

Memo

To: House Committee on Ways and Means

From: John E. Adams, Director of Vermont Center for Geographic Information

Date: 4/6/2022

Re: S.287 & School District Population Density

This memorandum provides population density information related to Sec. 6 of S.287 An act relating to improving student equity by adjusting the school funding formula and providing education quality and funding oversight, as passed by the Senate:

(4)(A) On or before the first day of December during each school year, the Secretary shall list all school districts that have a population density, measured by the number of persons per square mile residing within the geographic boundaries of the district as of July 1 of that year, equaling:

- (i) fewer than 36 persons per square mile;*
- (ii) 36 to 54 persons per square mile; or*
- (iii) 55 to 100 persons per square mile.*

(B) Population density data shall be based on the most recent U.S. Census data as provided to the Agency of Education by the Vermont Center for Geographic Information.

One of the issues with the current language in the bill is that it requires a population density calculation based on data published by the Census Bureau's Population Estimates Program, which is published at a geography that does not correspond to Vermont's school district boundaries. While it is possible to use the municipal level data to generate estimates for most districts, there are two districts that have unique boundaries that do not align with towns. One potential approach to this issue discussed by the committee is to utilize decennial Census block level data, which is published at a geography that is granular enough to be rolled up into Vermont's current 127 school districts, as well as for any future districts that do not align with other municipal boundaries. In considering this option the committee asked, 'What is the magnitude of population density change we should expect over a 10 year period, and how many districts would likely change density groups over that period?'

In order to help answer this question, this memo highlights district density changes from 2000-2009 and from 2010-2019 using FY2022 district boundaries and data from the Census Population Estimates Program.



Note: For this exercise, the North Bennington District population was incorporated into the Southwest Vermont UESD for geography issues highlighted above.

Table 1. Number of School Districts by Population Density Grouping

Persons/Square Mile	2000	2010	2019
Less than 36	56	54	55
36 to 55	25	27	26
55 to 100	21	20	20
Greater than 100	25	26	26

2000-2009

- Districts that would have changed population density grouping: 7 out of 127.
- Absolute density change for median district: 1.3 persons-per-square mile.

2010-2019

- Districts that would have changed population density grouping: 7 out of 127. Note: One district changed as a result of a significant Census estimate error in Newport Town.
- Absolute density change for median district: 1.1 persons-per-square mile.
- The attached chart depicts the change for each district during this period, excluding districts with a density of greater than 125 persons-per-square mile.

2020-2026 Outlook

Based on a composite population forecast to 2026, it is estimated that approximately 5 districts would move grouping between 2020 and 2026, with 1 district moving from the <36 group into the 36-to-55 group, and 4 districts moving from the 36-to-55 group into the 55-to-100 group. Recent data suggests that increases in net domestic migration to small counties last year has offset population declines from natural decrease (more deaths than births.)

Summary

Over the past 20 years, we’ve seen modest changes in population across most of the state and modest changes in total population density across the FY2022 School Districts. Over the past two 10-year intercensal periods, the state would have seen an estimated 5% of districts in each period change density groups as defined in S.287 passed by the Census. Current data and forecasts do not suggest a significant change in this pattern, although areas that have experienced modest population declines in the past two decades may see modest population increases if current migration trends continue. If annual estimates are necessary, it is possible to utilize a dasymetric apportionment methodology to aggregate census estimates for districts with unique geographic boundaries, currently limited to two districts. Utilizing this approach and annual estimates would add some complexity that should be weighed against any value added. Intercensal population estimates are also not without potential error, as is evidenced by the erroneous estimates for Newport Town.