# Mapping and Analysis: New Hampshire's Proposed Districts for State House of Representatives

Gerrymandering in the Granite State, Visualized

A Report Commissioned by The American Civil Liberties Union of New Hampshire January 31, 2022



To: Devon Chaffee, Executive Director ACLU-NH Date: January 31, 2022

From: FLO Analytics Project No.: F2186.01.01

RE: Analysis of New Hampshire's Proposed State House Districts

#### **EXECUTIVE SUMMARY**

This memo analyzes HB50's likely consequences for the partisan composition of New Hampshire's state house.

Simple tabulations of ward-level vote returns for the 2020 Presidential race facilitate a key analytical comparison – i.e., between the partisan leanings of the state house districts as they are currently constituted, and prospectively, as they would be constituted in HB50's proposed map. Notice that the status quo electoral map was enacted by a previous GOP majority ten years ago following the preceding decennial redistricting. The version of HB50 analyzed here is current as of today's date.

In sum, two politically significant conclusions emerge from the data:

- In two relatively GOP-leaning counties Belknap and Merrimack HB50 proposes no substantial redistricting. In contrast, significant redistricting is proposed in each of the other eight counties in New Hampshire.
- HB50 would increase the number of GOP-leaning districts represented in the state house. Currently, in terms of its 2020 Presidential voting patterns, 196 of the state's 400 seats are GOP-leaning (in the straightforward sense defined below). If HB50 passes without amendment, 214 of 400 seats will be GOP-leaning. In this sense, the current redistricting round will give the majority party an 9.2% increase in GOP-leaning seats and a concomitant increase in its ability to control the redistricting of New Hampshire's US House and state electoral boundaries in the next redistricting round ten years hence.

The above findings derive from the tabular and graphical evidence discussed below. We also point out one sense in which our analysis of partisan lean – which relies upon 2020 Presidential voting patterns, the most defensible methodology in our view – may *understate* the boost that HB50 would provide the majority in the state house, insofar as the GOP's Presidential vote share in 2020 may be less than its relative support in down-ballot elections over the coming decade. Inasmuch as providing a better estimate would require more sophisticated statistical techniques (and subjective modeling decisions) our analysis sticks to simple tabulations based on publicly available data to provide the most unbiased assessment possible.

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#### **INSTITUTIONAL CONTEXT**

To preserve some of the Republic's most fundamental principles, the New Hampshire's state constitution requires that its legislature revisit its Congressional boundaries on a ten-year basis, after each decennial Census. Following a decade of significant population growth between 2010 and 2020 – especially in southern areas of the state – New Hampshire's state legislature has been tasked with passing a plan that preserves the established democratic principle of "one person-one vote."

Compared to other states, this critical decennial responsibility is complicated in New Hampshire because the state possesses several institutional quirks, some of which constrain its admissible house maps. The peculiarity of the legal districting requirements for New Hampshire's exceptionally large lower house (N=400) are described in Section 2.11 of the state constitution and in the state's *Burling v. Chandler* (148 N.H. 143) decision.

Some less directly analytically relevant contextual facts deserve mention. For instance, the state's house is considered the fourth largest legislative body in the English-speaking world; and largest among US state houses by a factor of two. Its volunteer legislators are elected biennially and meet annually in a plenary session that lasts the first six months of each calendar year.

Significantly, the legislature's decennial map-making is constitutionally constrained to respect the municipal boundaries of the state's constituent townships – i.e., it is enjoined from drawing house lines that bisect town boundaries. The significance of this is that it necessitates institutional departures that put New Hampshire at odds with the vastly more common pattern of non-overlapping, single member districts that govern elections to state houses across the US.

Legally, each New Hampshire township must lie in at least one, and no more than two, state house districts: every township is assigned to a "non-floterial" house district and a minority (12.8% under the current status quo) are also assigned to a "floterial" district containing ("floating" above) one or more non-floterial districts.

Summarily, the legislature's decennial problem amounts to creating an electoral map consisting of 400 districts (some of which are co-located) that respect (1) the township boundaries just noted, and (2) the standard federal and state statutory and jurisprudential mandates guaranteeing each citizen equal effective representation. Principle (2) may be seen as one instance of the overarching US principle of "one-person one-vote" found, e.g., in the Supreme Court's landmark 1962 *Baker v. Carr* (369 U.S. 186) decision.

To overcome the legal/geographical/mathematical complications caused by its very high regard for town borders, New Hampshire's constitution prescribes a highly unique mixed system, with two institutions that legislative mapmakers are meant to use to keep the effective state representatives-to-constituents ratio within legal bounds. These devices are single- and multi-member districts and "floterial" and "non-floterial" districts. The analysis discussed in this memo does not emphasize these distinctions because it focuses narrowly on the likely partisan composition of the legislature, rather than the institutional characteristics of the districts per se.

#### **ANALYSIS**

Concretely, our objective is to evaluate HB50's impact on the distribution of partisan lean among the 400 floterial and non-floterial districts that elect New Hampshire's lower house.

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#### Methodology

The standard metric used to quantify a party's support in a particular district is a concept known as "partisan lean" (PL). In the present context, we compute the PL of a (current or proposed) house district by comparing precisely how well the GOP fared in the focal district during the most recent Presidential contest minus the Party's performance in the US as whole.

In 2020, for instance, Donald Trump (R) won 47.7% of all votes cast for one of the two major parties in the US. In New Hampshire's two current US House districts, however, Trump (R) two-party vote share was 47.2% and 45.3%, respectively. The PL of the congressional districts were thus R-0.3 and R-2.2. Both US House electorates, in other words, were competitive and, like the Granite State itself, relatively centrist.

It is worth noting that there are a variety of alternative ways one might choose to compute partisan lean – for example, by measuring GOP (or Democratic) support using vote shares in down-ballot state or federal contests, or (since New Hampshire has a partisan voter registry) using the proportion of registrants in the focal district who identify as Republicans. These alternatives are not without logical merit.

Nevertheless, in this analysis, we eschew down-ballot contests because local idiosyncrasies among the state's 400 elections (e.g., a political scandal or candidate's death during the campaign) would provide a distorted view of the parties' strength in that district. One adverse consequence of this choice is that, though we may capture the relative strength of GOP support between counties as well as an analyst could hope to, we may understate GOP support insofar as (1) the Republican Presidential standard-bearer in 2020 (Trump) was comparatively unpopular and (2) Republicans do better relative to Democrats in down-ballot races compared to more prominent ones. Both observations are in fact strong possibilities but tend to make our estimates more conservative.

We focus on vote shares rather than partisan composition of the voter registration rolls because the population of registered voters at any given time is typically biased towards citizens that are residentially stable.

#### HB50 is Favorable to GOP Electoral Fortunes

As Table 1 indicates, HB50 would increase the number of GOP-leaning state house seats in eight of New Hampshire's ten counties – in Belknap it is impossible to increase such districts because they are already 100% of the total. The table shows that the net effect is to increase the number of GOP-leaning seats by 17, or 8.9% of their current total. A complementary look may be found in Figure 1 – which shows the entire distribution of PLs across the 400 seats in the state house under the current status quo and prospectively under HB50 – and in Figures 2-11 which disaggregates the same distribution for New Hampshire's counties.

Table 1: GOP-Leaning Seats Under New Hampshire's Current and Proposed State House Boundaries

County	HB50 (2022)		Status Quo (2012)	Increase in GOP- leaning seats	Seats Total N <sub>2012</sub>	Seats Total N <sub>2022</sub>
Belknap	18	=	18	0	18	18
Carroll	10	>	8	2	15	15
Cheshire	8	>	6	2	23	22
Coös	8	>	6	2	10	9
Grafton	9	>	7	2	27	26
Hillsborough	47	>	42	5	122	123
Merrimack	22	=	22	0	45	45
Rockingham	65	>	64	1	90	91
Strafford	17	>	14	3	37	38
Sullivan	10	>	9	1	13	13
State Total	214	>	196	18	400	400
Median PL:	R+0.69	>	R-0.05			

# Non-Floterial Districts By City

#### Proposed New Hampshire State House Districts (HB50) Claremont NH State House Non-Floterial District CROYDON SUI SUZ 3112 CORNISH Proposed HB50 Boundary SQ Non-Floterial District Boundary Ward Boundary Republican Leaning (%) 0-5 6-10 11-15 16+ CLAREMONT Democratic Leaning (%) WARD 3 0-5 6-10 11-15 NEWPORT 16+ SUG SU4 HB50 Enumeration CLAREMONT SQ Enumeration WARD 2 CLAREMONT WARD 1 SUB അ ØΩ

Sources: House Committee on Redistricting (HB50) and New Hampshire Secretary of State (status quo). Partisan lean computed at the ward level based on 2020 two-party Presidential vote. GOP leaning districts are those in which Trump (R) garnered a larger share than his national average (i.e., >47.7%). Conversely, in Democratic leaning districts – denoted in blue – Trump's two-party vote was less than 47.7%, by the amount indicated in the legend.

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New Hampshire Cities (N=12)

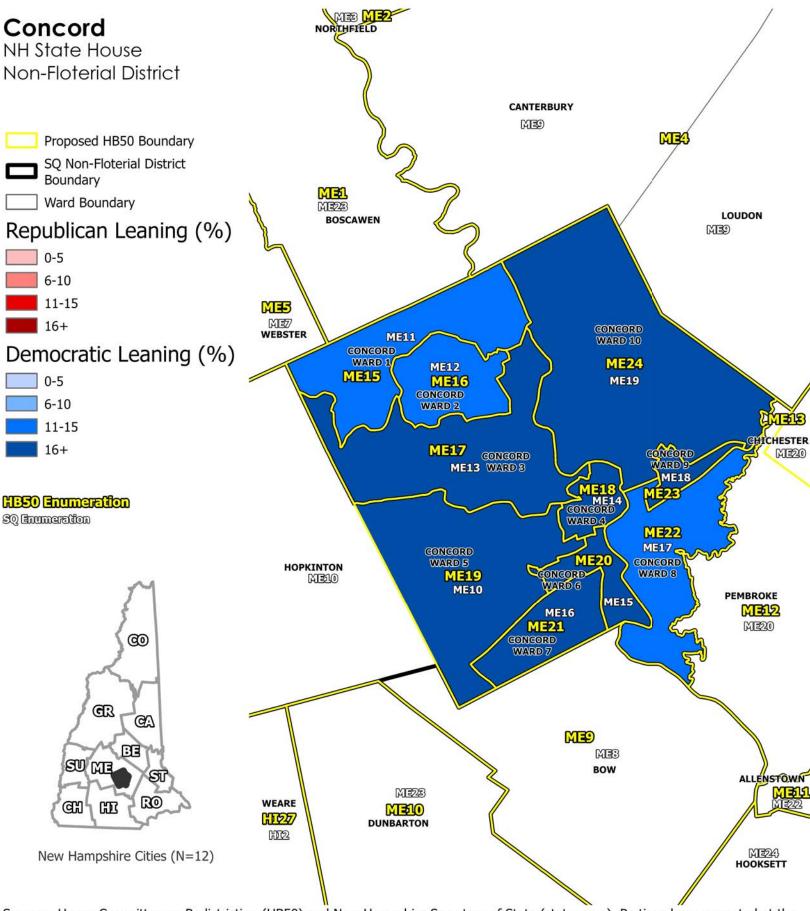
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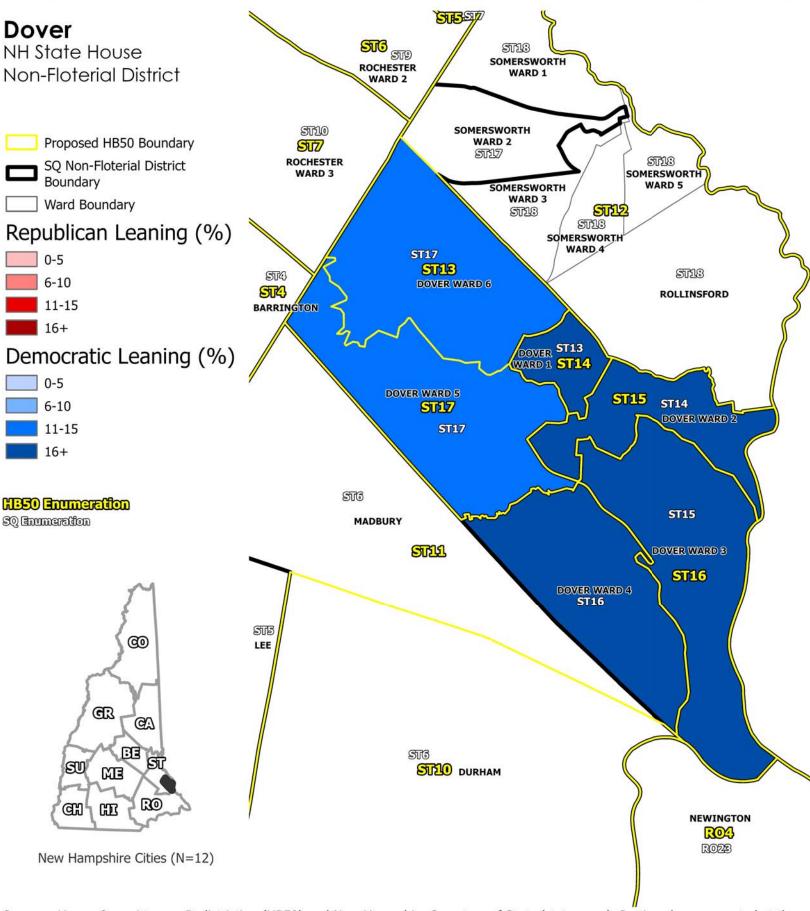
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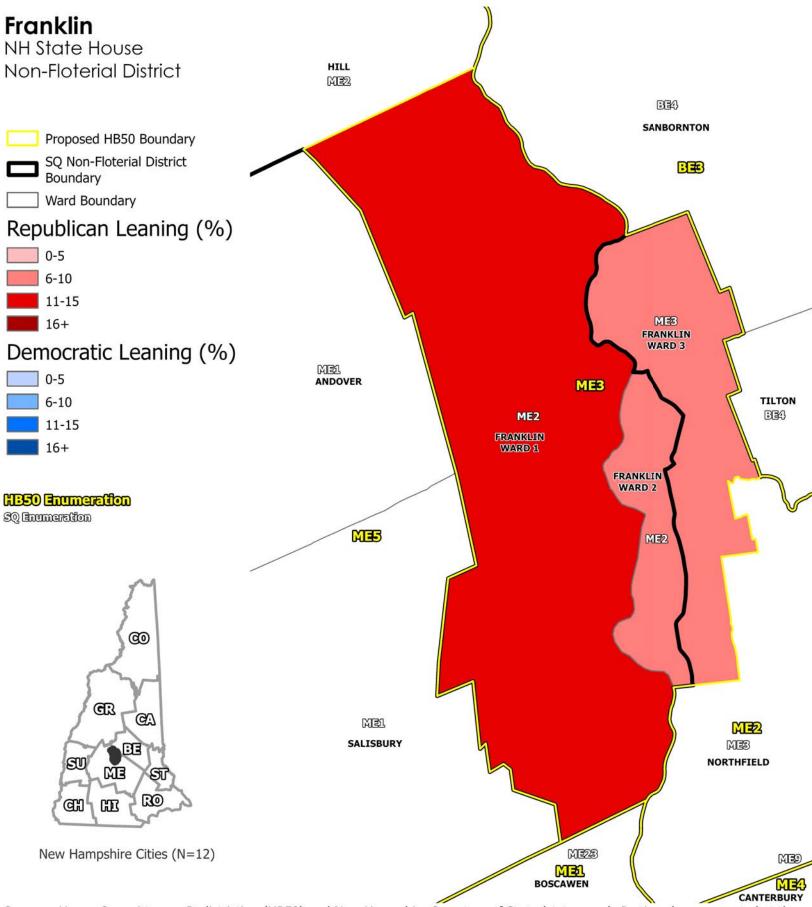
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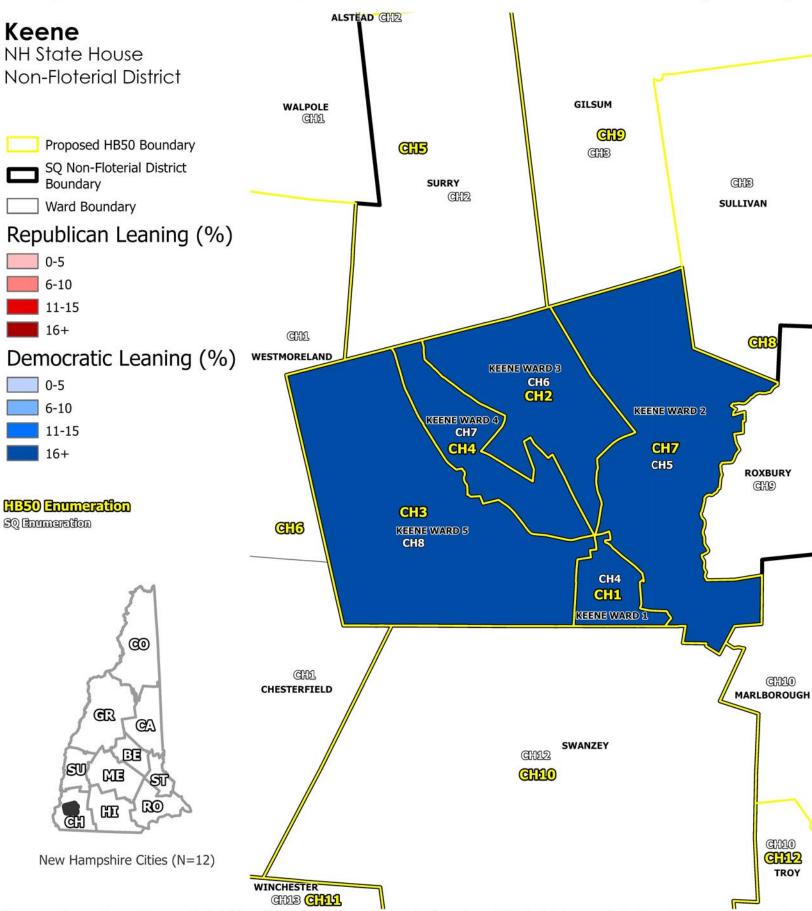
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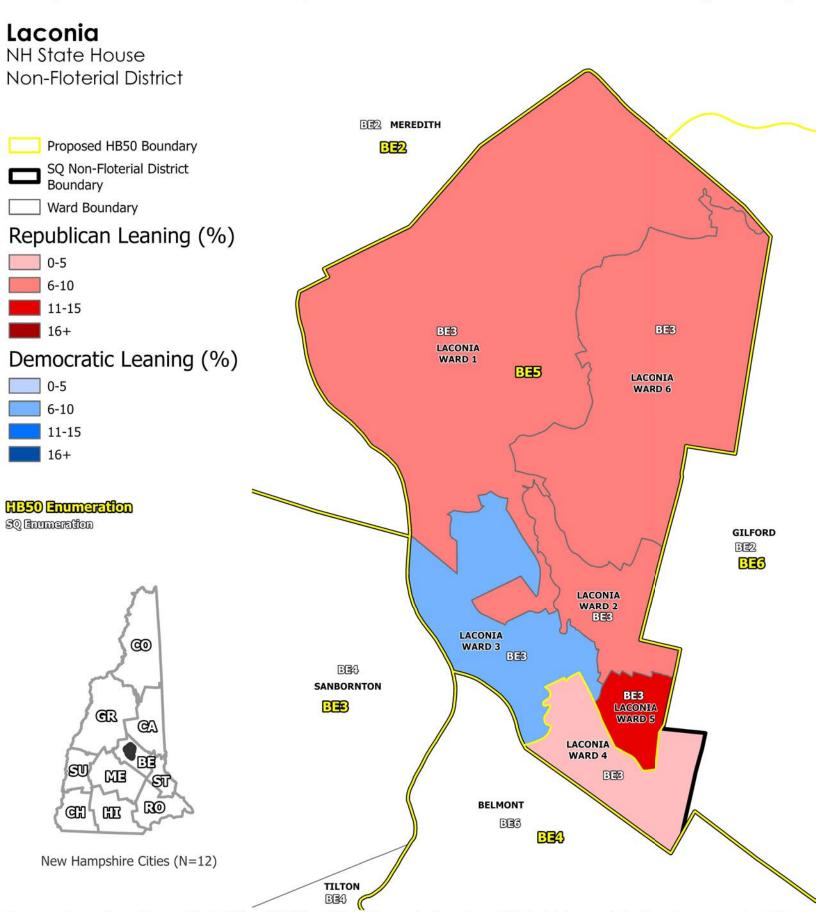
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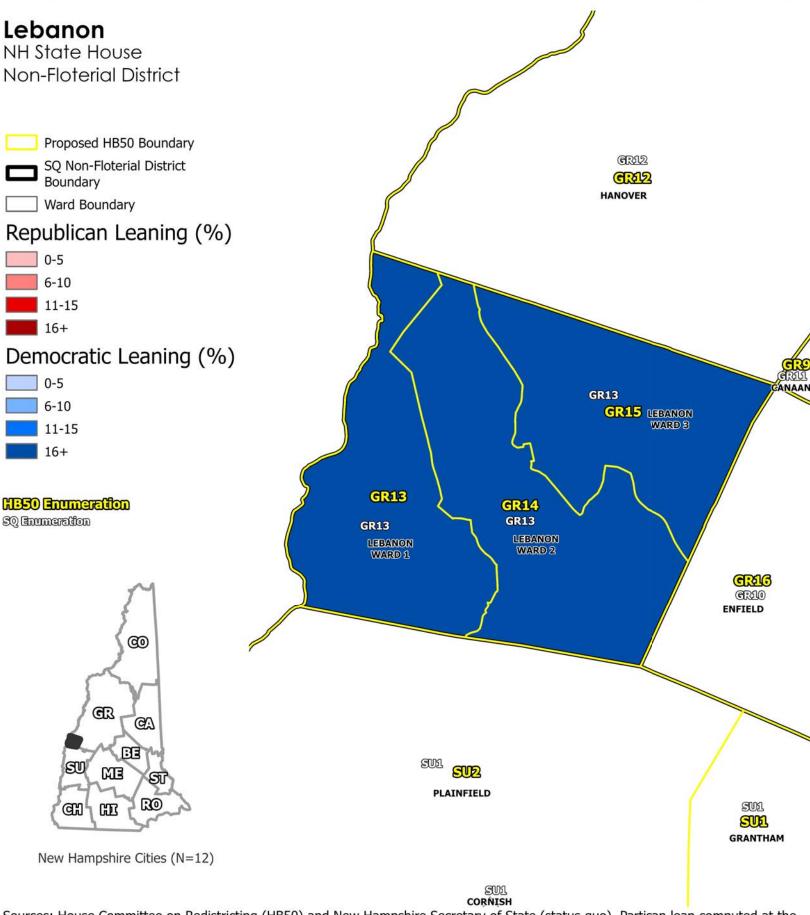


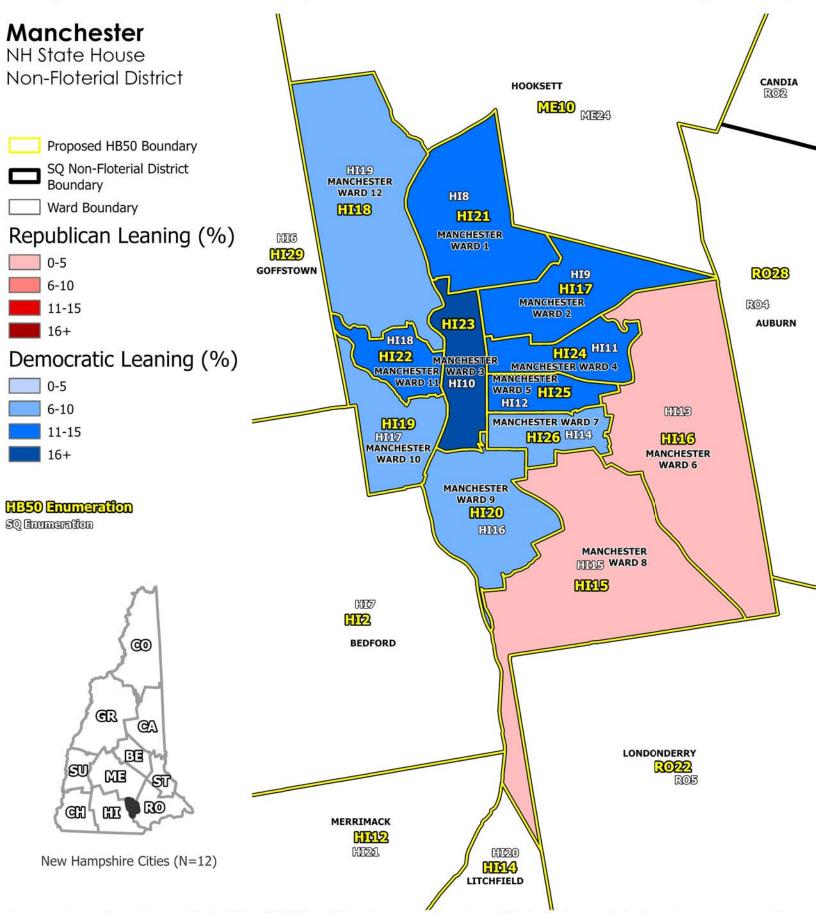


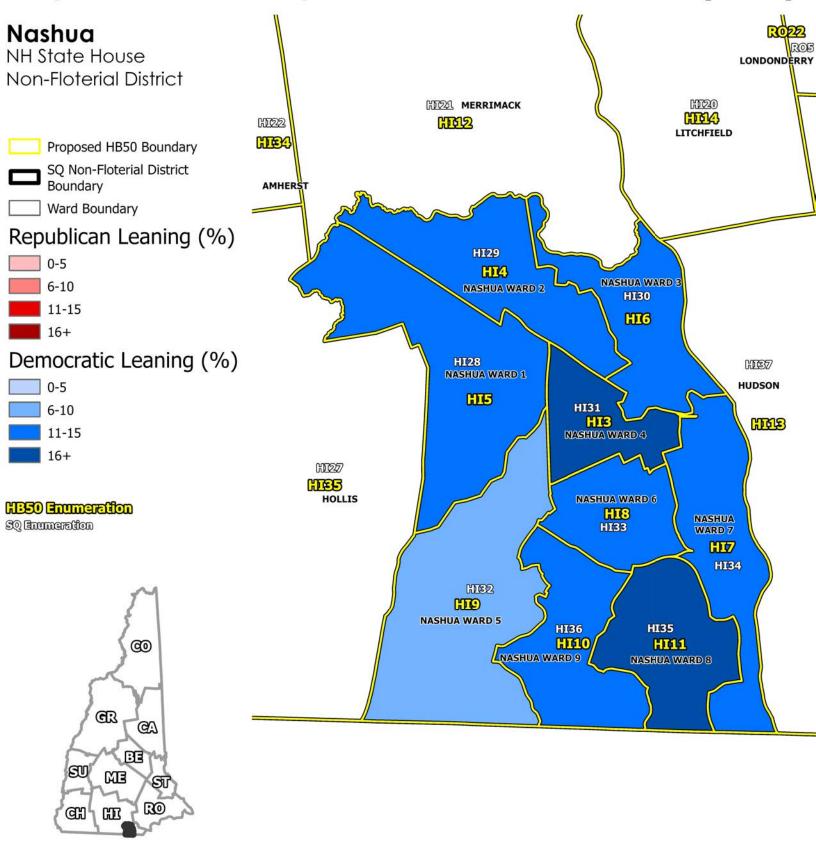






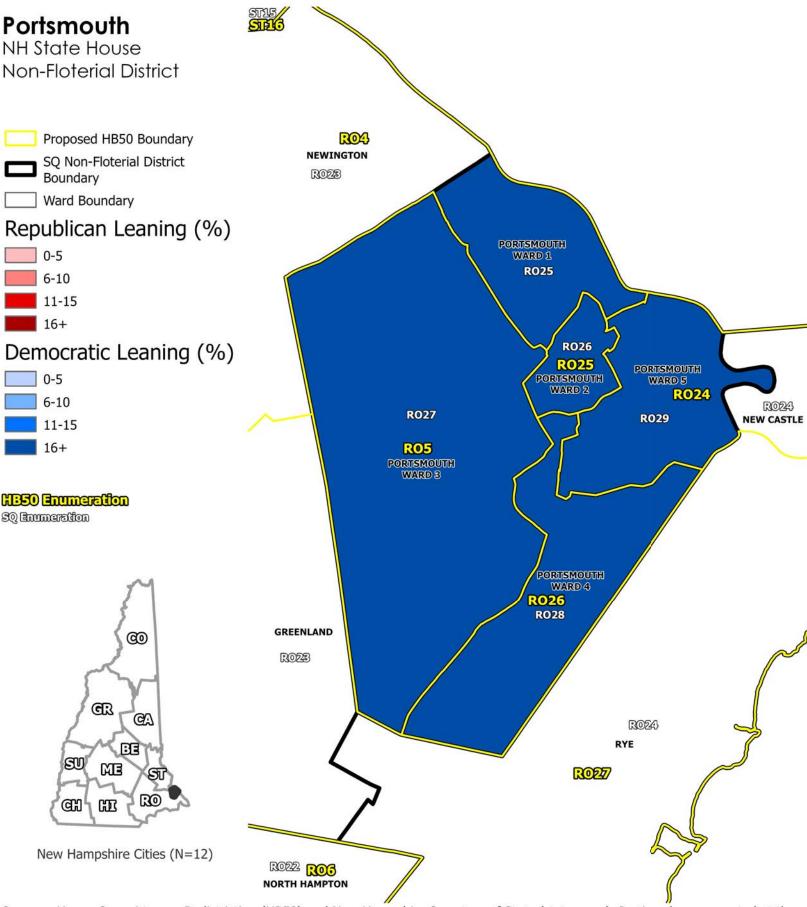


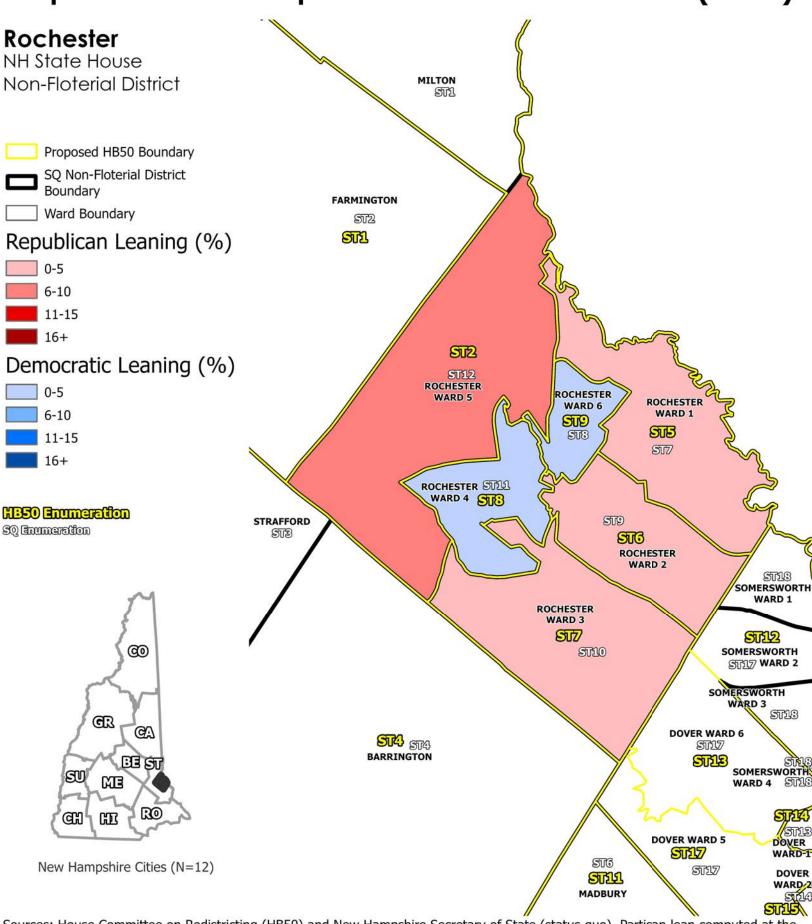


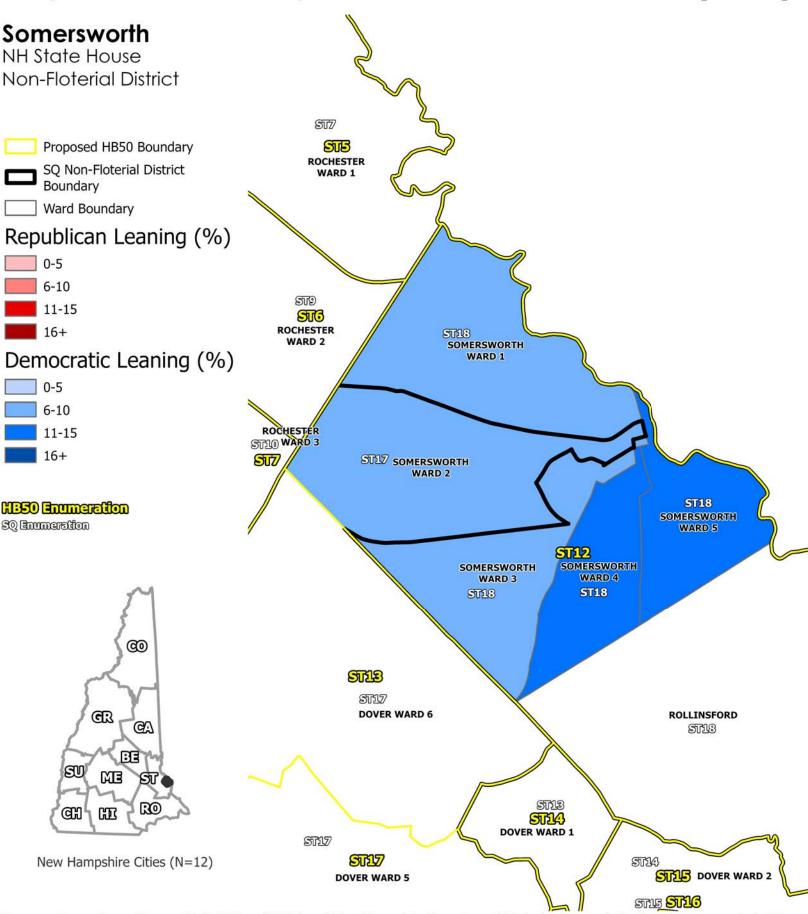


Sources: House Committee on Redistricting (HB50) and New Hampshire Secretary of State (status quo). Partisan lean computed at the ward level based on 2020 two-party Presidential vote. GOP leaning districts are those in which Trump (R) garnered a larger share than his national average (i.e., >47.7%). Conversely, in Democratic leaning districts – denoted in blue – Trump's two-party vote was less than 47.7%, by the amount indicated in the legend.

New Hampshire Cities (N=12)



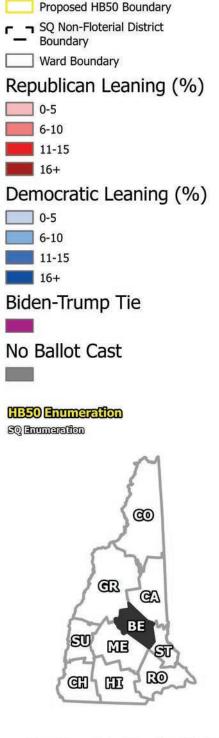


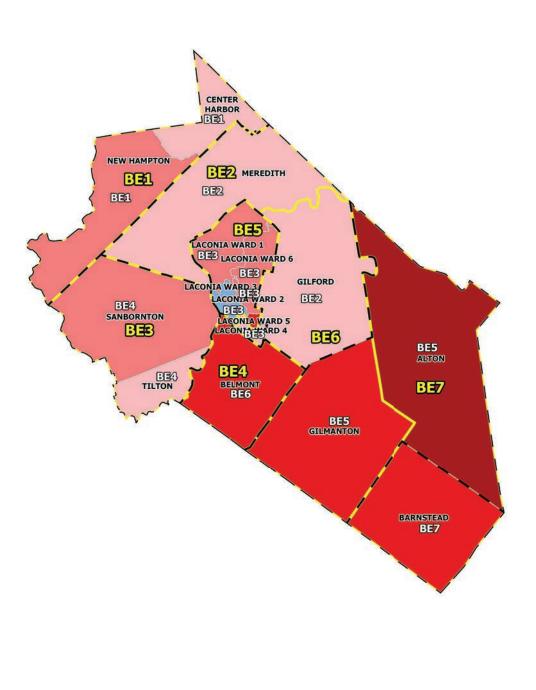


# Non-Floterial Districts By County

#### **Belknap County**

NH State House Non-Floterial District





New Hampshire Counties (N=10)

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EATON CA2

CA5 EFFINGHAM CAA

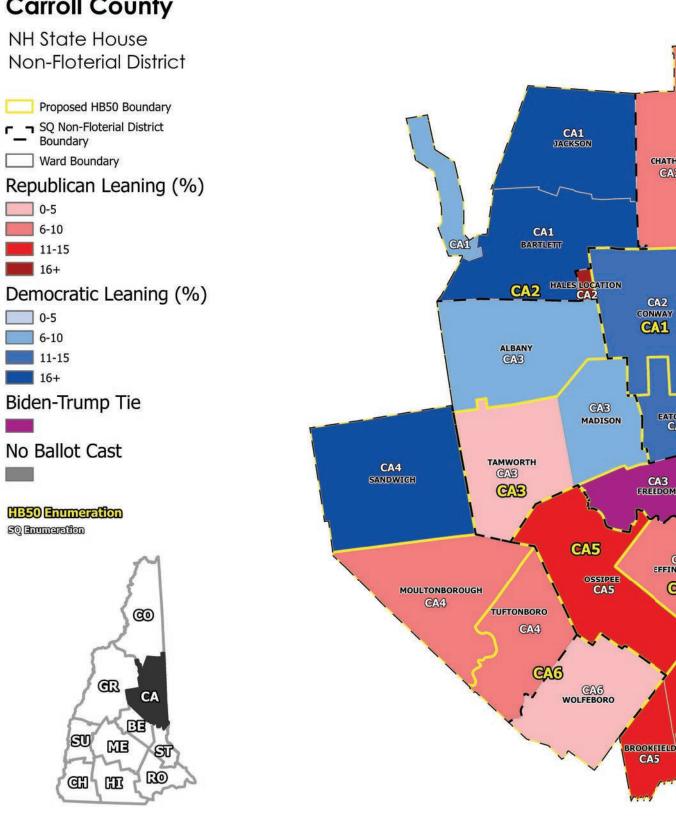
CA5

WAKEFIELD

CA5

CA3 FREEDOM

#### **Carroll County**



New Hampshire Counties (N=10)

#### **Cheshire County**

NH State House Non-Floterial District



Ward Boundary

#### Republican Leaning (%)

0-5 6-10 11-15 16+

#### Democratic Leaning (%)

0-5 6-10 11-15 16+

Biden-Trump Tie

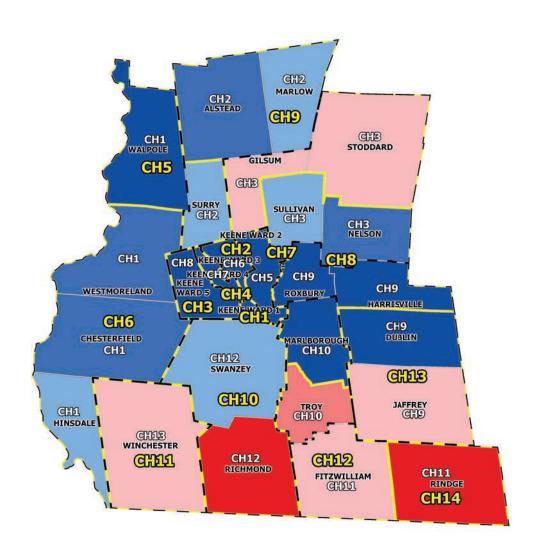


No Ballot Cast



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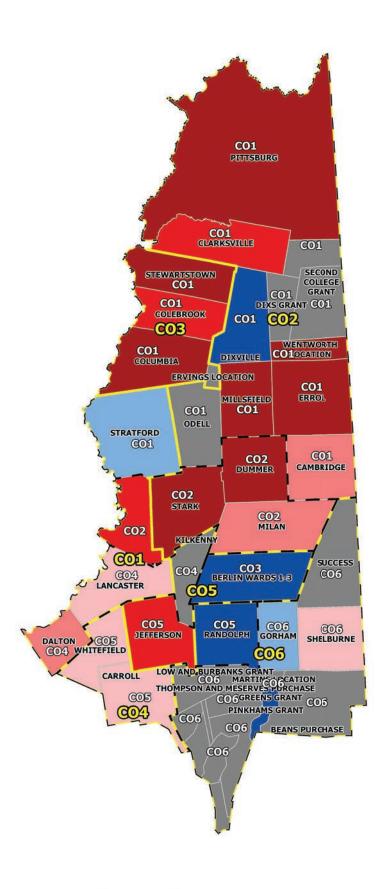




New Hampshire Counties (N=10)

#### **Coos County**

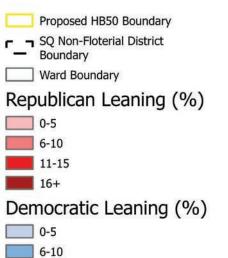




New Hampshire Counties (N=10)

#### **Grafton County**

NH State House Non-Floterial District



11-15

Biden-Trump Tie

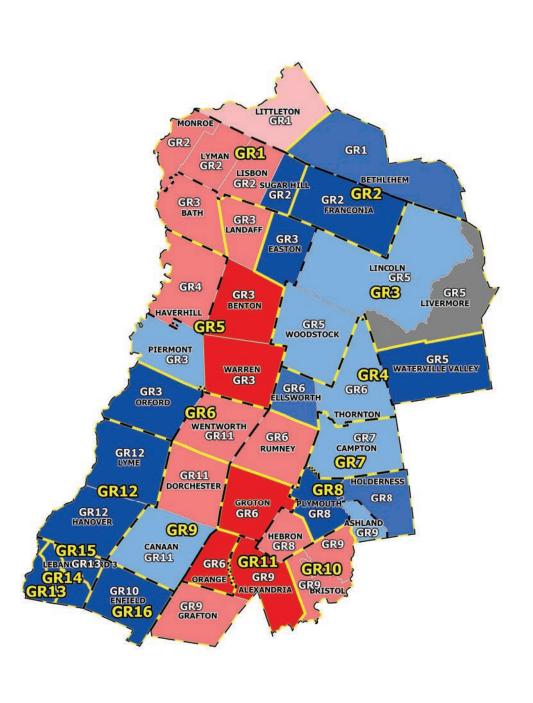
No Ballot Cast

HB50 Enumeration

SQ Enumeration

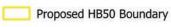






#### Hillsborough County

NH State House Non-Floterial District



SQ Non-Floterial District Boundary

Ward Boundary

#### Republican Leaning (%)

0-5 6-10 11-15

#### Democratic Leaning (%)

0-5 6-10 11-15 16+

Biden-Trump Tie



No Ballot Cast

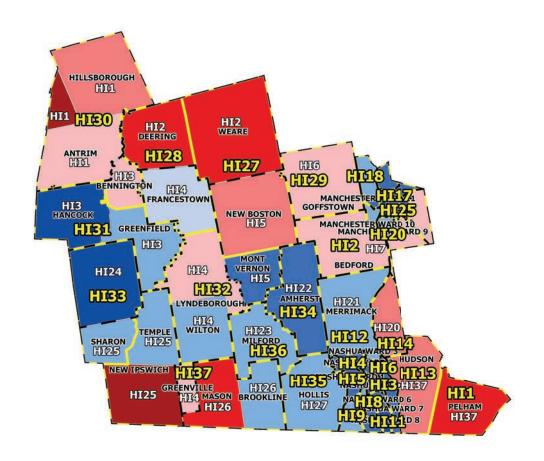


#### **HB50** Enumeration

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#### Merrimack County

NH State House Non-Floterial District

Proposed HB50 Boundary
SQ Non-Floterial District
Boundary

Ward Boundary

#### Republican Leaning (%)

0-5 6-10 11-15

#### Democratic Leaning (%)

0-5 6-10 11-15 16+

Biden-Trump Tie



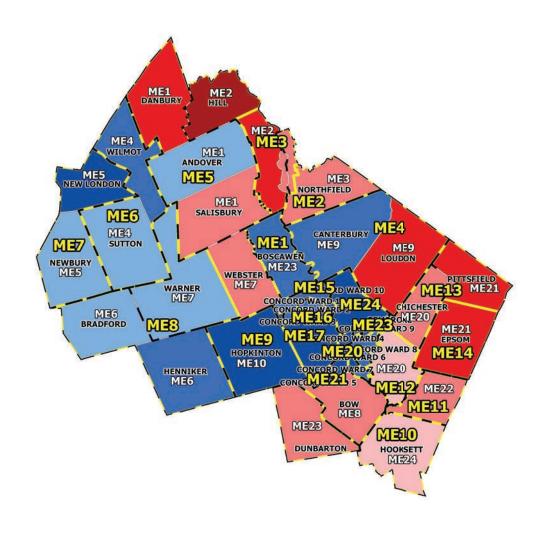
No Ballot Cast



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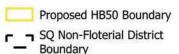


New Hampshire Counties (N=10)



#### **Rockingham County**

NH State House Non-Floterial District



Ward Boundary

#### Republican Leaning (%)

0-5 6-10 11-15

#### Democratic Leaning (%)

0-5 6-10 11-15 16+

Biden-Trump Tie

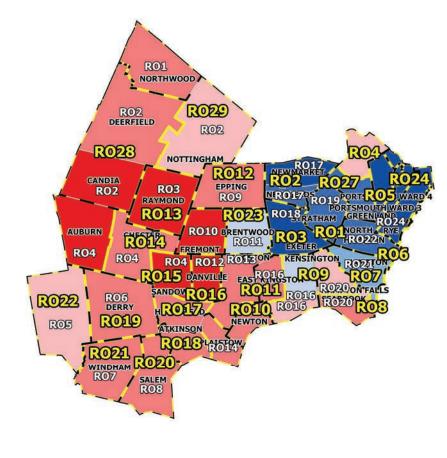
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HB50 Enumeration

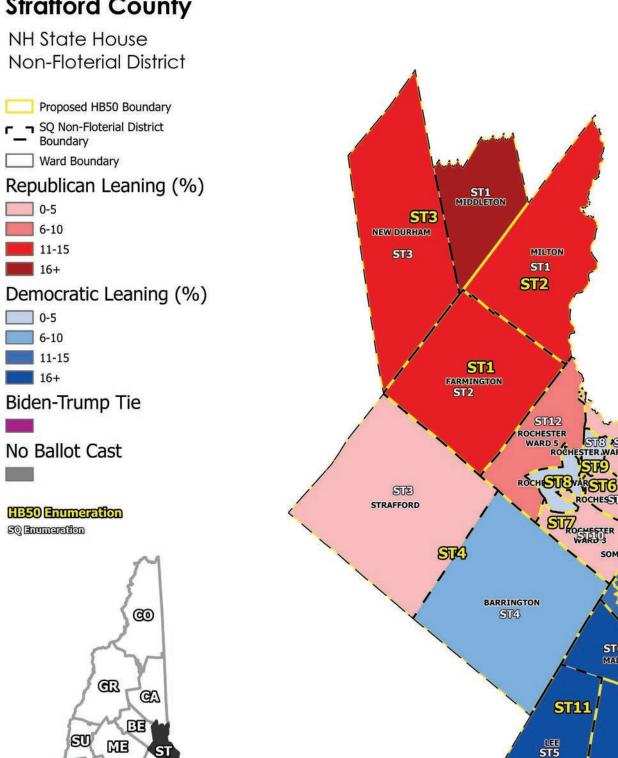
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New Hampshire Counties (N=10)

#### Strafford County



New Hampshire Counties (N=10)

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Sources: House Committee on Redistricting (HB50) and New Hampshire Secretary of State (status quo). Partisan lean computed at the ward level based on 2020 two-party Presidential vote. GOP leaning districts are those in which Trump (R) garnered a larger share than his national average (i.e., >47.7%). Conversely, in Democratic leaning districts – denoted in blue – Trump's two-party vote was less than 47.7%, by the amount indicated in the legend.

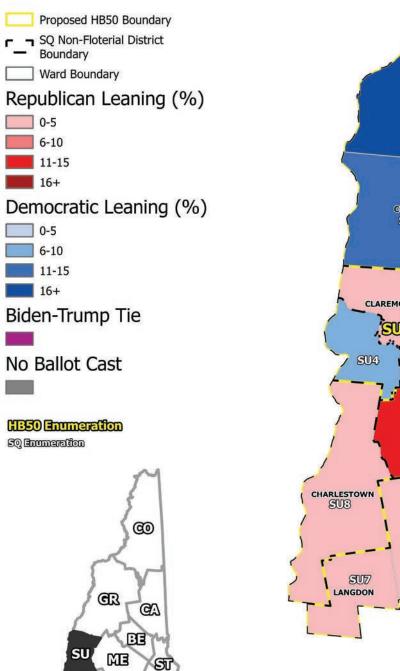
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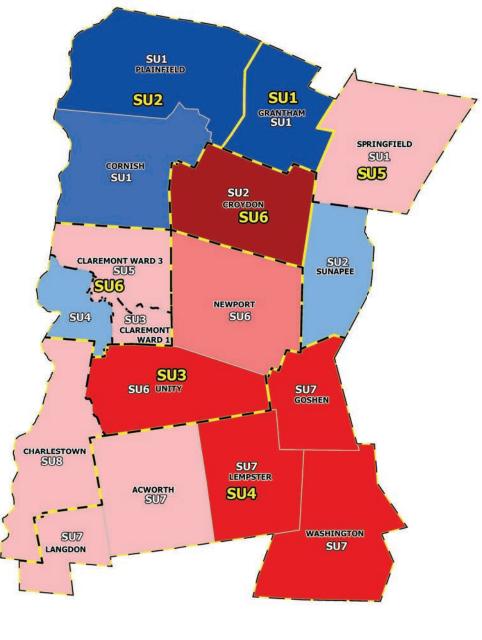
DURHAM

ST10

#### **Sullivan County**

NH State House Non-Floterial District





New Hampshire Counties (N=10)

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# Floterial Districts By City

#### Proposed New Hampshire State House Districts (HB50) Claremont NH State House Floterial District CORNISH CROYDON Proposed HB50 Boundry SQ Floterial District Boundary Ward Boundry Republican Leaning (%) 0-5 6-10 11-15 Democratic Leaning (%) 0-5 CLAREMONT WARD 3 6-10 SULLO 11-15 16+ NEWPORT **HB50** Enumeration SQ Enumeration SU10 CLAREMONT WARD 2 CLAREMONT WARD 1 SULO അ € (PA)

Sources: House Committee on Redistricting (HB50) and New Hampshire Secretary of State (status quo). Partisan lean computed at the ward level based on 2020 two-party Presidential vote. GOP leaning districts are those in which Trump (R) garnered a larger share than his national average (i.e., 47.7%). Conversely, in Democratic leaning districts – denoted in blue – Trump's two-party vote was less than >47.7%, by the amount indicated in the legend.

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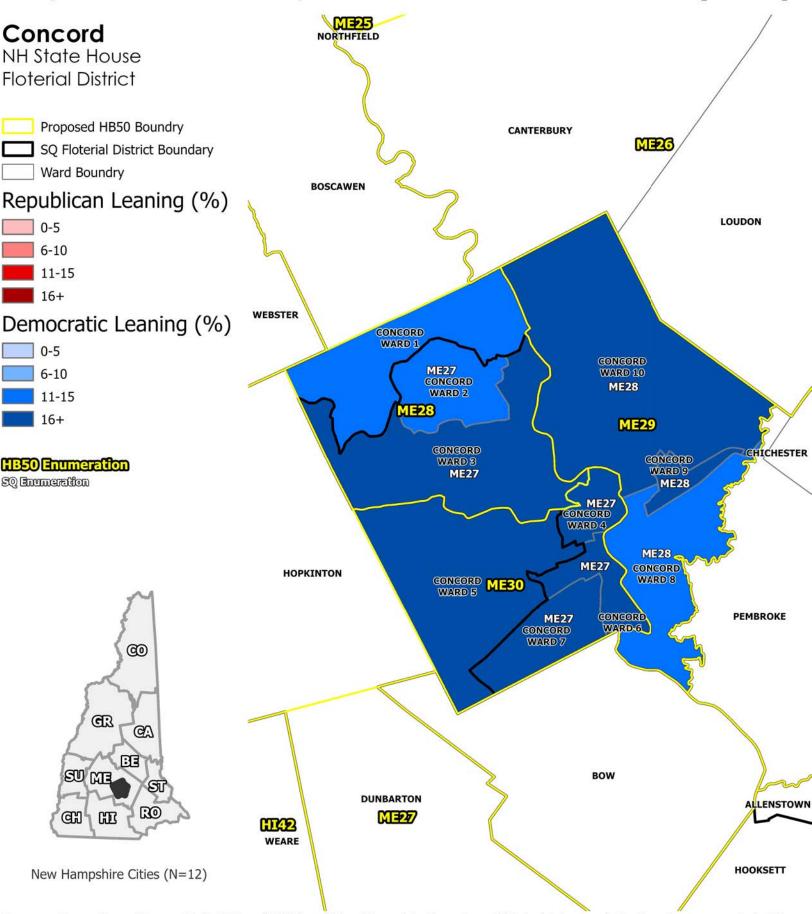
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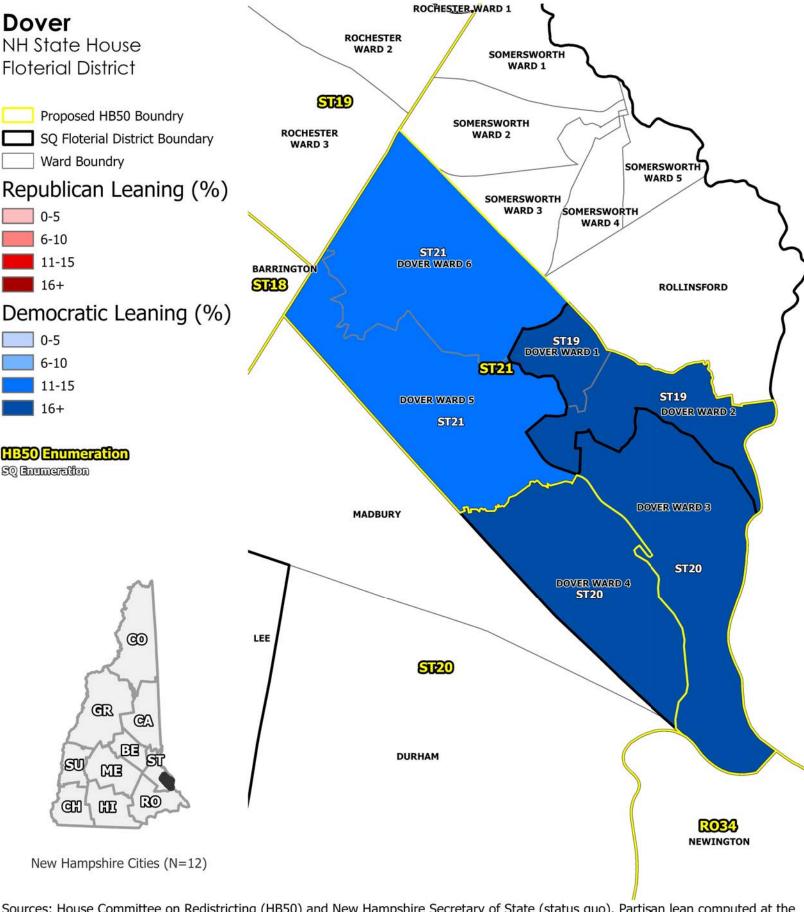
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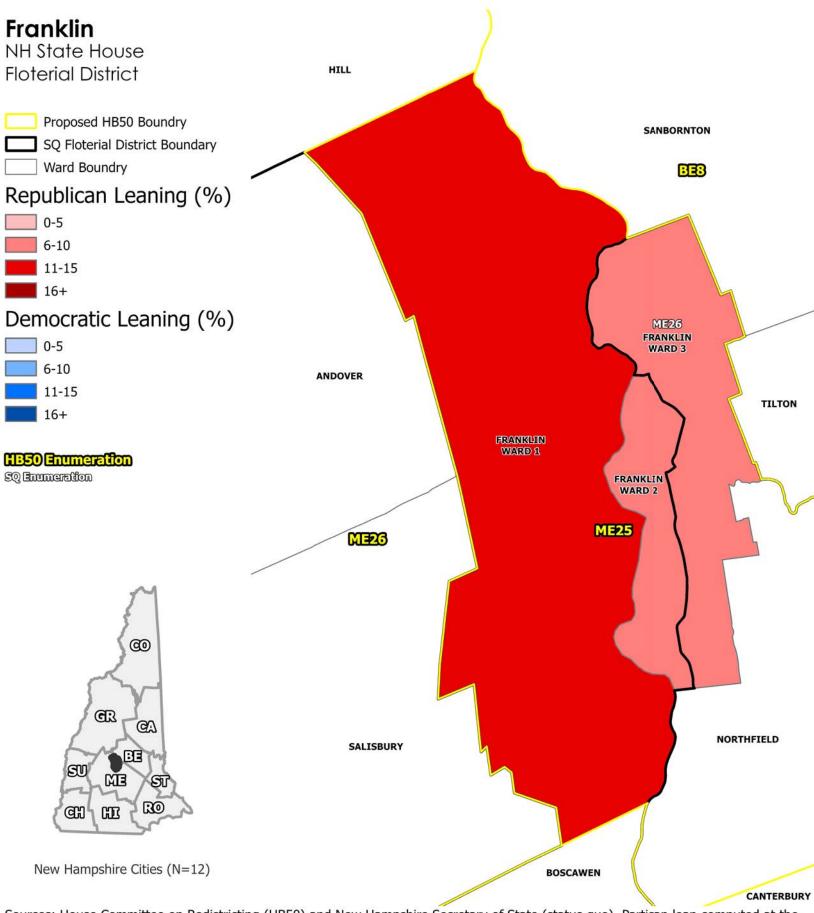
New Hampshire Cities (N=12)

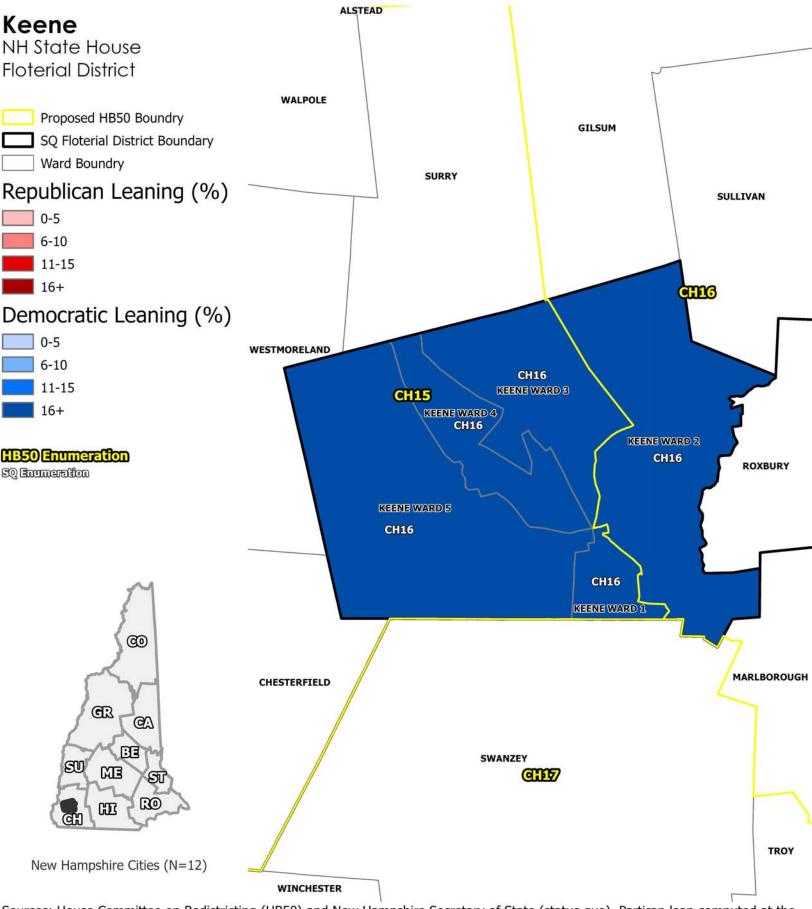
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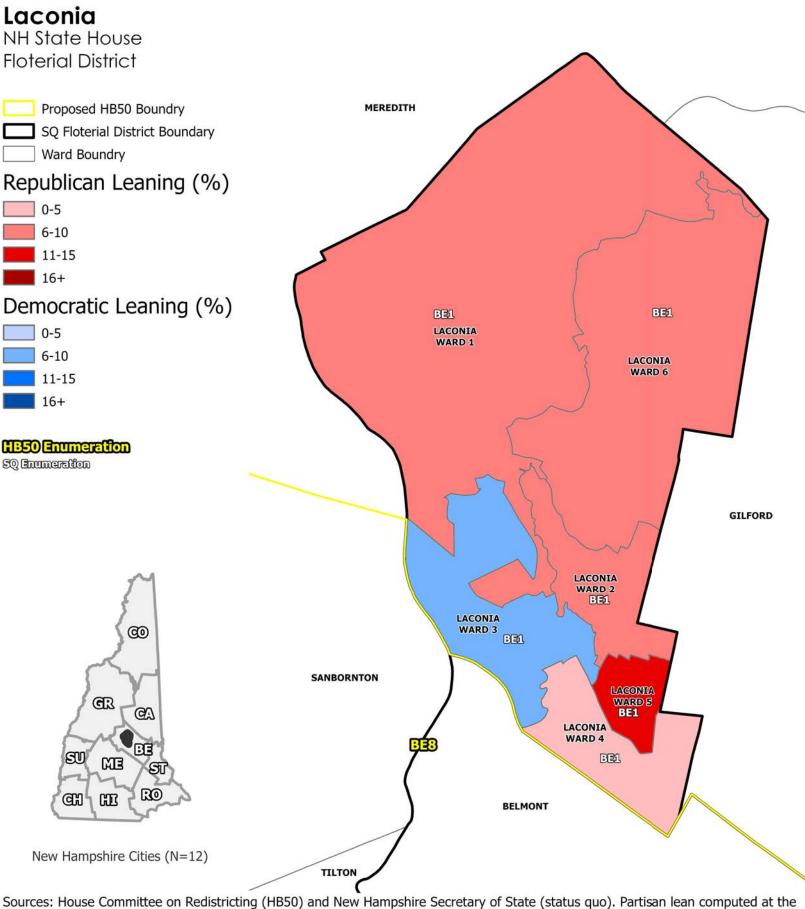
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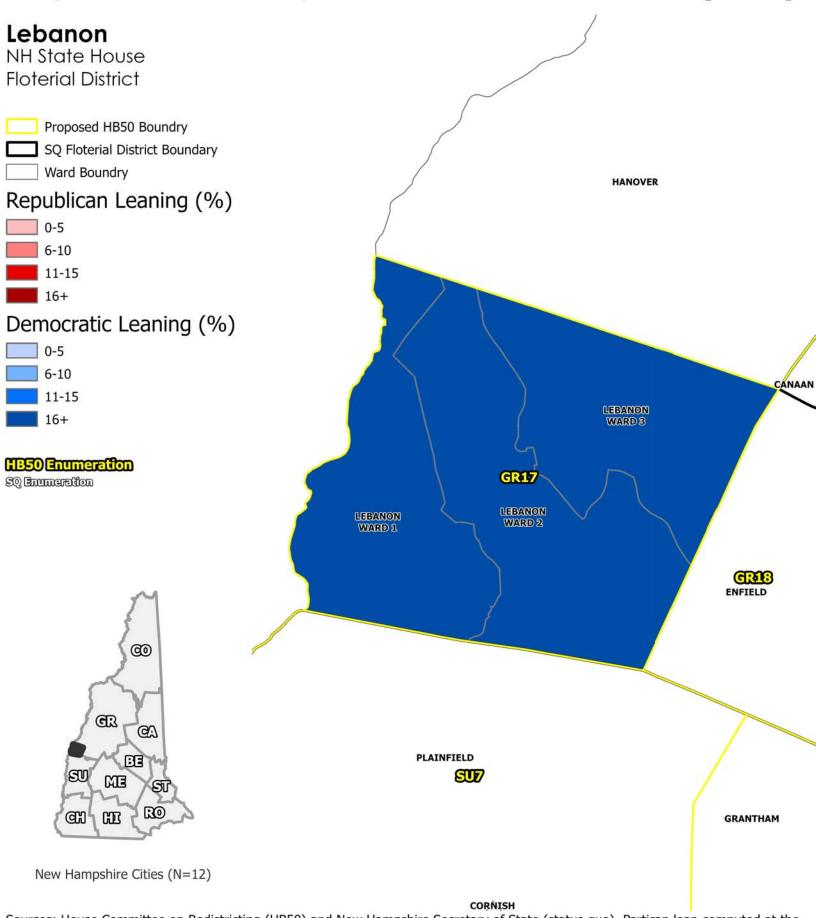


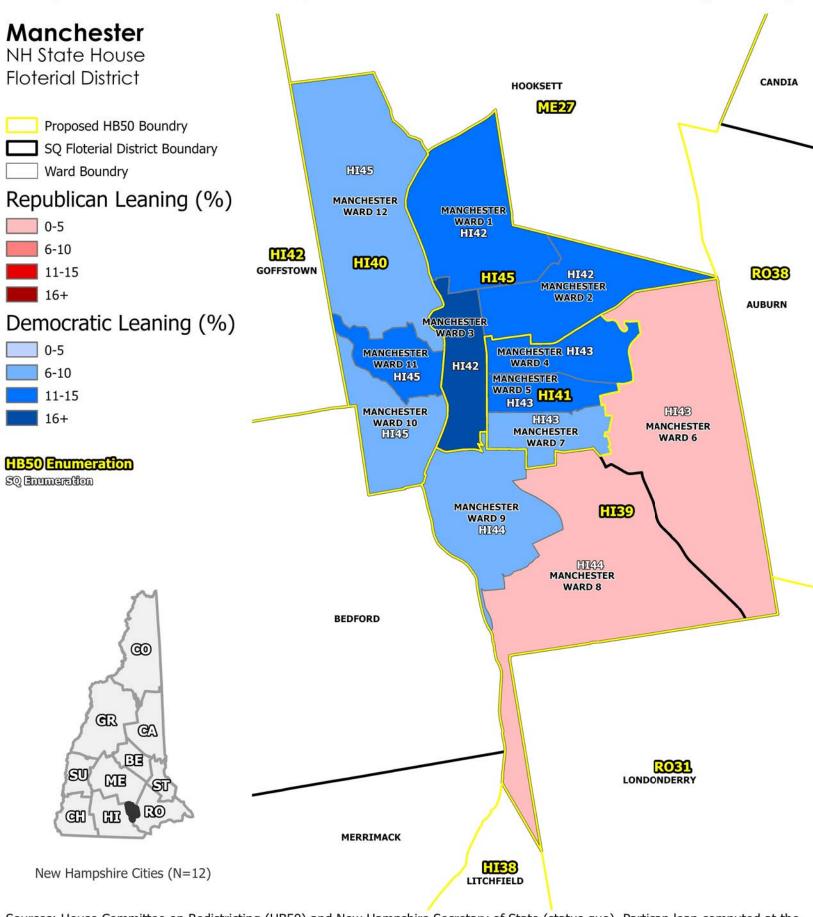


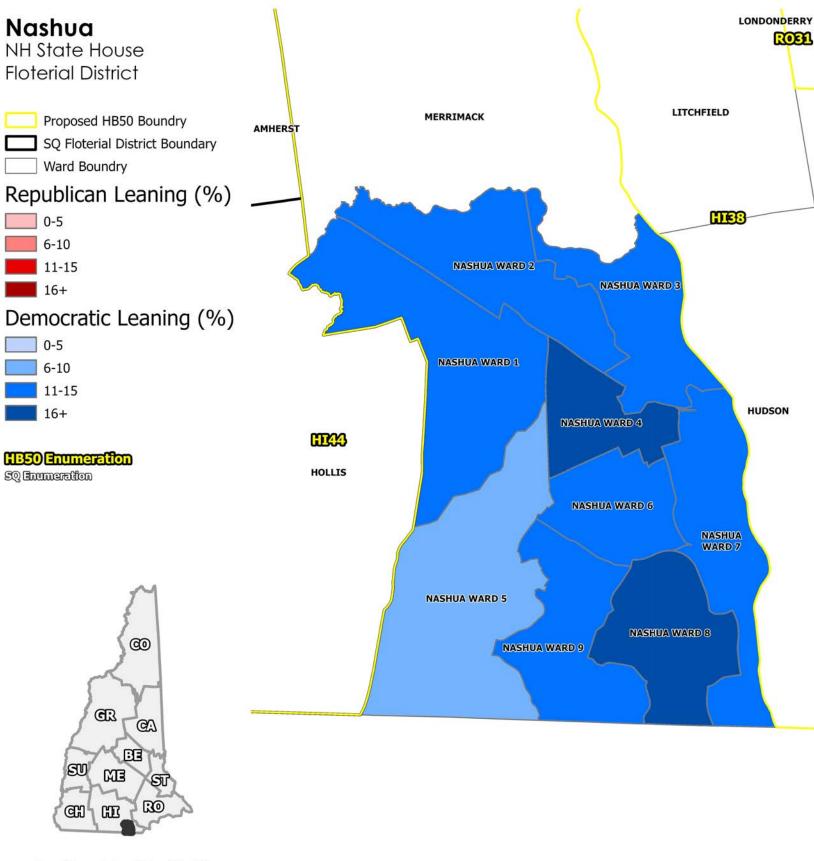




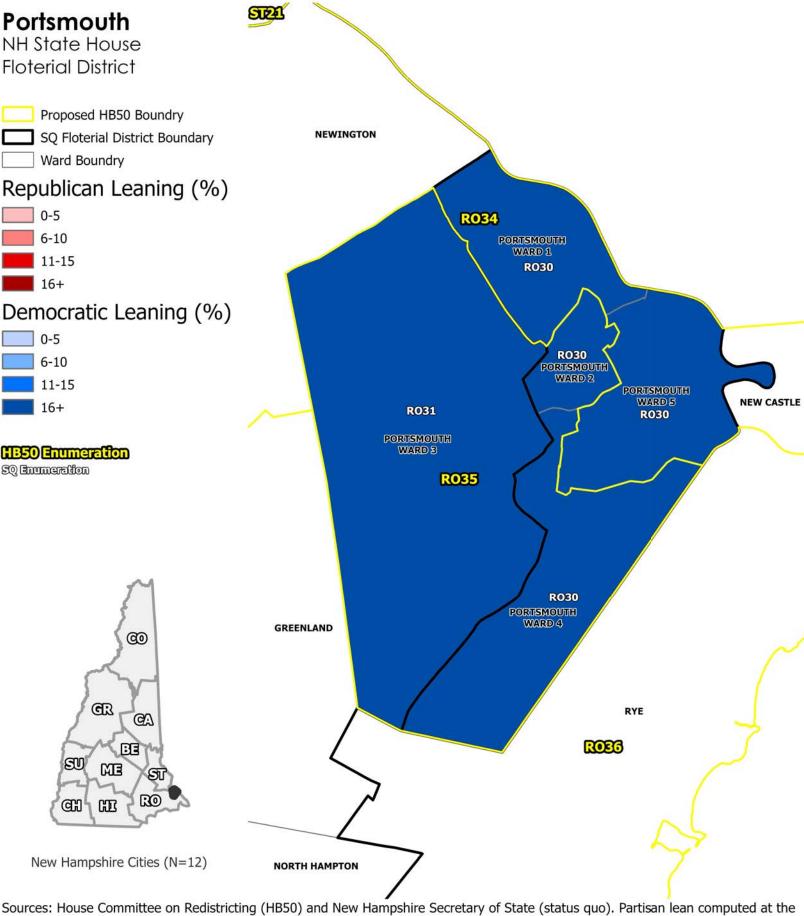
ward level based on 2020 two-party Presidential vote. GOP leaning districts are those in which Trump (R) garnered a larger share than his national average (i.e., 47.7%). Conversely, in Democratic leaning districts – denoted in blue – Trump's two-party vote was less than >47.7%, by the amount indicated in the legend.



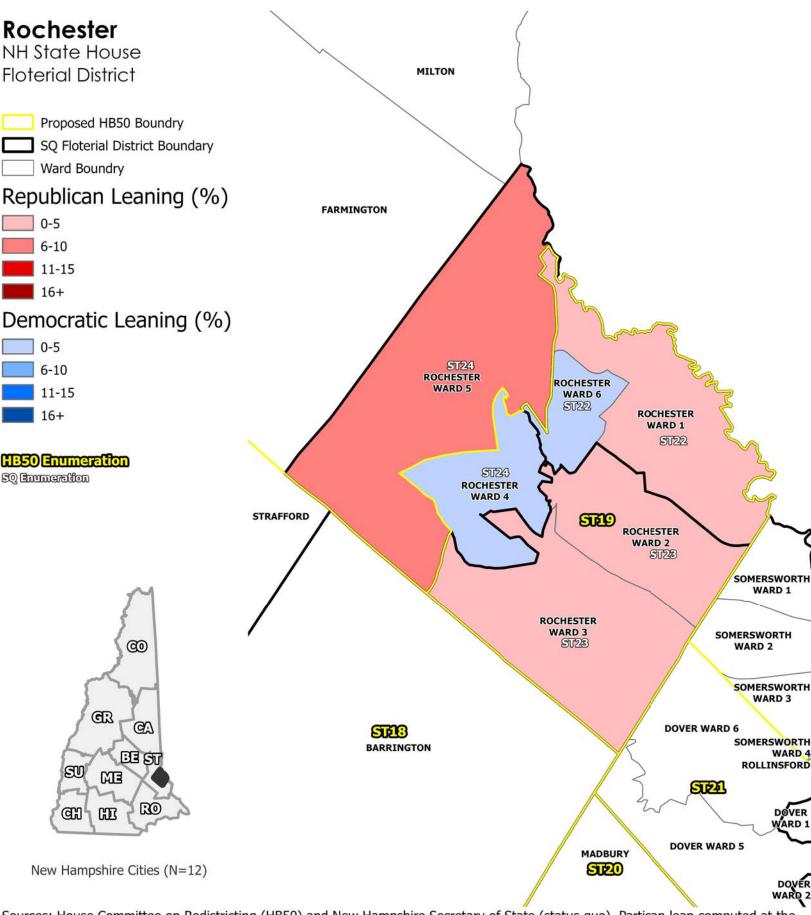


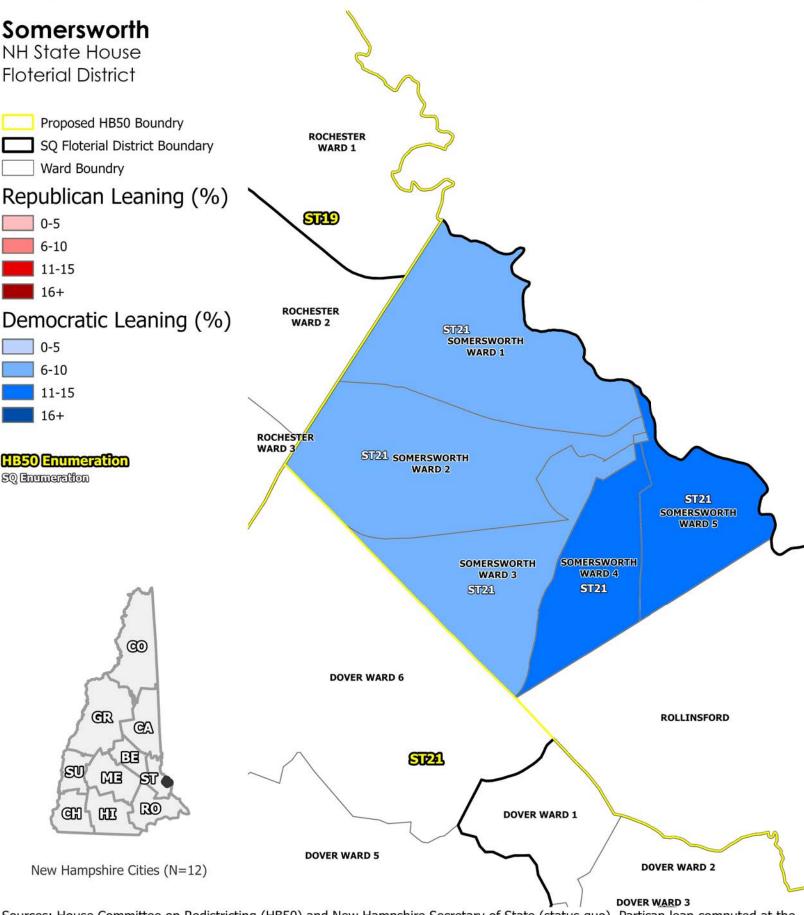


New Hampshire Cities (N=12)



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# Floterial Districts

By County

### **Belknap County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

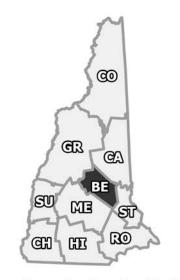
### Biden-Trump Tie



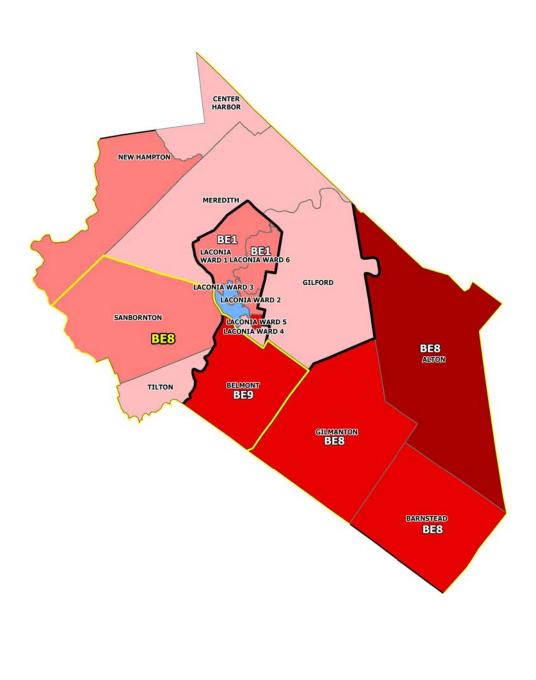
#### No Ballot Cast



SQ Enumeration



New Hampshire Counties (N=10)



### **Carroll County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

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5-10

11-15

16+

### Democratic Leaning (%)

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6-10

11-15

16+

Biden-Trump Tie

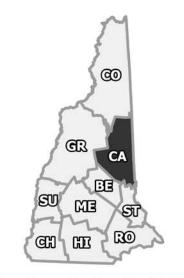


### No Ballot Cast

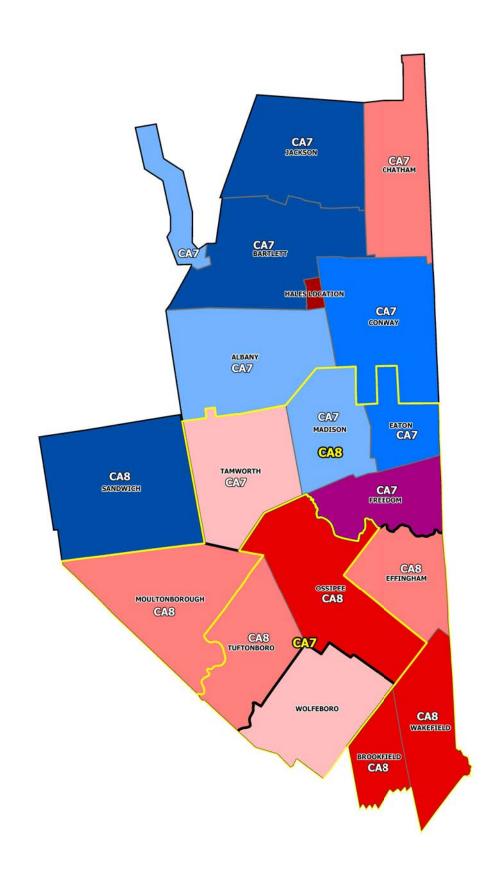


#### **HB50** Enumeration

SQ Enumeration



New Hampshire Counties (N=10)



### Cheshire County

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

### Biden-Trump Tie



#### No Ballot Cast

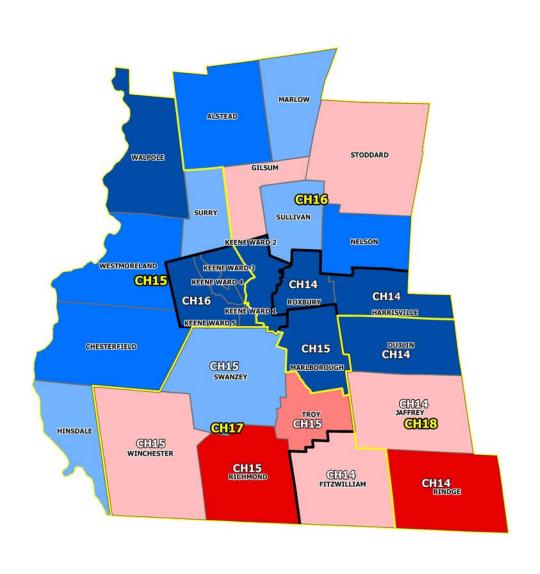


#### **HB50 Enumeration**

SQ Enumeration



New Hampshire Counties (N=10)



### **Coos County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

Biden-Trump Tie



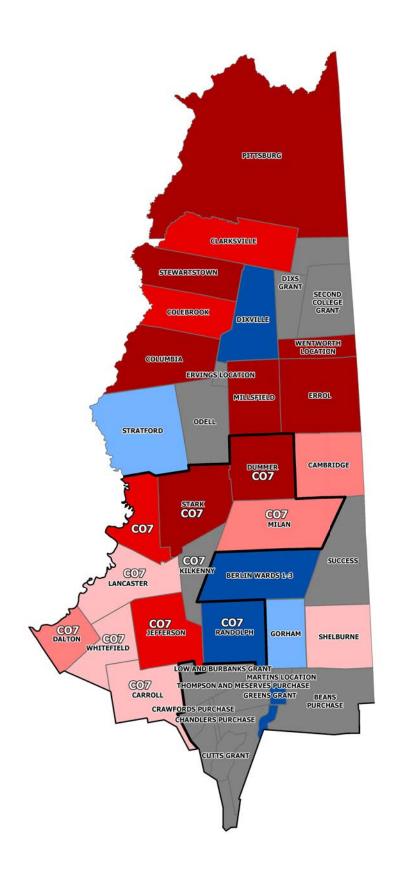
#### No Ballot Cast



SQ Enumeration



New Hampshire Counties (N=10)



### **Grafton County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

Biden-Trump Tie



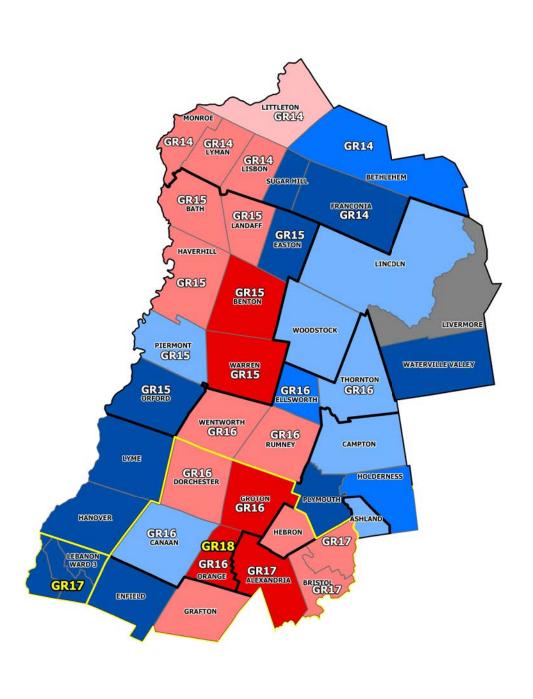
### No Ballot Cast



SQ Enumeration



New Hampshire Counties (N=10)



### Hillsborough County

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

### Biden-Trump Tie



#### No Ballot Cast

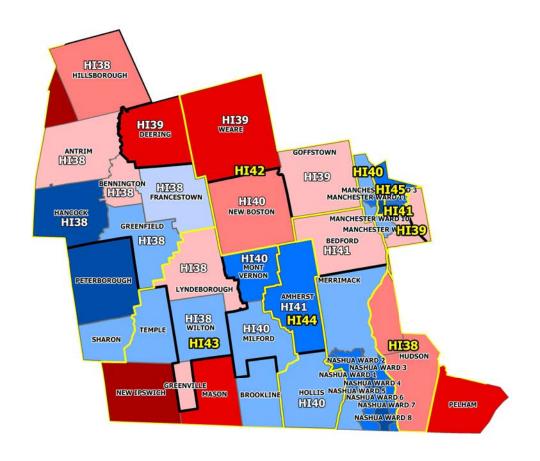


#### **HB50 Enumeration**

SQ Enumeration



New Hampshire Counties (N=10)



### Merrimack County

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

### Biden-Trump Tie



#### No Ballot Cast

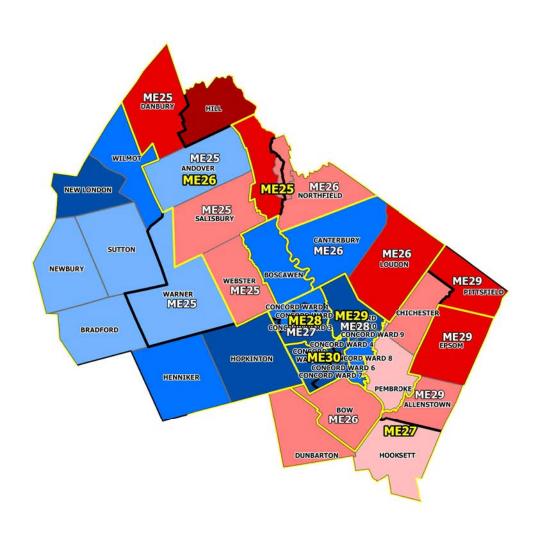


#### **HB50 Enumeration**

SQ Enumeration



New Hampshire Counties (N=10)



### **Rockingham County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5

5-10

11-15

16+

### Democratic Leaning (%)

6-10

11-15

16+

### Biden-Trump Tie



#### No Ballot Cast

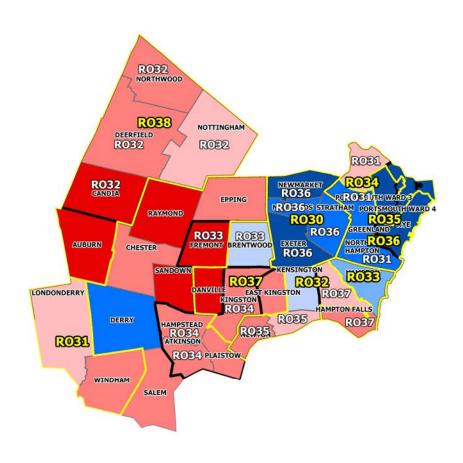


#### **HB50 Enumeration**

SQ Enumeration



New Hampshire Counties (N=10)



### **Strafford County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

Popublican Leaning (%)

### Republican Leaning (%)

0-5 5-10 11-15 16+

### Democratic Leaning (%)

0-5 6-10 11-15 16+

### Biden-Trump Tie



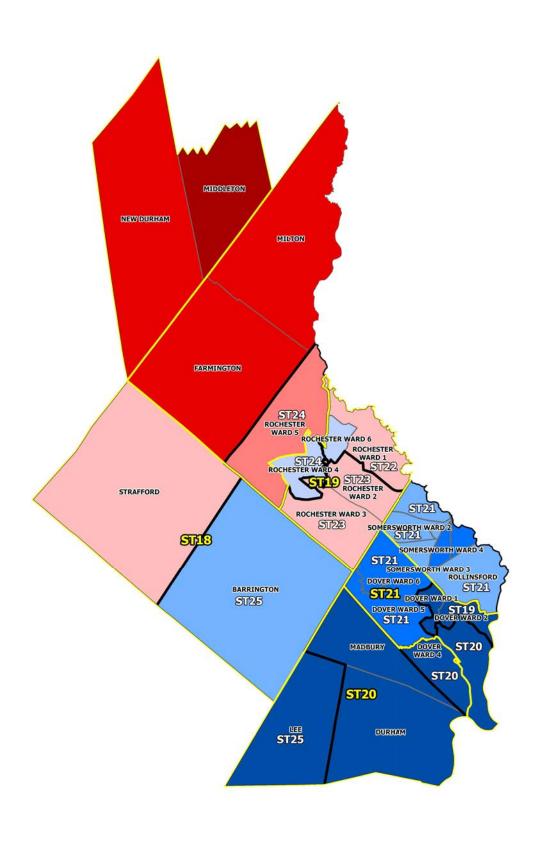
#### No Ballot Cast



SQ Enumeration



New Hampshire Counties (N=10)



### **Sullivan County**

NH State House Floterial District

Proposed HB50 Boundry

SQ Floterial District Boundary

Ward Boundary

### Republican Leaning (%)

0-5 5-10 11-15 16+

### Democratic Leaning (%)

0-5 6-10 11-15 16+

### Biden-Trump Tie



### No Ballot Cast



SQ Enumeration

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