyde Park.

Orange Senatorial District

The Orange Senatorial District consists of the towns of Braintree, Brookfield, Chelsea, Corinth, Randolph, Strafford, Thetford, Tunbridge, Vershire, Washington, and Williamstown. The towns of Bradford, Fairlee, Newbury, Orange, Topsham and West Fairlee have been allocated to the Caledonia Senatorial District. There is one Senator for this district.

This is identical to the 1992 plan. In the 1982 plan, Bradford and Newbury were linked with Caledonia, but Fairlee and West Fairlee were part of the Orange district. In 1973, West

Fairlee was in the Caledonia district; Fairlee went with the Caledonia district. The 1965 apportionment placed the town of Orange with Washington County and Tunbridge with Windsor County, but kept the remainder of the county towns intact.

a. Substantial Equality. The district contains 19,852 people, or 442 fewer than the norm, with a deviation of -2.18% .

b. Geographical compactness and contiguity. The district has a Roeck score of 0.57 and a Polsby-Popper rating of 0.56. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. Of all the counties, Orange County suffers the most intrusion in the 2001 Tentative Senate Plan. Five of the 17 towns in the county are assigned to the Caledonia District. This is not new; Orange has lost more towns with every new reapportionment plan, and former legislatures have regarded it as a palette for completing the design of other districts. Orange County towns are members of the Two-Rivers Ottauquechee Regional Planning Commission, and are in Environmental Districts 6 and 7.

d. Patterns of geography, social interaction, trade, political ties and common interests. The 12 towns in the district are part of the Vermont Piedmont physiographic region, consisting of rolling hills and small towns. The largest towns are Randolph, Chelsea and Williamstown. Routes 110, 133 and 25 are the major highways through the district, although I-89 passes through the district on the eastern end.

e. Incumbency. Senator William Corrow of Williamstown is the incumbent.

Rutland Senatorial District

The Rutland Senatorial District includes the Rutland County towns of Benson, Castleton, Chittenden, Clarendon, Danby, Fair Haven, Hubbardton, Ira, Killington, Mendon, Middletown Springs, Mount Holly, Mount Tabor, Pawlet, Pittsfield, Pittsford, Poultney, Proctor, Rutland, Shrewsbury, Sudbury, Tinmouth, Wallingford, Wells, West Haven, West Rutland, and the city of Rutland. Brandon has been assigned to the Addison Senatorial District. The district is entitled to three Senators.

Brandon was part of the Addison district in 1973, 1982 and 1992. In 1973, Benson, Brandon and Sudbury were part of that district. The 1965 apportionment plan included all of the towns of Rutland County (including Brandon), with the exception of Benson and West Haven, which were assigned to Addison.

a. Substantial Equality. This district contains 59,483 people, which is 19,878 people per Senator, 466 less than the norm, with a deviation of -2.3% .

b. Geographical compactness and contiguity. The district has a Roeck score of 0.64 and a Polsby-Popper rating of 0.37. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. With the exception of Brandon, the district contains every town in Rutland County. Rutland County towns make up the Rutland Regional Planning Commission and Environmental District #8.

d. Patterns of geography, social interaction, trade, political ties and common interests. Routes 7, 30 and 22a run north and south through the senatorial district. Routes 4, 4a and 73 run east and west. The western border is Lake Champlain and the boundary with New York State. The Champlain Lowlands are on the north end, although most of the district is defined by the Taconic Mountains on the west, the Valley of Vermont in the center, and the Green Mountains on the east.

e. Incumbency. The incumbent Senators include John Bloomer, Jr. of Rutland City, John Crowley of West Rutland, and Hull Maynard, Jr. of Shrewsbury. All reside within the proposed district.

Washington Senatorial District

The Washington Senatorial District consists of the towns of Barre, Berlin, Cabot, Calais, Duxbury, East Montpelier, Fayston, Marshfield, Middlesex, Moretown, Northfield, Plainfield, Roxbury, Waitsfield, Warren, Waterbury, Woodbury, Worcester and the cities of Barre and Montpelier. It is only one of two senatorial districts with all towns and cities within the county and no others. It is entitled to three Senators.

This district was composed of these same towns (and none others) in the 1982 and 1992 plans. Woodbury was not in the district in 1973, but was assigned to Caledonia, and in 1965 the district included all Washington County towns plus the town of Orange from Orange County.

a. Substantial Equality. This district contains 58,039 people, or 19,346 persons per Senator, which amounts to 948 people less than the norm, a deviation of -4.67%.

b. Geographical compactness and contiguity. The district has a Roeck score of 0.50 and a Polsby-Popper rating of 0.50. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The county and the senatorial district are identical. Washington County is a member of the Central Vermont Regional Planning Commission and constitutes Environmental District #3, with Lamoille County and three Orange County towns.

d. Patterns of geography, social interaction, trade, political ties and common interests. Interstate 89 runs from the south to Montpelier, and then turns to the northwest.

Route 100 runs north and south along the western side of the county and Route 14 does the same on the east side. Route 2 runs east and west through its center. The land consists of the Green Mountains on the east side, then the Worcester Mountains, then Vermont Piedmont to the western side. The largest municipalities are Montpelier, Barre, Waterbury and Northfield, all located in the center of the county.

e. Incumbency. The incumbents in this district are Ann Cummings, William Doyle and Phil Scott, all of Montpelier.

Windham Senatorial District

The Windham Senatorial District is made up of the towns of Athens, Brattleboro, Brookline, Dover, Dummerston, Grafton, Guilford, Halifax, Jamaica, Londonderry, Marlboro, Newfane, Putney, Rockingham, Somerset, Stratton, Townshend, Vernon, Wardsboro, Westminster, Whitingham, and Windham. Wilmington has been assigned to Bennington Senatorial District. It is entitled to two Senators.

In the 1992 plan, Whitingham was assigned to the Bennington Senatorial District. In the 1982 Senate plan, the population of the district did not require the reassignment of any county towns to other districts. Whitingham was part of the Windham Senatorial District. In the 1973 plan, however, the Bennington Senatorial district included Whitingham. The first apportionment, in 1965, involved no changes in county lines.

a. Substantial Equality. The district has a population of 41,991 people, or 20,995 per Senator, which is 702 people more than the norm, with a deviation of +3.46%.

b. Geographical compactness and contiguity. The district has a Roeck score of 0.54 and a Polsby-Popper rating of 0.41. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The Windham Senatorial District is missing only one town—Wilmington—to make the district identical with the county. The county towns, with several Bennington County towns, make up the Windham Regional Commission and Environmental District #9.

d. Patterns of geography, social interaction, trade, political ties and common interests. The district is defined by the Green Mountains on the west side and the Connecticut River Valley on the east. Interstate 91 runs along the eastern edge, and Route 100 on the west. Routes 30 and 121 head in a generally southeast to northwest direction. Route 9 runs east-west from Brattleboro to Wilmington. The largest municipality in the district is Brattleboro, followed by Bellows Falls.

e. Incumbency. Senators Nancy Chard of Brattleboro and Peter Shumlin of Putney are the incumbents. Both are residents of the proposed district.

Windsor Senatorial District

The Windsor Senatorial District consists of all the towns of Windsor County, viz., Andover, Baltimore, Barnard, Bethel, Bridgewater, Cavendish, Chester, Hartford, Hartland, Ludlow, Norwich, Plymouth, Pomfret, Reading, Rochester, Royalton, Sharon, Springfield, Stockbridge, Weathersfield, Weston, West Windsor, Windsor and Woodstock. It qualifies for three Senators.

In the 1982 and 1992 reapportionment plans, the district had the same towns. The Windham County town of Grafton was part of the district in 1973. The 1965 apportionment moved Tunbridge, from Orange County, into the district.

a. Substantial Equality. The district has 57,418 people, or 19,139 people per Senator, 1,155 shy of the norm, with a deviation of -5.69%.

b. Geographical compactness and contiguity. The district has a Roeck score of 0.44 and a Polsby-Popper rating of 0.33. All towns within the district are contiguous.

c. Adherence to county boundaries and other existing political subdivisions. The Windsor Senatorial District has sufficient population to support enough Senators on its own, without the need to import or export towns to fill out a seat. The county towns are members of three different regional planning commissions, and different environmental districts as well-- #7 and 9.

d. Patterns of geography, social interaction, trade, political ties and common interests. Interstate 91 runs along its eastern side; Interstate 89 runs from southeast to northwest. Routes 11, 131, and 4 are the principal east-west highways. The largest municipality in the county is Hartford, and Bethel, Woodstock, Springfield, and Windsor are regional centers. The eastern side of the county is Connecticut River Valley (Vermont Piedmont). The west is defined by the Green Mountains.

e. Incumbency. Senators John Campbell of Quechee, Richard McCormack of Bethel, and Cheryl Rivers of Stockbridge are the incumbents. All are resident in the proposed district.

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A Final Word. Rare is the town or county that defines itself topographically, rarer still the senatorial district. In some respects, all political boundaries are artificial. Town lines were drawn first on maps before they were set on the ground. County lines came later in Vermont, and helped create regional identities for the people who live here. Since 1965, we have had senatorial and representative district lines which frequently slip outside county lines to satisfy the requirements of substantial equality.

The purpose of political boundaries is to define a community of interest that they enclose. The Senators these districts elect are the glue that unites these regions of the state together.

The process of establishing senatorial districts is constitutional and statutory, but when the time comes to draw district lines it is necessary to make choices about what towns fit with others. History helps: the decisions that came before the 2001 Tentative Plan—and the 36 year history of apportionment in Vermont—are a legacy that cannot be lightly ignored. People get used to their associations, and change is always hard. In the end, the Legislative Apportionment Board believes its proposals are reasonable and appropriate. It understands that the Legislature may make other choices. Its work is only to propose, and that work is over now, for another ten years.

The Legislative Apportionment Board has completed its constitutional and statutory duties for the Vermont State Senate Tentative Plan. In the interests of maintaining proper documentation of the LAB's work, all of its plans, maps, memoranda and other documents will be in the custody of the State Archives as soon as the House Plan is completed. It has been a most interesting and stimulating experience for everyone concerned.