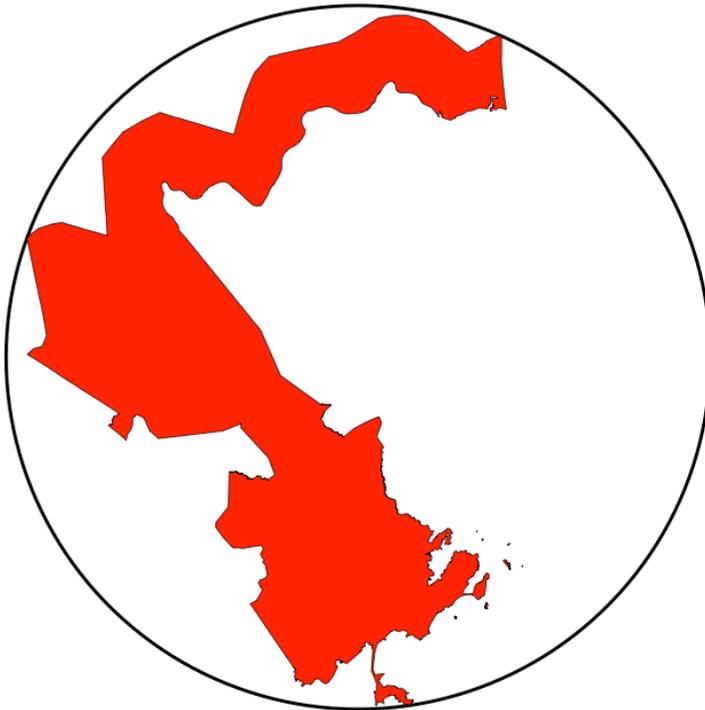


Compactness Measures

Used in City of Dallas Redistricting 2021-2022

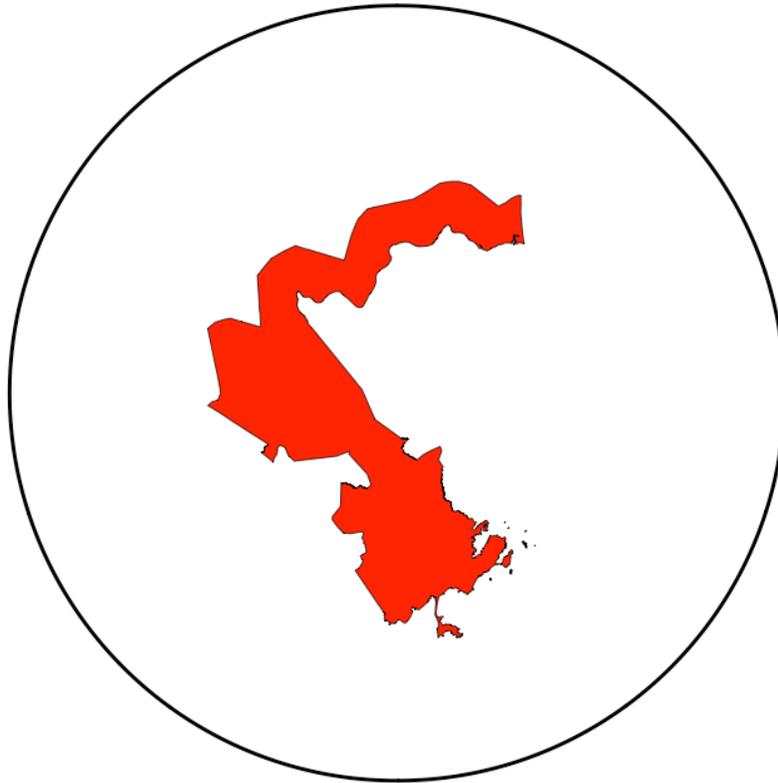
Reock Test of Compactness –

The Reock compactness score is computed by dividing the area of the voting district by the area of the smallest circle that would completely enclose it. Since the circle encloses the district, its area cannot be less than that of the district, and so the Reock compactness score will always be a number between zero and one. ***A score closer to 1 indicates a more compact district.***



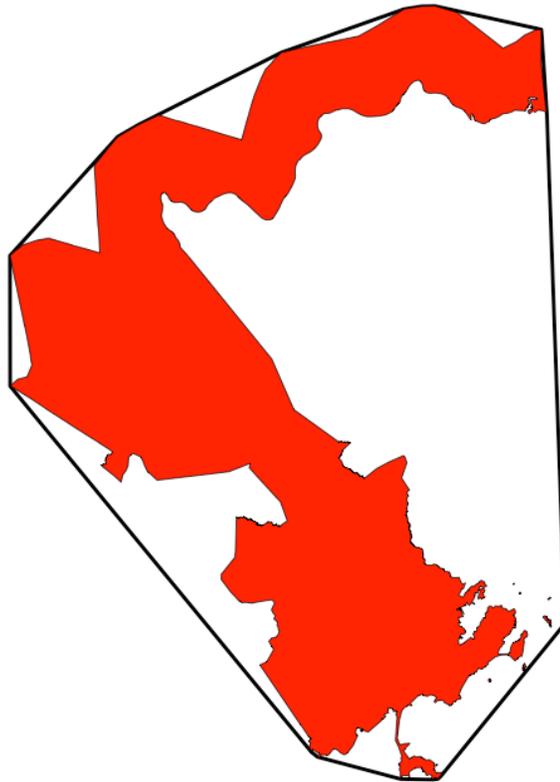
Polsby-Popper Test

The Polsby-Popper compactness measure is the ratio of the area of the district to the area of a circle whose circumference is equal to the perimeter of the district. A district's Polsby-Popper score falls with the range of [0,1]. ***A score closer to 1 indicates a more compact district.***



Convex Hull Ratio:

The Convex Hull score is a ratio of the area of the district to the area of the minimum convex polygon that can enclose the district's geometry. A district's Convex Hull score falls within the range of [0,1]. ***A score closer to 1 indicates a more compact district.***



Schwartzberg Test

The Schwartzberg compactness score is the ratio of the perimeter of the district to the circumference of a circle whose area is equal to the area of the district. A district's Schwartzberg score as calculated below falls with the range of [0,1]. A score closer to 1 indicates a more compact district.

