

PROPOSED CONGRESSIONAL DISTRICTING PLANS

I have reviewed the plans for congressional districts offered by the four commissioners. I have made an evaluation of these plans utilizing the Redistricting Plan Quality Index, discussed in my memorandum to the commission entitled The Evaluation of Redistricting Plans.

This memorandum will discuss the analysis of the plans in detail and will include a similar analysis of the two congressional districting plans which I offered, identified as Milem Preferred and Milem Exact.

I checked each of the plans to determine whether every census block has been assigned to a district. I found that all census blocks were assigned to congressional districts in the plans of commissioners Ceis, Foster and Gorton and in my two plans. I found that there were eight unassigned (and uninhabited) census blocks in Thurston county in the congressional district plan offered by commissioner Huff. Since these blocks were surrounded by territory assigned to commissioner Huff's proposed congressional district 6, I assigned these blocks to that district, in accordance with RCW 29A.76A, section 4.

I checked each of the plans to determine whether any blocks have been assigned to more than one district. I did not find this to be the case in any of the six congressional plans.

I checked each of the plans to determine whether each district in a plan is composed of contiguous territory. I found that the plans of commissioners Ceis, Foster and Gorton satisfied this requirement. However, I found that there were 28 census blocks in commissioner Huff's congressional plan which were isolated from the districts to which they were assigned. I transferred these census blocks to other districts in accordance with RCW 29A.76A, section 4. This involved the transfer of an aggregate of 263 persons from the districts to which they had originally been assigned to other districts. I also found that there were three census blocks in Pierce county isolated from the district to which they were assigned in my Preferred plan and one census block in Snohomish county isolated from the district to which it was assigned in my Exact plan. I corrected these errors, which involved no population, in accordance with the same RCW section.

I checked each of the plans to determine whether the overall range of population deviation was within one percent of the average district population. All plans were in compliance.

If Washington had any affirmative obligations, with regard to redistricting, under the federal Voting Rights Act, it would be at this point that each plan would be examined to determine whether there is evidence of noncompliance with those provisions of the federal Voting Rights Act. The conditions which might require the state to form districts for the specific purpose of curing discrimination against protected groups are not satisfied in Washington. The only obligation regarding redistricting which the state of Washington has under this Act is to avoid discrimination against protected groups. I am not aware that this defect exists in any of these plans. And I am not aware that there is any claim by anyone that any of these plans discriminates against protected groups.

I collected the data to enable the necessary computations and obtained the values used to determine the contribution of each of the eight elements to the overall score, or Redistricting Plan Quality Index, for each plan. The results for the six congressional plans evaluated are shown in the table.

REDISTRICTING PLAN QUALITY INDEX

	Ceis	Foster	Gorton	Huff	Milem	
					Preferred	Exact
Population Equality	99.87	99.96	99.40	98.86	81.09	100.00
Population Stability	43.22	52.35	50.66	40.20	48.93	49.03
County Integrity	73.16	76.06	84.21	70.31	92.41	91.52
Municipal Integrity	84.04	89.94*	86.81	67.67	100.00	100.00
Compactness	76.05	74.95	73.93	72.65	75.31	74.74
Concurrent Boundaries	46.42	54.66	55.73	53.74	63.93	58.02
Competitiveness	27.27	25.45	32.73	27.27	41.82	43.64
Party Parity	34.58	24.37	30.44	40.46	25.08	26.02
Redistricting Plan Quality Index	60.58	62.22*	64.24	58.89	66.07	67.87

* Corrected

Population Equality. Five of the plans appear to be based upon one of two assumptions, either that the words “as equal as is practicable” in Washington law mean something different from what they mean in Supreme Court jurisprudence or that the characteristics of the plans are such that they do not satisfy the U S Supreme Court's idea of “legitimate state purposes.” The sixth plan, my preferred plan, is based upon the assumption that the cited words mean the same thing in Washington law as they do in U S Supreme Court jurisprudence (indeed, my view is that the words are in our law precisely to assure that plans created under our law satisfy the population standard of the court). This accounts for the fact that the population range in my preferred plan is significantly larger than in the other five plans, although it still utilizes less than one-fifth of the flexibility which I believe the court allows for plans which limit their purposes to “legitimate state purposes.”

As to the other five plans, my exact plan demonstrates that it is possible to produce a zero deviation plan, that is, to create ten congressional districts with exactly identical populations. If the plans are required to satisfy zero deviation, then the four commissioners' plans require justification for their deviations. No such justifications have been offered for public review. (It is interesting to note that the commission's rules require that persons submitting plans to the commission as “formal” plans must provide an explanation for how their plans comply with constitutional requirements. It seems more consequential that commissioners should also satisfy this rule. However, commissioners have not submitted such information. This, of course, makes public comment on the plans more difficult.) In the absence of such justifications of deviations, and in the presence of a zero deviation plan, one has to question the federal constitutional sufficiency of the four commissioners' plans.

Population Stability. In their presentations, commissioners put significant emphasis on the number of people moved from the district they are in to a different district. It is my understanding in all cases that these references were to districts with the same district number. My approach to population stability focuses not on district number but rather on the voters as participants in a group of voters who currently vote in a single congressional district.

The range of scores among these plans is relatively narrow. It was a matter of substantial surprise to me that my plans were not the lowest scoring. Since my approach to redistricting is one of skepticism toward existing districts as artifacts of a series of past gerrymanders, it is my usual experience that the Population Stability scores of my plans are the lowest among plans compared. That was not the case this time. The only conclusion I can draw from this is that the commissioners may not be as committed to minimizing changes in districts as I had expected they would be. This conclusion is supported by Commissioners Gorton and Ceis's decisions to run district 7 into Snohomish county and by Commissioner Huff's decision to divide four counties between districts 1 and 2 and also by commissioner Ceis's decision to change the longitudinal boundary between districts 4 and 5 to a latitudinal one.

County Integrity. This test corresponds to the statutory provision that the number of counties divided in the formation of districts should be “as small as possible.” However, the test does not merely look at the number of divided counties, but it also considers how seriously divided each divided county is. To compare the plans first in terms of the statutory language, this is the number of counties divided in each plan.

Ceis	9
Foster	8
Gorton	5
Huff	8
Milem Preferred	3
Milem Exact	4

It is evident from this data that the four commissioners' plans fail to comply with the statutory language.

The County Integrity scores in the Redistricting Plan Quality Index reflect how seriously divided the counties are.

The following table shows the percentage of the population of each divided county which is creditable in determining the County Integrity score for each plan. In cases of counties divided in some plans but not all, the space for showing the percentage is left blank if the county is undivided (if those spaces were filled, they would all read 100). The table is easier to read this way. Kittitas County is omitted from the table, because although it is divided in Commissioner Ceis's plan, the population is not divided. That is, an uninhabited part of the county is placed in a different district from the rest of the county. This was probably not intended.

	<u>Ceis</u>	<u>Foster</u>	<u>Gorton</u>	<u>Huff</u>	<u>Milem Preferred</u>	<u>Exact</u>
Adams	78	68				
Douglas	96	96		57		
Grant	89					
Jefferson		90				
King	34	68	63	70	96	96
Lincoln				54		
Mason	72	84				
Pierce	55	43	42	78	39	39
Skagit				68		
Skamania			83			
Snohomish	36	40	67	58	91	91
Thurston	78	78		74		
Walla Walla			91			92
Whatcom				53		

A sort of quick and dirty analysis which produces a similar result to the County Integrity score is simply to look at the number of counties in each plan in which the share of the population in districts entirely within the county and in that district shared within another county(ies) having the largest population in the county is less than 80%. In my plans, the number of such counties is one, in Commissioner Gorton's plan, two, in Commissioner Foster's plan, four, in Commissioner Ceis's plan, five, and in Commissioner Huff's plan, eight.

As shown on the Redistricting Plan Quality Index table, the plan with the highest County Integrity score is my Preferred plan. Only about 4% of the population of King county and only about 9% of the population of Snohomish county is not in districts entirely within the county or in the district shared with another county having the largest population in the named county. In my Preferred plan, only Pierce county is seriously divided. No district is entirely within Pierce county and parts of Pierce county are added to other districts to avoid having to divide additional counties. It is worth noting here that in no plan is more than 80% of the population of Pierce county included within any district, and the only two plans which place a majority of the population of Pierce county within a district are the two plans which score the lowest overall on County Integrity. In the four plans which have the higher County Integrity scores, the largest percentage of Pierce county population within a single district is within the relatively narrow range of 39% to 43%.

The plan with the second highest County Integrity score is my Exact plan. This plan additionally splits Walla Walla county.

Among the four commissioners' plans, the one with the best County Integrity Score is commissioner Gorton's plan. The deductions for county divisions in this plan are twice as great as in my plans. The principal reasons for this are the decisions to create three districts crossing the King-Snohomish county boundary and to divide Skamania county

Commissioner Foster's plan takes three times as much in deductions for county divisions as do my plans and 50% more than commissioner Gorton's. This is largely the result of the decision to split Adams, Douglas, Jefferson and Mason counties.

The plan of Commissioner Ceis scores slightly lower than Commissioner Foster's. The principal reason for this is the decision of Commissioner Ceis to not create any district entirely with King county. This results in his plan's County Integrity score for King County including only the population of one district partly in King county.

Commissioner Huff's plan scores the lowest of all on County Integrity, even though his plan splits the populations of no more counties than the plans of Commissioners Ceis and Foster. The difference appears to be that the counties he chose to split rather than the ones chosen by the Democratic commissioners are far more seriously split. Douglas, Lincoln and Whatcom counties are split almost into halves. One interesting characteristic of this plan is that it produces the highest County Integrity scores among the commissioners' plans for King and Pierce counties. But the cost of these higher scores is more serious divisions of smaller counties, divisions which are more expensive in the plan's County Integrity score.

What can be done to improve the County Integrity scores of these plans?

My Preferred plan County Integrity score could be improved by dividing Bothell along the county line, with a resulting reduction in that plan's Municipal integrity score. The effect of this would be to place a district entirely within Snohomish county, thus making the Snohomish county score 100%.

My Exact plan County Integrity score could be improved by the same means. As long as this plan satisfies zero deviation, there is no way to avoid dividing some eastern Washington county.

Commissioner Gorton's County Integrity score could be improved by limiting district 7 to King county, by limiting district 2 to Snohomish county and by not dividing Skamania county.

Commissioner Foster's County Integrity score could be improved by dividing Walla Walla county rather than Adams county between districts 4 and 5, by dividing Kittitas county rather than Douglas county between districts 4 and 8, by uniting Jefferson and Mason counties in district 10 and making a compensating reduction in the Pierce county population in district 10, and by removing northeast Tacoma from district 9, thereby making that district an entirely King county district.

Commissioner Ceis's County Integrity score could be improved by placing Douglas county in district 8, offset by placing part of Kittitas county in district 4, by placing Adams county in district 4 and reducing the population of Grant county in district 4 to offset the additions from Adams and Kittitas counties, by placing all of Mason county in district 6 and offsetting that with population from district 10 in Pierce county, and by limiting districts 7 and 9 to King county.

Commissioner Huff's County Integrity score could be improved by dividing Franklin instead of Lincoln county between districts 4 and 5, by placing district 10 entirely within King county (requiring the move of only 931 people), and by redefining the boundary between districts 1 and 2 to avoid dividing Skagit and Whatcom counties.

Municipal Integrity. This test corresponds to the statutory provision that the number of municipalities divided in the formation of districts should be "as small as possible." However, the test does not merely look at the number of divided municipalities, but it also considers how seriously divided each divided municipality is. To compare the plans first in terms of the statutory language, this is the number of municipalities divided in each plan.

Ceis	10
Foster	6
Gorton	7
Huff	14
Milem Preferred	3
Milem Exact	3

A number of these municipalities are divided as to area but not as to population. In some cases, this is due to the division of the municipality between or among counties or to the fact that the municipality itself is not contiguous. A number of municipalities in Washington have annexed non-contiguous areas to maintain control over water resources, park land, and perhaps for other reasons. These non-contiguous areas are typically unpopulated. In other cases, municipalities are divided as to area and not population for the probable reason that some blocks in the municipality were unintentionally assigned to the wrong district.

The number of municipalities divided only as to population in each plan are as follows:

Ceis	5
Foster	3
Gorton	3
Huff	8
Milem Preferred	0
Milem Exact	0

It is evident from this data that the four commissioners' plans fail to comply with the statutory language.

The Municipal Integrity scores in the Redistricting Plan Quality Index reflect how seriously divided the

municipalities are.

The following table shows the percentage of the population of each divided municipality which is creditable in determining the Municipal Integrity score for each plan. In cases of municipalities divided in some plans but not all, the space for showing the percentage is left blank if the municipality is undivided (if those spaces were filled, they would all read 100). Municipalities which are divided only as to area but not as to population (Everett in all plans, Snohomish and Sumner in Ceis, Arlington in Gorton, Bothell and East Wenatchee in Huff, and Snoqualmie in my plans) are excluded from this table unless the population is divided in at least one plan. In this case, the municipality is listed with the Municipal Integrity score for the municipality for those plans which divide both area and population; a Municipal Integrity score of 100 is shown for those plans which divide the area, but not the population, and the space is left blank for those plans which divide neither the area nor the population.

	<u>Ceis</u>	<u>Foster</u>	<u>Gorton</u>	<u>Huff</u>	<u>Milem</u>	
					<u>Preferred</u>	<u>Exact</u>
Auburn	100			60		
Bellevue	73					
Burien		70		56		
Coulee Dam		83	100		100	100
East Wenatchee				100		
Kent	100	100	87	100		
Kirkland				86		
Marysville	<100	100		100		
Milton				88		
Pacific				99		
Redmond			100	51		
Seattle	86		76	80		
Shoreline	95					
Tacoma	55	91	63			
Woodinville				98		

As shown in the Redistricting Plan Quality Index table, the plans with a Municipal Integrity score of 100 are my two plans. In those plans, Coulee Dam is divided because it is located in three counties and one of them, Grant, is not included in the same district as the other two counties. Everett and Snoqualmie are divided because uninhabited areas of the cities are not contiguous with the populated part of the cities. Because the Municipal Integrity score measures division of population, not division of area, the Municipal Integrity scores of these plans is 100 in spite of the geographic division of three municipalities.

Among the four commissioners' plans, the one with the highest Municipal Integrity score is Commissioner Foster's plan. However, its score is not as high as I originally reported to the Commission. I had reported a score of 92.97 for this plan. However, I've discovered that I failed to charge the plan for dividing the town of Coulee Dam. This reduces the score to 89.94. This plan divides the populations of three municipalities as shown in the table above, Burien, Coulee Dam and Tacoma. Coulee Dam is divided along a county line.

The second highest Municipal Integrity score among the commissioners' plans was that of Commissioner Gorton. Although this plan divides populations of the same number of municipalities as the plan of Commissioner Foster, the divisions are deeper divisions than those of Commissioner Foster. Thus, the score is lower. The divided municipalities are Seattle, Kent and Tacoma.

The third highest Municipal Integrity score among the commissioners' plans was that of Commissioner Ceis. The plan divides the populations of five municipalities, Seattle, Tacoma, Bellevue, Marysville and Shoreline. In the case of Marysville, the division involves a part of Marysville not contiguous with the rest of the populated part of the city. This is the only plan which divides the populations of Bellevue, Shoreline and Marysville.

The lowest Municipal Integrity score was that of Commissioner Huff's plan. This divides the populations of eight municipalities, Auburn, Burien, Kirkland, Milton, Pacific, Redmond, Seattle and Woodinville. Of these cities, only Burien and Seattle are divided in any other plan.

What can be done to improve the Municipal Integrity scores of these plans?

The Municipal Integrity score of Commissioner Foster's plan could be improved by moving Vashon Island (10,624 people) to district 6 and reuniting the city of Burien in district 7 (10,119 people in district 9 in this plan). Although the Municipal Integrity score does not reflect anticipated annexations, this plan divides the area of the soon-anticipated West Hill annexation by the city of Renton. Since the Vashon-Burien shift would reduce the population of district 7 beyond the tolerance allowed by Commissioner Foster, it would be most suitable to shift the West Hill population (2,069) of district 7 to district 9, thus avoiding an unnecessary post-annexation division of Renton. This would add too many people, but some of White Center whose annexation as far as I know is not presently scheduled could be shifted to district 9 to bring down the population of district 7 to a number consistent with Commissioner Foster's population tolerance. I have suggested above that Commissioner Foster could improve his County Integrity score by limiting district 9 to King county. This would have the additional benefit of uniting the city of Tacoma in district 6. Some transfers of populations among districts 6, 8, 9 and 10 would be necessary to rebalance the districts. One of the best steps in that rebalancing would be to unite Jefferson and Mason counties in district 10 as previously mentioned.

The Municipal Integrity score of Commissioner Gorton's plan could be improved by moving Vashon Island to district 6, compensating district 7 with some Seattle population from district 1, and adding the part of Kent in district 8 (12,144 people) to district 1. An additional population adjustment (about 1,520 people) would be necessary between districts 1 and 8, probably in Fairwood and/or East Renton Highlands. Tacoma can be reunited in this plan by moving the population in district 9 (74,194) to district 6 and moving Grays Harbor county (72,797) to district 9. Because of the addition of Vashon to district 6, something else would need to be moved out of district 6. The best choice for this is Mason county (60,699), replaced in district 6 by University Place (34,344), Fircrest (6,497), Browns Point (1,198), Dash Point (931), and part of Midland. If these changes were made, the County Integrity scores for both King and Pierce counties could be improved by shifting Federal Way to district 8 and South Hill, the parts of Summit View, Frederickson and Elk Plain and most of Graham in district 8 to district 9.

The Municipal Integrity score of Commissioner Ceis's plan would be substantially improved by my suggestion to improve the County Integrity score: limit district 7 and 9 to King county. This could easily end the divisions of Shoreline and Tacoma and would require revision of the King county boundaries of district 1 and 9 in connection with which it would be relatively easy to reunite Bellevue.

Whereas there is an intimate relationship between the County Integrity and Municipal Integrity problems in Commission Ceis's plan, the only connection I can find between the two issues in Commissioner Huff's plan relates to the splits of Skagit and Whatcom counties and the splits of the cities of Kirkland, Redmond and Woodinville. Every municipality whose population is divided in Commissioner Huff's plan is partly or entirely in King county. This plan is the only commissioner's plan which does not divide Tacoma. But that seems to have nothing to do with the splits in King county. And there is no reason for it to do so, as shown by my plans which split neither Tacoma nor any King county city. Considering how happy the advocates of racial districts were with district 10 in this plan, it may be that the splits of Seattle, Burien and Auburn have some racial intent. Beyond that, it appears that the splits of Kirkland and Redmond are just where the lines had to be drawn to protect the boundaries of district 10 and meet the population needs of district 1. I'm perplexed at the decision to keep Bothell whole but to split neighboring Woodinville, Kirkland and Redmond. Bothell is the only one of these through which a county line runs. And the thought that it is better to split a precinct in the city of Woodinville than to divide a rural precinct in Whatcom county I find astounding, especially in a congressional plan.

Compactness. The state constitution provides that, to the extent it is reasonable, districts shall be compact. The topic of compactness is one which has spawned suggestions rather than answers. Generally speaking, I believe that compactness is more suitably evaluated visually and aesthetically than mathematically. However, knowing compactness when I see it is unsuitably subjective for this kind of evaluation of districting plans.

A large number of suggestions have been made in the literature regarding appropriate ways of evaluating compactness using mathematical computations. Among the most popular of these are the five measures reported by the AutoBound software. Peculiarly, AutoBound provides individual district compactness values for four of the tests it computes, but not an average for all districts in a plan. For the other measure, it reports the sum of district perimeters for all districts in a state, but does not list the values by district. Why?

Of these measures, the only one which I can even think of endorsing for use in Washington is total perimeter length. Even this, however, is not very suitable in a state in which large areas of the state are uninhabited. Just as I put the focus on the population, not the geography, of counties and municipalities when they are divided between or among

districts, I don't think it makes a whole lot of sense to focus on the irregularities in the shape of a district when the irregularities are unpopulated. Here are the total perimeter lengths in miles according to AutoBound for congressional districts in the six plans being evaluated.

Ceis	16,472.96
Foster	17,897.50
Gorton	16,077.65
Huff	19,619.27
Milem Preferred	16,791.26
Milem Exact	16,304.36

Commissioner Gorton's plan has the shortest total perimeter length. By this measure, his plan would be the most compact among these six plans. My Exact plan is second, the Ceis plan is third and my preferred plan is fourth. The Foster and Huff plans fall considerably behind the first four.

I will comment on the other four compactness measures offered by AutoBound.

My personal favorite from the point of view of theoretical elegance is the Polsby-Popper measure. This determines the area of a circle having a circumference equal to the perimeter of each district and compares the area of each district to its circle. As Polsby and Popper describe this, they are measuring the efficiency of the boundary of a district in capturing area. This is an excellent tool for reducing compactness scores of plans which have boundaries similar to the most intricate portion of the boundary between Olympia and Tumwater, lots of boundary length and very little area captured by it. However, rivers which are often county or municipal boundaries are not very efficient at capturing area because of their tendency to meander. Similarly, municipal boundaries are sometimes very intricate. Use of the Polsby-Popper measure to evaluate compactness would encourage drawing arcs or straight lines to replace natural boundaries, county boundaries and municipal boundaries. This would have negative impacts both on county and municipal integrity and on the costs of election administration with all the precincts which would have to be added to accommodate all the people separated from their county, their municipality and their neighbors by the arc or straight line necessary to obtain a better compactness score.

Here are the averages of the district compactness scores reported by AutoBound using the Polsby-Popper measure.

Ceis	30.7
Foster	29.1
Gorton	33.2
Huff	25.8
Milem Preferred	32.0
Milem Exact	32.8

This data produces the same picture of the relative compactness of the six plans as the total perimeter length, except that my Preferred plan produces a better result than the plan of Commissioner Ceis. Commissioner Gorton's plan and my Exact plan are the top two plans.

Another compactness measure offered by AutoBound appears to me to be a variant of the Polsby-Popper measure. This compares the actual perimeter of the district with the circumference of a circle with the same area as that of the district. Why this produces different results from the Polsby-Popper measure puzzles me. In any case, this measure offers the same perverse incentives to shorten perimeters by replacing geographic features and political subdivision boundaries with arcs and straight lines.

Here are the averages of the district compactness scores reported by AutoBound using this measure.

Ceis	58.1
Foster	55.8
Gorton	59.6
Huff	52.8
Milem Preferred	59.7

This measure produces the same outcome among the commissioners' plans as the two discussed before it. The order is Gorton, Ceis, Foster, Huff. Peculiarly, my two plans are the highest scoring using this measure.

Another compactness measure offered by AutoBound is the Schwartzberg measure. This measure is similar to the Polsby-Popper measure in that it compares district area with an area of a geometric figure considered to be compact, in the case of Polsby-Popper, a circle, and in the case of Schwartzberg, a convex hull. This is the figure composed of straight lines which connect protruding points in the actual district boundary. The benefit of this approach is that it removes the perverse incentive to substitute arcs and lines for irregular, intricate boundaries. The negative is that it provides relative high scores and tends to leave an impression that there is little difference among plans in compactness even though other tests might leave a different impression. Also, this measure fails to take account of the fact that the convex hull of a district may include substantial populations which are not in the district.

Here are the averages of the district compactness scores reported by AutoBound using the Schwartzberg measure:

Ceis	78.1
Foster	75.2
Gorton	78.2
Huff	72.0
Milem Preferred	78.2
Milem Exact	79.3

This measure produces an order of the plans virtually identical to the one just above. The only difference is that there is no daylight at all between the score of my Preferred plan and that of Commissioner Gorton.

The remaining compactness measure offered by AutoBound is referred to as Roeck/Ehrenberg. This measure is similar to Polsby-Popper in that it compares district area with the area of a circle. The circle, however, is a different circle in this measure. This circle is the smallest circle which can completely enclose the district. The benefit of this measure is that it discourages elongated districts. The negative is that those elongations may be uninhabited parts of political subdivisions; think of the part of Whatcom county west of Point Roberts, the north end of Skamania county, the area of Clallam county in the Strait of Juan de Fuca. If no one lives there, why should a plan be scored lower simply because it maintains county integrity?

Here are the averages of the district compactness scores reported by AutoBound using this measure.

Ceis	24.4
Foster	24.9
Gorton	26.4
Huff	23.5
Milem Preferred	23.5
Milem Exact	23.7

This measure produces the most different order of the plans than any other discussed above. The constant is that Commissioner Gorton's plan is the best scoring of the commissioner's plans and Commissioner Huff's, the worst. In all of the other measures, Commissioner Ceis's plan shows a better score than Commissioner Foster's, but in this one Commissioner Foster's plan outscores Commissioner Ceis's. And more surprisingly, my plans which generally score at or near the top of the list share the lowest scores with Commissioner Huff's plan.

The measure which I am using presently is a modification of the Schwartzberg method. The difference is that whereas the Schwartzberg convex hull is based upon the geography of the district, my convex hull is based upon the inhabited part of the district. Why should uninhabited areas have any impact in measuring the compactness of a district? The compactness measure should provide no incentive to place them in any district. This leaves them free to be placed in a district which maintains county integrity or municipal integrity or fulfills other principles mentioned in the constitution and the statute.

The results produced by this measure for the six plans are those shown for Compactness on the Redistricting Plan Quality Index. Here are the averages of the district compactness scores using this measure.

Ceis	76.05
Foster	74.95
Gorton	73.93
Huff	72.65
Milem Preferred	75.31
Milem Exact	74.74

This measure produces results among these six plans similar to those of the other measures. As usual, Commissioner Huff's plan scores the poorest and Commissioner Ceis' plan outscores Commissioner Foster's. And my plans score near the top. The big difference is that whereas Commissioner Gorton's plan generally scores the best on the various compactness measures, that plan scores the second worst on one.

There is a general comment to be made about all of these measures of compactness. None of them take account of the fact that there are constitutionally- and statutorily-preferred boundaries. For example, the state constitution contains this sentence: To the extent reasonable, each district shall contain contiguous territory, shall be compact and convenient, and shall be separated from adjoining districts by natural geographic barriers, artificial barriers, or political subdivision boundaries. I interpret this to mean that district boundaries which follow natural geographic barriers, artificial barriers, or political subdivision boundaries are preferred boundaries. Other boundaries will be necessary to meet the population standard, but such boundaries are non-preferred boundaries.

I believe that compactness measures should distinguish between preferred boundaries and non-preferred boundaries. My preferred compactness measure, for which I do not presently have programming resources, would be to distinguish between preferred boundaries and non-preferred boundaries, utilizing boundary smoothing of the convex hull variety for preferred boundaries and utilizing the actual boundaries for non-preferred boundaries. It is typically the case that abusive districting accomplishes its purposes by using non-preferred boundaries. This measure would compare the actual area of a district with the area of a hexagon having a perimeter equivalent to the perimeter determined, as indicated above, by combining the length of the smoothed preferred boundaries and the actual length of the non-preferred boundaries.

Concurrent Boundaries. The state constitution provides that, to the extent reasonable, districts shall be separated from adjoining districts by political subdivision boundaries. I understand this reference to political subdivision boundaries as referring to county and municipal boundaries. If this term, political subdivision, has been judicially construed in connection with its use in the state constitution, I am not aware of it. The definitions of political subdivision in state statutes tend to vary in terms of what they include. I have the impression that counties and municipalities are always included but that other kinds of districts are included for some purposes and not for others.

For purposes of my concurrent boundaries test, I have limited the test to county and municipal boundaries.

As shown on the Redistricting Plan Quality Index table, the Concurrent Boundaries scores for the six plans reviewed here are the following:

Ceis	46.42
Foster	54.66
Gorton	55.73
Huff	53.74
Milem Preferred	63.93
Milem Exact	58.02

The conclusion to be drawn from this data is that my plans do a better job of creating districts which are bounded by county and municipal boundaries than do any of the commissioners' plans. It appears to me that, unless a case is successfully made that district boundaries in my plans are not reasonable boundaries, one must conclude that the commissioners' plans fail to satisfy the constitutional standard that district boundaries, to the extent reasonable, must follow political subdivision boundaries.

Competitiveness. The Washington State Redistricting Act provides that “The commission shall exercise its powers . . . to encourage electoral competition.”

Competitiveness is similar to compactness in the sense that there is not general agreement about what constitutes competitiveness. For me the important issue is whether districts are formed in such a way that when the mood of the public, as expressed in their votes, changes that change will be reflected in the composition of the state's congressional delegation. When the votes indicate the voters want the Republicans to control the Congress, the Republicans should control the Congressional delegation. When the votes indicate the voters want the Democrats to control the Congress, the Democrats should control the Congressional delegation. To me, this means that competitiveness is linked to the votes of the state. Because of variations in the concentration of voters of the two parties in various areas of the state, some districts are likely to always elect Democratic congressmen. Other districts are likely to always elect Republican congressmen. However, it is desirable to minimize the number of such districts to the extent possible, by creating districts which are competitive when the voters of the state are approximately equally balanced between the parties.

As indicated by the Redistricting Plan Quality Index, my plans score significantly higher in Competitiveness than do any of the commissioners' plans. Among the commissioners' plans, Commissioner Gorton's plan scores significantly above the others which are closely bunched.

Here is the underlying data which supports those Competitiveness values:

	<u>D</u>	<u>C</u>	<u>R</u>
Ceis	21	49	40
Foster	12	57	41
Gorton	22	51	37
Huff	22	48	40
Milem Preferred	12	66	32
Milem Exact	12	67	31

The distribution of the instances reported in this table is interesting. I have previously shown the commission that Republicans are more advantageously distributed within Washington than are Democrats. Democrats are more concentrated. This difference in voter distribution by party is evident in the fact that the number of instances falling in the more than 5% more Republican than the state is consistently higher in all of the plans than the number of instances more than 5% more Democratic than the state. .

Were it not for this disparity in voter distribution by party, this table would make it look as if every plan favored the Democrats by packing Republicans. Actually, the only plan which appears to satisfy this description is Commissioner Foster's plan. Commissioner Foster has the highest number of Republican instances and the lowest (tied with my plans) number of Democratic instances. His plan is the only one which successfully unpacks Democrats to the same extent as mine, but he manages to pack more Republicans than any other plan. And his success in that is reflected in his plan's having the lowest competitiveness score.

The Republican commissioners and Commissioner Ceis appear to have been content to have two districts so Democratic that Republicans are unlikely to be competitive in those districts. The other three plans, Commissioner Foster's and my two plans, only have one district so Democratic.

All of the commissioners have created four districts in which the majority of the instances fall into the Republican column. My plans have only three districts rather than four in which a majority of the instances fall into the Republican column.

And to sum that up, the remaining districts have a majority of their instances in the Competitive column, instances in which the vote in the district was within 5 points of the vote in the state. In the commissioners' plans, there are four such districts, except for Commissioner Foster's plan which has five. My plans have six. And that's why my plans score the highest for competitiveness.

I'll also discuss this matter from the perspective of the individual districts proposed in the six plans. The vote percentages to which I will be referring are the averages of the Republican and Democratic percentages in the proposed

districts in eleven statewide contests from 2006 through 2010. The state average vote in those races was 53.9% Democratic and 46.1% Republican.

The most Democratic district in the state in all six plans is the district which includes most or all of Seattle. And the distinction among the plans is dependent upon the 'most or all.' The plans which do not divide Seattle propose a district 7 or Seattle district in which the average Democratic vote in the eleven statewide contests was 76.5% Democratic. The three plans which do divide Seattle have an average Democratic vote of around 73%. Dividing Seattle unpacks Democrats without making the district any more competitive.

The most Republican district in the state in all plans is the district which includes Yakima. In all plans the average Republican vote in this district is within one percentage point of 60%.

The second most Republican district in the state in all plans is the district which includes Spokane. The average Republican vote in all of these proposed Spokane districts is between 54% and 55%.

Now things get more interesting. The third most Republican district in the four commissioners' plans is their district 8. The Democratic commissioners pack more Republicans into this district than do the Republican commissioners. This district is around 53.5% Republican in the Democratic plans and about 51.3% Republican in the Republican plans. In my plans the third most Republican district is my Vancouver district which is 50.9% Republican.

The fourth most Republican district in the commissioners' plans is their proposed district 3, comparable to my proposed Vancouver district. They all make this district just very slightly more Republican than in my proposal, about 51% Republican. The fourth most Republican district in my plans is the Bellingham district which is about 50.2% Republican.

Now things get more complicated. The second most Democratic district in all four commissioners' plans is the district which includes Kent, numbered district 9 in the Democratic plans, district 1 in Commissioner Gorton's plan and district 10 in Commissioner Huff's plan. This district is most Democratic in the Republican plans, around 63% Democratic. In Commissioner Ceis's plan, this district is about 61% Democratic and in Commissioner Foster's plan, it is a little over 56.5% Democratic. My second most Democratic district is a different district, the Bellevue district, and it is just slightly less Democratic than Commissioner Foster's district 9.

The third most Democratic district varies quite a bit from plan to plan. In Commissioner Ceis's plan, it is his proposed district 10 which includes Lakewood and Olympia. In Commissioner Foster's plan, it is his proposed district 1 which includes Issaquah and Lynnwood. In Commissioner Gorton's plan, it is his proposed district 9 which also includes Lakewood and Olympia. In Commissioner Huff's plan, it is his proposed district 2 running from Edmonds to Bellingham. The third most Democratic district in my plans is my proposed Tacoma district. Commissioner Huff packs the most Democrats in this district, about 57.5%. In all of the other plans, the third most Democratic district is within a half point of 55.5% Democratic, except in Commissioner Ceis's plan in which it is 54.6% Democratic.

The fourth most Democratic district also varies a lot in location. In Commissioner Ceis's plan, it is his proposed district 1 which includes Bellevue. In Commissioner Foster's plan, it is his proposed district 6 which includes Tacoma and Kitsap. In Commissioner Gorton's plan, it is his district 2 which runs from Marysville to Kirkland. In Commissioner Huff's plan, it is also district 6 but this district 6 is located entirely outside Pierce county, consisting of the Kitsap and Olympia peninsulas, Grays Harbor county and the Olympia area. The fourth most Democratic district in my plans is my Everett district. In spite of the variation in location, there is a remarkable consistency in the Democratic percentage in these proposed districts. But for Commissioner Foster's, the most Democratic, at 55.35%, they all are within one-fifth of a point of 54.5% Democratic.

The fifth most Democratic district is the district which includes Tacoma in all of the commissioners' plans, except Commissioner Foster's plan where it is his district 2. The district numbers vary, Commissioner Gorton's district 6, Commissioner Huff's district 9 and Commissioner Ceis's district 10. The fifth most Democratic district in my plans is my proposed Lakewood district including Olympia and Grays Harbor. This district is most Democratic in the plans of Commissioners Ceis and Gorton, about 54.4% Democratic. In the plans of Commissioners Foster and Huff, it is about 53.6% Democratic. And in mine, just under 53% Democratic.

And finally the fifth most Republican district is variable both as to location and political leaning. The Republican commissioners created a district with an average Republican percentage between 50 and 51%, in Commissioner Gorton's case, his district 10 including Bellingham and Wenatchee and in Commissioner Huff's case, his district 3 in southwest

Washington. The Democratic commissioners created districts with an average Democratic percentage of about 53%. These are Commissioner Ceis's district 2 including Everett and Commissioner Foster's district 10 along the Pacific coast. In my plans, the fifth most Republican district is my Kent district with an average Democratic percentage of about 52%.

Until some kind of significant realignment of voters among parties occurs in American politics, it is unlikely that Democratic dominance in the Seattle congressional district and Republican dominance in the Yakima congressional district can be challenged. These districts are pretty unlikely to offer competitive contests. Among the other eight districts, which plan offers, for example, the most-likely-to-be-competitive (or least Democratic) second most Democratic district? Among the commissioners' plans, this would be Commissioner Foster's. He also offers the least Republican (most-likely-to-be-competitive) second-most Republican district. Commissioner Gorton offers the least Republican third most Republican plan. Commissioner Huff offers the least Democratic fourth and fifth most Democratic districts. Commissioner Ceis takes the honors here with three districts. He is offering the least Democratic third most Democratic district, and the least Republican fourth and fifth most Republican districts.

When the districts in my plans are added to this mix, the score ends: Milem, 4; Ceis, 2; Foster, 1; Huff, 1; Gorton, 0.

Another way to look at this is to examine the number of districts in terms of how closely they match the vote in the state. Here's that table:

<u>Variance from state</u>	<u>Ceis</u>	<u>Foster</u>	<u>Gorton</u>	<u>Huff</u>	<u>Milem</u>
<1%	4	1	2	2	2
1-2%		2	1		2
2-3%		2			1
3-4%				1	
4-5%	1	1	2	2	2
>5%	5	4	5	5	3

My conclusion out of all of this is that my plans offer the voters of Washington a more competitive set of congressional districts than do any of the commissioners' plans. In this case, one must ask whether the commissioners have complied with the statutory instruction to use their powers to encourage electoral competition.

Party Parity. The state constitution requires that "The Commission's plan shall not be drawn purposely to favor or discriminate against any political party"

Bringing districts into party parity is very difficult in the context of the unbalanced distribution of Republican and Democratic voters in the state. Ideally, the number of districts more Democratic and more Republican than the state would be equal in number, and, for each district x% more Democratic than the state there would be another district the same percentage more Republican than the state. This is nearly impossible given the fact that Democratic voters are more concentrated in the state and Republican voters are more dispersed in the state. Another factor which contributes to this difficulty is that there can be variations by a factor of 2 within the state in terms of the percentage of the population which votes. By and large, voter participation is highest in heavily Democratic districts in the state and it is lowest in some of the most Republican districts in the state. If the basis of redistricting were votes cast instead of persons counted, it would be much easier to create the kind of balance between the parties which I mentioned above.

This problem is more clearly illustrated in legislative districts. Although this is a memo on congressional districts, I would like to illustrate the problem with some data from my Preferred legislative plan. In that plan, nine of the ten districts which cast the larger numbers of votes in the contest for governor in 2008 voted for Gregoire. In those districts she received 480,000 votes, 30% of her total in the state even though this is just over 20% of the districts. Rossi received 265,000 votes, 19% of his total in the state. In the ten districts which cast the smallest numbers of votes in that contest, each candidate won five districts. Rossi received 246,000 votes in these districts. 17% of his vote in the state, and Gregoire received 232,000, around 14% of hers. Among these districts, the one with the largest vote was a proposed district in northwest Seattle in which nearly 83,000 votes were cast. The one with the smallest vote was a district in Yakima county in which just under 40,000 votes were cast. Although these were votes for governor, it's pretty likely that the numbers of votes for legislative positions were proportionate. If so, a vote for legislators in Yakima was worth twice what a vote for legislators in northwest Seattle was worth. This clearly is not equal vote value. Is this democracy? Bear in mind in this connection that when the Supreme Court first began using the expression "as nearly as equal as is practicable" they did so in

the context, not of district populations, but in the context of vote values. We've strayed far from that, to, in my opinion, our great disadvantage. In this context, zero deviation in population seems pretty hollow and shallow and useless.

To get back to the Party Parity issue, as long as we continue to redistrict on the basis of equal populations and thereby devalue the votes of people who live in high-voting areas and revalue the votes of people who live in low-voting areas, we're not going to be able to bring the parties into parity in redistricting. (These comments are limited to this state and this time. When we move to a realignment of voters with parties as happens a few times a century this may all change, but as long as we have the current alignment of voters with parties in Washington, this problem isn't going away, unless we switch the basis of representation from people counted to people who voted.)

My solution to that is to try to maximum the number of competitive districts to minimize the damage done by a redistricting which can't help favoring one party over the other because of the mismatch between the intention of being fair to the parties and the choice of a basis of representation, population, which makes that impossible.

As a result, my Party Parity scores are among the lowest, exceeding only Commissioner Foster's. Commissioner Huff's plan scores the best for Party Parity, but at the cost of a low Competitiveness score. You will notice above in the last table in the Competitiveness section that he offers only two districts which are within three percentage points of the state average vote. Other plans offer as many as five. Those plans clearly provide a more competitive environment to the voters of the state. Commissioner Gorton appears to have done the best job of balancing the two factors. His plan is the only one which scores among the top half of the six plans for both Competitiveness and Party Parity. Commissioner Foster's plan on the other hand not only scores in the bottom half of the six plans on both but actually has the lowest score on both.

I believe that if commissioners will focus on complying with other provisions of the constitution and the statute which can be complied with that there can be no case made that their plan purposely favors a political party. My plans demonstrate that although Party Parity is unreachable with population-based redistricting, plans can be drawn which comply with the constitutional and statutory provisions and which maximize the competitiveness of districts.

In conclusion, I should say that I'm pretty disappointed in the process so far.

The commitment to zero deviation leaves a strong impression that commissioners are not limiting themselves to legitimate state purposes. This impression is reinforced by the facts that commissioners have not addressed the reasons for the failures to comply with constitutional and statutory provisions and that to this point there have been no public negotiations in which commissioners might "come clean" about what they are doing and why.

I'm sure you can do better. Will you?