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A New Commonwealth Votes

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A New Commonwealth Votes

Using GIS to Analyze the Politics of Turn-of-the-19th-Century Massachusetts

An Interactive Qualifying Project submitted to the faculty of
Worcester Polytechnic Institute
in partial fulfillment of the requirements for the
Degree of Bachelor of Science

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by Daniel Boudreau and Bryan MacDonald

Submitted to:
Prof. Jim Cocola – Project Advisor

Abstract

This Interactive Qualifying Project (IQP) seeks to incorporate innovative techniques of the digital humanities with traditional methods of data organization in order to produce layered and informative representations of early American voting figures. Using Microsoft Excel and Esri ArcGIS, we have developed a geographic information system (GIS) that allows Massachusetts election data for selected House of Representatives races (1798 and 1800) to be topographically displayed alongside insightful demographical data layers. This geographic information system, we argue, serves to advance the objectives of the "A New Nation Votes" databasing project by demonstrating to interested scholars new and meaningful methods of manipulating multiple related sets of historical data. Moreover, we have constructed a comprehensive methodology that explains the construction of the IQP's GIS representations and illustrates analytical strategies of map interpretation, in order to better inform and instruct future efforts. Through detailed historical analysis of our maps, we demonstrate the immeasurable value of digital mapping as a flexible interpretive tool to be employed within studies of history with expansive scope.

Executive Summary

For decades Philip Lampi has been collecting dislocated U.S. elections returns and compiling them, in a project now sponsored by The American Antiquarian Society and known as "A New Nation Votes." As this initiative turns toward electronic archival, integration with Geographic Information Systems (GIS) could be valuable. Representing voting data spatially and with elucidative visual renderings, digital mapping through GIS allows complex relationships among observable patterns to be quickly identified and interpreted. This Interactive Qualifying Project (IQP) contributes to this digital mapping initiative by developing a methodology that describes the process of creating and analyzing GIS renderings of early Massachusetts election data; this foundational methodology stands as a valuable resource to be used by NNV scholars in future GIS endeavors, as it will instruct and inform their efforts. As one of Worcester Polytechnic Institute's first IQPs to employ the innovative methods of digital humanities, this project demonstrates—for future IQP and NNV researchers—the usefulness of digital tools utilized within analytical historical studies.

This IQP illustrates the utility of GIS within expansive studies of history and politics, and moreover, explicates the method by which GIS digital maps should be produced and then analyzed within such studies. In order to construct this example methodology, this project has mapped voting data for the U.S. House of Representatives elections of 1798 and 1800 within the congressional districts of Massachusetts—excluding those of present-day Maine. These GIS representations feature a range of helpful visual renderings and include overlaid demographical data layers derived from the 1800 Census. The diverse visual renderings and population data layers serve to illuminate noteworthy trends and relationships—whether they are political, social, economic, or religious. In addition to these digital maps, this project includes in-depth historical interpretation and analysis, in order to demonstrate effective methods for identifying and explaining key anomalies and patterns within the produced maps. This IQP illustrates how various cultural facets of turn-of-the-19th-century Massachusetts contributed to

the creation of a state landscape comprised of distinct geographical areas of political influence—split, though not evenly, among the Federalists and Jeffersonian Republicans.

Methodology

In order to map the data from "A New Nation Votes" we obtained access to the ArcGIS software package through Worcester Polytechnic Institute. Based on a suggestion from our project sponsor, The American Antiquarian Society, we focused on the U.S. House of Representatives elections in Massachusetts in 1798 and 1800. The "A New Nation Votes" database is unique for having town-level data for elections like these, so we needed a map of Massachusetts with town boundaries as they existed in 1800 that was compatible with ArcGIS.

We found an Esri "shapefile" of Massachusetts with current town borders and a map of the state drawn in 1801, which we used to guide us in editing this base map to reflect our chosen time period. We joined the voting numbers from the "A New Nation Votes" project to this map with Microsoft Excel and used ArcGIS's mapping program, ArcMap, to experiment with different means of visualizing the electoral data. There were at least several different candidates running in the majority of the districts we mapped, so we made the decision to group them by their political affiliations. We produced both town-level and district-level maps of each of these elections with both a binary display and a ten-color gradient.

To make use of the GIS technology, we also calculated and mapped change in share of vote from one election to the next and change in voter turnout, again at both the town level and the district level. We complemented the NNV electoral data with population data from the 1800 Census report. Combining town population values with measurements of town areas, we created population density data at the town level. This second category of spatially related data allowed us to superimpose multiple data layers onto each other on the same map, facilitating advanced geographical analysis. We finally

exported images of all of the most useful display options and used these to locate trends and anomalies as a guide for historical research.

Results and Conclusions

We began this project with two general goals: we wanted to create a new medium for presenting the data that could potentially make it more accessible, and we hoped that our mapping would facilitate analysis and help in locating trends and anomalies that might have gone unnoticed in numerical form. Based on these criteria, we feel that the project was a success and a worthwhile pursuit. Where the study of history requires the integration of independent sources of research to draw conclusions, spatial relationships made visible by cartography can be quite contributive, and under the guide of our maps, we conducted some specific and very productive research. We unveiled a number of stories that easily may have gone unnoticed had we been working with just the raw data.

We followed trends and anomalies in the maps back to the data that produced them and tried to make sense of what the visuals were telling us about the data, rather than making conjectures based on the visuals alone. Always returning to the data was crucial for us, because the maps alone were prone to mislead.

The greatest disparity between the electoral data and the geographic information system we created from it resulted from the way we grouped candidates. We experimented with many different visualization options in ArcMap and only produced maps for analysis from the displays that we felt were truest to the data. The vast array of options this provided left us limited primarily by our own creativity, but we were undoubtedly influenced by the maps we had seen before. As such, we favored color gradients for the majority of our maps, which required consolidating candidates by their party affiliations. In modern bipartisan politics this classification is ideal, but there were often many candidates running under the same label in a given election in 1798 and 1800. Our representations of

the data, therefore, often did not give the complete picture. By maintaining awareness of this limitation, however, we used the maps as a tool for investigation, making sure to return to the data before drawing conclusions. In doing so, we reaped the exploratory benefits of the geographic information system without allowing its inherent limitations to interfere. We feel that as long as mapping is used to complement data and not to replace it, its contribution to historical investigation is enormous, and it therefore should be utilized to the fullest.

Recommendations

For those interested specifically in the mapping of electoral data, such as that contained in the "A New Nation Votes" database, we look to where our project left off. Before it was suggested that we map Massachusetts, we performed some initial research looking into which states would be ideal for this project. Based on a combination of political attributes, overall border stability, and availability of voting data we selected Maryland and South Carolina as top candidates. For someone interested in extending this initiative to another region, either of those states would provide an optimal starting point.

At the same time, provided that our executable methodology was based on carrying out this process in Massachusetts, picking up where we left off with the Commonwealth would require very little setup. To go a step further, records of the state's tax valuations and meeting minutes from various church denominations have the potential to provide spatially coordinated economic and religious demographics, which could be layered onto the "A New Nation Votes" electoral data just as we did with the population info. Finally, experimenting with other visualization possibilities could deliver the distinction between candidates of the same party, if this information were given its own map layer.

There are many possible directions this digital humanities endeavor can follow from here. Our work is only a beginning. Provided our executable methodology for making similar maps, we hope

subsequent IQPs can continue this undertaking of mapping the wonderfully rich data from “A New Nation Votes.”

Acknowledgements

We wish to extend a deep and heartfelt thanks to the people who have offered their support and guidance throughout this endeavor. Philip Lampi and Erik Beck have been particularly supportive; without their advice and expertise, this project would not have been possible. We also thank the rest of the helpful staff at the American Antiquarian Society for their continued assistance: Ellen Dunlap, Thomas Knoles, and Paul Erickson have given us encouragement from the outset of the project onwards. Stephen Marini of Wellesley College provided greatly appreciated wisdom and helped to direct our efforts toward exciting new areas. At Worcester Polytechnic Institute, Lance Schachterle and our fellow student Kris Kellogg assisted us immensely in the early stages of map creation. Finally, we are very grateful to our advisor Jim Cocola for his steadfast support, words of inspiration, and ceaseless enthusiasm.

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Chapter 1: Introduction

When Philip Lampi set out on a formidable quest to collect dislocated U.S. elections data nearly forty years ago, he could not have imagined the tremendous impact his work would have on the emerging technological fields of the 21st century. His vast collection of early American voting returns has proven itself useful not only for its obvious value as an information source, but also for its digital applications. Working with the American Antiquarian Society and Tufts University, Lampi is currently in the process of converting his data into a readily accessible online digital form. This monumental databasing initiative, dubbed the "A New Nation Votes" project, represents a significant contribution to the growing field of the digital humanities. When complete, the "New Nation Votes" (NNV) database will allow researchers to manipulate, reorganize, and compare large sets of election returns, facilitating new and more comprehensive methods of historical analysis. As powerful a tool as this database will be, it will still have inherent interpretive limitations. Recognizing this, the scholars behind the project—led by project coordinator Erik Beck—have begun to branch out further into the digital humanities, considering the possibilities of geographic information systems (GIS). Representing voting data spatially and with elucidative visual renderings, digital mapping through GIS allows complex relationships among observable patterns to be quickly identified and interpreted. This Interactive Qualifying Project (IQP) contributes to this digital mapping initiative by developing a methodology that describes the process of creating and analyzing GIS renderings of early Massachusetts election data; this foundational methodology stands as a valuable resource to be used by NNV scholars in future GIS endeavors, as it will instruct and inform their efforts.

The digital humanities field offers promising new tools and methods not just for historical and political studies, but for a wide range of scholarly fields, from literature to archaeology. Despite increasing interest in the discipline, the exact nature of "the digital humanities" is not yet widely agreed

upon; definitions vary from source to source. Generally though, the digital humanities field is considered an area of study concerned with the combining of traditional humanities practices with the application of the newer tools of computing. In his 2002 article "What Is Humanities Computing and What Is Not?" John Unsworth defines "humanities computing" (i.e., digital humanities) as research in which "the computer is used as tool for modeling humanities data and our understanding of it," and not merely as a replacement for "the typewriter, or the telephone, or the phonograph, or any of the many other things it can be" (1). Essentially, the digital humanities entail taking advantage of the new and unique capabilities of computers in order to further the goals of traditional humanities studies. As one of Worcester Polytechnic Institute's first IQPs to employ the innovative methods of digital humanities, this project demonstrates—for future IQP and NNV researchers—the usefulness of digital tools utilized within analytical historical studies.

Digital mapping through GIS offers particularly exciting new possibilities for historical studies—especially for those dealing with large sets of data and a specific geographical range. Examining years of election returns for many towns through simple data tables severely limits a researcher's ability to effectively identify noteworthy trends and anomalies. When viewing the data through a spatial rendering, however, the researcher is able to interpret the data much more efficiently, recognizing patterns and relationships that would be otherwise invisible. As Marko Monteiro notes, "visual renderings have been central to the knowledge production process in many disciplines" (127). In addition to expanding the analytical possibilities for researchers, digitally mapping the voting returns has also made the NNV data more accessible to a general audience. Greg Myers, in his article titled "Every Picture Tells a Story," contends that any given visual representation is "more likely to have an impact on the public than the words or mathematics, which may be incomprehensible to them" (265). When incorporated into the "New Nation Votes" website and placed alongside the less wieldy but more

comprehensive databases, layered geographical maps will increase the appeal and utility of the website for both the scholar and interested layperson.

The geographic information systems created through this IQP thus contribute to the larger goals of the NNV digital initiative. The resulting maps present election returns in such a way that the data's historical significance becomes readily observable. Viewed on its own, the data is inexpressive and seems to lack relevance; when viewed spatially across topographical renderings, with demographical data layers placed alongside, the data has a far more immediate interpretive impact. This IQP illustrates the utility of GIS within expansive studies of history and politics, and moreover, explicates the method by which GIS digital maps should be produced and then analyzed within such studies.

In order to construct this example methodology, we have mapped voting data for the U.S. House of Representatives elections of 1798 and 1800 within the congressional districts of Massachusetts—excluding those of present-day Maine. These GIS representations feature a range of helpful visual renderings and include overlaid demographical data layers derived from the 1800 Census. The diverse visual renderings and population data layers serve to illuminate noteworthy trends and relationships—whether they are political, social, economic, or religious. In addition to these digital maps, this project includes in-depth historical interpretation and analysis, in order to demonstrate effective methods for identifying and explaining key anomalies and patterns within the produced maps. This IQP illustrates how various cultural facets of turn-of-the-century Massachusetts contributed to the creation of a state landscape comprised of distinct geographical areas of political influence—split, though not evenly, among the Federalists and Jeffersonian Republicans.

Chapter 2: Background

2.1 National Historical Context

In order to comprehensively analyze the political atmosphere of Massachusetts in the 1790s, one must first examine the political landscape of the entire nation during the era, making note of relevant social and economic trends. The national post-war environment was characterized by fervent political debate—intensified by an increasingly partisan discourse—that resulted in hotly-contested presidential elections. As historian Gordon S. Wood notes, the "consensus and optimism of 1789" had quickly disappeared, and the decade turned into "one of the most passionate and divisive periods of American history" ("Launching" 2). At stake in the debates and elections of the 1790s were issues related to foreign policy, the national debt, religious freedoms, frontier settlement, and civil unrest. The dichotomizing controversies related to these issues, which were often indicative of broad national currents, contributed to the factious atmosphere in which America's first political parties were formed.

2.1.1 Setting the Stage for Partisan Developments in the 1790s

Following the Constitution's ratification in 1788, two opposed schools of political thought began to dominate the discourse of the era. These rival factions were born from the debate surrounding government structure under the Constitution; essentially, one side—which would become the Federalist Party—favored a strong centralized federal government, while the other side—which would later coalesce as the Republican Party—favored increased rights and powers for state governments. By the 1796 presidential election, party lines were firmly established and key figures had become associated with party leadership.

Although the ratification dispute of the 1780s—which was apparently settled with the defeat of the anti-federalists—appears today to be a situation largely unconnected with the emergence of parties in the 1790s, the two events are in fact intrinsically tied together historically. As John H. Aldrich and

Ruth W. Grant argue in their essay "The Antifederalists, the First Congress, and the First Parties," there existed "significant continuities in national politics between the controversies," and the rise of political parties "cannot be explained without taking this continuity into account" (296). When Jefferson's Republicans criticized the fiscal plan of Hamilton and the Federalists, for example, they did so based on an understanding of government and democracy that had been communicated previously by the anti-federalists who had opposed the Constitution. In addition to shaping directly the perspectives of politicians, the ratification debates had also primed American society at large for the appearance of a more partisan discourse. The national argument over the merits of the Constitution had not only divided the American people, but had also imparted feelings of apprehension and expectation to the cultural atmosphere. The country—half of which had stood in firm opposition to ratification—was waiting nervously to see if the Washington administration could deliver on its promises as the 1790s began.[1]

Although the expectant national atmosphere may have been conducive in some ways to partisan sentiment, other currents in popular American thought at the time counteracted this effect. On the whole, party development would have seemed an unlikely prospect to Americans in the early years of the 1790s. Prevailing attitudes held that political parties were indicative of a weak governing structure—"signs of partiality and self-interestedness in opposition to the general good," as Wood explains in his book Empire of Liberty (140). Facing such cultural obstacles, the development of parties proceeded slowly initially, in the first few years of the decade. As time passed and increasingly divisive issues began to take the nation's center stage, however, this process of party formation quickened pace. In his essay titled "The Emergence of Political Parties in Congress, 1789-1803," John F. Hoadley describes the quick transition from the "factionalism" stage of party development to the "polarization" stage of development that occurred in the first five years of the 1790s (776). While in the "factionalism" stage—the first of four stages identified by Hoadley—the nation's legislative scene was dominated by loosely

[1]For more on the Constitution's lasting effects on society, see Johnson, pp. 4-8

organized, often short-lived groups representing specific interests. In the critical second phase of party formation, the "polarization" stage, the many factions began to consolidate and stabilize, forming the two permanent parties the period is known for.[2] In spite of pre-existing cultural prejudice against political factions, the Republican and Federalist parties managed to develop rapidly in the first half of the 1790s. Although they would not be considered true parties by modern standards,[3] these organizations nevertheless established cohesive voting blocs by 1796.[4] The two parties were set to enter the third stage of development, "expansion," by the turn of the century.

2.1.2 Alexander Hamilton and the Federalist Party's Elite

Vital to the successful growth of their respective parties, the leading figures of the Federalist and Republican organizations dictated party philosophy and activity, and in the process collectively shaped the 1790s political discourse. As the primary architect of the early Federalist agenda, Alexander Hamilton came to represent and embody his party's consolidationist attitudes. Hamilton played an important role in the shaping of American government, designing a system for consolidating the country's war debt and creating a national bank while Secretary of the Treasury under Washington's administration. Extremely controversial, Hamilton's economic plan—with its federalist emphasis on centralized government—was only enacted after compromise with the anti-federalists.[5] His fiscal model was a critical component of his general plan for the country, which focused on making the United States, as Ralph Ketcham puts it, a "prosperous commercial and industrial nation" with a political economy aimed "toward the common good" (165).

Developing a bitter rivalry with Hamilton in the late 1790s, Massachusetts leader John Adams was a very different type of Federalist; like Hamilton though, his political influence was long-lasting and

[2] For more on the different phases of party development, see Hoadley, p. 758
[3] For a detailed discussion of primitive nature of early parties, see Formisano, pp. 3-10
[4] Too view a representation of the 1796 voting blocs, see Hoadley, p. 765, Figure 4
[5] For more on Hamilton's financial plan and the agreed upon compromises, see Johnson, pp. 11-12

profound. He was a staunch critic of excessive partisanship, and worried about the effects of the increasingly contentious public environment on the nation's future. Adams felt that both Hamilton and Jefferson had taken their party politics too far, and had thus contributed to the elimination of a productive discourse. In a 1797 letter to his wife, Adams complained about partisan polarization and the apparent influence of foreign powers: "I see how the Thing is going. At the next Election England will sett [sic] up Jay or Hamilton and France Jefferson and all the Corruption of Poland will be introduced. Unless the American Spirit should rise and say we will have neither John Bull nor Louis [Bourbon]" (3). Adams' hopeful description of the rising up of the American spirit reflects the great emphasis he placed on public morality. In line with Federalist tradition, Adams believed the common virtue exhibited by the American people was a significant indicator of the country's vitality. Without a sound morality among its citizens, America would be weak. As the nation's second president (1797-1801), Adams—a believer in the power of compelling leadership—attempted to steer the United States away from immorality and toward a unified Christian ethic.[6]

Crucial to the Federalist Party's success in the first half of the 1790s, George Washington's effective leadership as the young nation's first president (1789-1797) allowed Hamilton and his colleagues to win much of the public's confidence. Washington, largely uninterested in Hamilton's machinations, sought to develop a unique brand of national patriotism—a patriotism that would have, as Ketcham describes, "positive, public-spirited connotations" (91). Instead of emphasizing imperialism and conquest, this form of nationalism would focus on stimulating public virtue and harmony. Valuing unity as much as Adams, Washington also wished to avoid involvement in factious affairs; he frequently felt frustration as the polarizing politics of Hamilton and Jefferson increasingly forced him to act within the partisan framework. In his Farewell Address of 1796, Washington famously spoke out against the

[6] For more on Adams' philosophy and perspectives, see Ketcham, pp. 93-99

emerging party system and warned of the contentious atmosphere it created. His warnings, however, went mostly unheeded, as the Republican and Federalist parties continued to struggle for dominance.[7]

Throughout the 1790s, the Federalist Party aimed to increase its influence through control of the national judiciary—a component of government that had yet to fully reveal its political potential. John Jay, the first Chief Justice of the Supreme Court, and John Marshall, the Court's fourth Chief Justice, were the two key Federalist leaders that allowed the party to capitalize on its judicial opportunities.[8] Jay, who held several different offices throughout his career, is perhaps most commonly known as a co-author of the Federalist Papers and the negotiator of the 1794 Treaty of London—"Jay's Treaty," as it became known. His actions as a Chief Justice and prominent Federalist figure were essential to the development of the 1790s political climate and partisan discourse. Marshall, the longest-serving Chief Justice in the Supreme Court's history, established many important precedents over his three-decade career and shaped the role of the judiciary as the third branch of America's federal government. During the 1790s—prior to his Supreme Court tenure, which would start in 1801—Marshall was highly involved in the national political scene: he acted as an envoy to France during the diplomatic scandal of the "XYZ Affair," and served as a Federalist representative from his home state of Virginia. Together, Jay and Marshall represent Federalist judicial endeavors at the turn of the 19th century, and illustrate the varied careers common among their party's influential members.

As Paul E. Johnson notes, Alexander Hamilton's vision of the United States as a "great commercial nation with a powerful and uncontested national state" reflects more or less the vision of the entire Federalist Party, the platform of which emphasized organization and solidarity (11). As their stance on the national debt demonstrates, the Federalists placed great importance on the establishment of a strong, reliable central government that could always fulfill financial obligations. Without a robust

[7] To read more about Washington's frustration with the partisan system, see Ketcham, p. 92
[8] For more on Federalist judicial endeavors, see Wood, p. 13

federal government, the Federalists argued, the country would revert to the ineffectual system of rule previously in place under the failed Articles of Confederation. The party's leaders, in contrast with their opponents, had little faith in the merit of American public virtue, adhering to traditional European viewpoints that stressed the value of aristocratic supervision in compensating for communal weakness.[9] The Federalists' preoccupation with the citizenry's fallibility—derived from the New England Calvinist background that many of them shared—resulted in distrustful attitudes toward democracy within the party. In an 1804 letter to colleague Theodore Sedgwick, Hamilton bitterly declared that "our real Disease…is Democracy," which he described as being "poison" (1). The Federalist agenda, with its focus on reinforcing and expanding upon existing power structures, appealed to "[w]ell-placed individuals" among the "complex array of entrenched officials together with the older county families and their professional and mercantile allies" in the older, more populated former colonies (Goodman 75). This base of support differed strikingly from that of the more grassroots Republicans.

2.1.3 Thomas Jefferson and the Republican Opposition

In 1789, anti-federalist influence was confined almost entirely to state and local government; by 1797, the nation had an anti-federalist Republican Vice President. This quick rise to power and prominence demonstrated the authority of a growing anti-federalist base—composed primarily of rural farmers, artisans, craftsmen, and newly-monied capitalists—that began to express discontent over the Washington administration's federalist policies. At the heart of the Republican platform was a "strict constructionism," as Johnson calls it, which held Hamilton's federalist government structure as unconstitutional and prone to dangerous abuses of power (15). Thomas Jefferson and his supporters worried that a powerful centralized system of rule would ultimately come to resemble the British system—the corrupt and oppressive authority that Americans had so recently fought to break away from. In order to prevent abuse of power, the Jeffersonian Republicans argued that priority had to be

[9] For more on the elitist views of the Federalists, see Wood, p. 7

given to the rights of the individual states. They believed, as Paul Goodman explains, that the Federalist system "threatened the future of the newcomer, the ambitious man, [and] the outsider," as Hamilton's fiscal plan would inevitably lead to the "creation of a monied aristocracy that would rule the land and widen the distinctions between various levels of society" (Goodman 76). This message resonated deeply with self-made, recently wealthy businessmen and rural farmers who valued their freedoms and independence. Put simply, the Republican paradigm pitted "the outsider" against the established authority of the elite.[10]

The authors of their party's appealing and increasingly popular platform, Republican leaders found themselves quickly ascending to the nation's key positions of influence by the late 1790s. Thomas Jefferson, who would become the third President of the United States (1801-1809), served as the party's most important leading figure, developing the philosophy that counterpointed the Federalist consolidationist perspective. Jefferson believed that man was essentially good—possessing an innate moral sense—and therefore had faith in American public virtue, unlike his rival Hamilton.[11] Supporting the cause of individual rights and freedoms throughout his political career, Jefferson hoped to use the "benign presence of liberty," as Ketcham terms it, to foster prosperity and productive development (107). Rather than a powerful and corruption-prone centralized government, the Republican leader thought empowered state governments—working to solve local issues and promoting individual liberties—would best serve the nation's interests. Jefferson was an outspoken critic of the Federalist system, and while reflecting in 1818, outlined his opposition to Hamilton's plan as Secretary of State:

> [Hamilton's financial system] had two objects; 1st as a puzzle, to exclude popular understanding and inquiry; 2nd as a machine for the corruption of the legislature; for he

[10] For more on the Republican platform and its model for society, see Ketcham, p. 107
[11] For more on Jefferson's belief in the power of American virtue, see Ketcham, pp. 100-101

> avowed the opinion, that man could be governed by one of two motives only, force or interest: force, he observed, in this country, was out of the question… (456)

Although he was vehemently opposed to the manner in which Hamilton wielded its power, Jefferson was not necessarily against all forms of strong executive leadership. By the start of his presidency in 1801, he had begun to recognize the need for robust executive authority—as would become evident as he guided the nation through the turbulent early years of the 19th century.[12]

James Madison, arguably the most influential Republican figure after Jefferson, began his political career as a Federalist, collaborating with Hamilton and Jay to pen the Federalist Papers. Madison's early efforts were instrumental in securing the Constitution's ratification; his proposed Bill of Rights promised protection for the rights and liberties of the individual, which reassured the anti-federalist opposition concerned with potential abuse of federal power. The ratification of the Bill of Rights in 1791 was not just a victory for Madison—a Virginia representative and noted leader in the House at the time—but also a victory for the Federalist Party, which was then able to proceed with its federal program.[13] During that same year, however, it was becoming increasingly clear that Madison's national vision did not fit with that of the Federalists. "Madison had been a nationalist in the 1780s," Wood explains in Empire of Liberty, "but not, it was now becoming apparent, Hamilton's kind of nationalist" (141). Madison soon joined with Thomas Jefferson, and the two Virginians worked to establish the Republican Party between 1791 and 1793. Like Jefferson, Madison felt that strong executive leadership was not only compatible with a framework emphasizing the liberties of states and individuals, but also necessary for its successful implementation.[14] As the nation's fourth president (1809-1817), Madison acted within this philosophy while remaining vigilant against corruption and Hamiltonian special interest pandering. "A government operating by corrupt influence; substituting the

[12] For more on Jefferson's thoughts regarding a powerful executive, see Ketcham, p. 169
[13] For more on the Bill of Rights, see Johnson, p. 8-10
[14] For Madison's thoughts on a strong executive authority, see Ketcham, pp. 117-119

motive of private interest in place of public duty…is an impostor," Madison declared in 1792. Targeting Hamilton's Federalists with such rhetoric increasingly as the decade wore on, Madison shaped the nature of Republican opposition.

The last of Virginia's three Republican U.S. presidents, James Monroe began his career studying law with Jefferson and serving in his home state's legislature. Although his presidency (1817-1825) did not begin until after the era's partisan fervor had subsided, Monroe also held key positions in the 1790s, and thus made important contributions to the decade's political discourse. After serving as a Senator from 1790 to 1794, Monroe was appointed Minister to France by George Washington, and held the position until 1796. As President during the so-called "Era of Good Feelings," James Monroe loudly condemned political parties; earlier in his career, however, he had been a "determined Jeffersonian partisan," as Ralph Ketcham notes, and had "[opposed] Alexander Hamilton's increasing domination of the federal government" (125). While Monroe's influence on the political atmosphere of the 1790s was considerably less pronounced than Jefferson's or Madison's, he nevertheless left his mark on the growing Republican Party and the factious discourse of the era.[15]

Albert Gallatin, who served as a Pennsylvania Senator and Congressman in the 1790s, left his mark on the Republican Party through his influential economic policy; in 1801, he became Secretary of the Treasury under Jefferson. Gallatin was well-known as a political representative of Middle Atlantic commercial interests and as an outspoken critic of Hamiltonian fiscal strategy. His opposition to the Federalist plan was built upon his denunciation of speculation and extravagant spending—which in turn was based upon his Swiss Protestant ethics. While he recognized the need for a substantial banking system, Gallatin charged Hamilton with promoting a type of banking that worked primarily to the benefit of profligate speculators. Gallatin believed that the Federalists' consolidated debt plan could

[15] For more biographical information on Monroe, see Ketcham, pp. 124-130

only instill an artificial national unity; he had little trust in the creditor-government bonds that Hamilton emphasized so strongly.[16] Gallatin quickly became a key voice in the fiscal policy debate, which took its place among several other major controversies in the bitterly partisan political environment of the 1790s.

2.1.4 The Divisive Issues of the 1790s: Debt, Foreign Policy, and Unrest on the Frontier

While it is true that, as Ronald Formisano notes, a lingering Revolutionary "centrist ethos" lessened somewhat the dichotomizing influence of party politics, certain polarizing national issues worked to offset this moderating force and ensured the continued prominence of political factionalism in the 1790s (10). Divisive questions related to the national debt and central banking systems played a noteworthy role in the initial development of the partisan discourse in late 18th century America. These economic issues took center stage in the formative debates of the early 1790s, and contributed to the creation of the factious political atmosphere from which the first parties would emerge later in the decade. During the Revolution, the states had incurred large amounts of debt while funding the war effort; with the war over, the new country had to determine the manner in which it would repay these debts. Hamilton and the Federalists wanted the federal government to take on and consolidate all of the states' debts, ensuring the debts would be paid in a timely manner and demonstrating the reliability of the young nation's growing government. In order to achieve this, the government would have to increase taxation significantly—an action the anti-federalists of course opposed, viewing it as an unwarranted extension of federal power. Given that a few states had already paid off their own debts and would be forced under this plan to help pay for the debts of other states, Jefferson and his followers found this course of action especially unjustifiable. Eventually, however, the anti-federalists—who would soon become Republicans—relented and agreed to the plan through a compromise: Hamilton's

[16] For more on Gallatin's fiscal views, see Cornell, pp. 179-181

financial proposal would be enacted, and the nation's capital would be placed on Jeffersonian turf along the Potomac.[17]

Another key debate of the early 1790s, the controversy surrounding Hamilton's proposed national banking system further encouraged partisan developments. The Federalists aimed to charter a central government bank—a Bank of the United States—that would print currency and regulate the nation's smaller banks. The concept of banking was largely foreign to the American way of life, however, and Hamilton's bold plan met stiff resistance from those opposed to an expanding government; Jefferson and Madison argued that the planned bank was unconstitutional, resembled the flawed system used by the British, and was designed to favor Northern business elites. The Federalists countered by contending that the Bank of the United States would serve a variety of useful economic functions: it would, as Gordon Wood puts it, "facilitate the payment of federal taxes and import duties, loan money to the United States, serve as the government's sole depository and fiscal agent, and act as a central control on the state banks" (Empire 98). Ultimately, it was Hamilton and his supporters that claimed victory in this early legislative struggle. The bill that would establish the charter was signed into law by President Washington in February of 1791, after he had read a series of convincing arguments presented by his Treasury Secretary. Jefferson, Madison, and their supporters, lacking political organization and solidarity in 1791, could not defeat the Federalists in this precursory partisan contest; the debate helped to articulate the emerging Republican philosophy, however, and the anti-federalists would challenge Federalist viewpoints with increasing vehemence in the following years.[18]

Among the most divisive of the nation's turn-of-the-century political issues was the question of how America should conduct itself in matters of foreign policy. Specifically, it was the French Revolutionary Wars and the ongoing tensions with the British that presented the United States with

[17] For more on the debate between the Federalists and Republicans, see Wood, pp. 95-97
[18] For more on the banking debate and its lasting impact, see Wood pp. 97-99

diplomatic dilemmas. The Federalist Party, with its connections to the old systems of hierarchical power, tended to sympathize with the British; the Republicans, on the other hand, were appalled by the Federalist administration's apparent lack of regard for their French allies. As Paul Goodman explains, Republicans felt that "Federalist partiality for Britain appeared to mark that corrupt kingdom as a model for American imitation" (76). It was these crises of foreign policy, as Formisano contends, that had "done most to create ideological conflict and to articulate divergent views of domestic policy" (10).

The Federalist Party, strongly associated with the colonial-era systems of stratified power, promoted improved relations with the British in the 1790s; the Federalists realized that their young country's prospects were tied to economic exchange with Britain. For this reason, Hamilton's party strove tirelessly to ameliorate relations with the British as political frictions on the whole became more pronounced—a task that proved difficult. To support the war effort in Europe, the Royal Navy was kidnapping American merchant sailors and pressing them into service. Moreover, the British were supplying marauding American Indians on the frontier and were upholding strict trade bans—designed to exclude France from New World commerce—that threatened the United States' economic future. In light of these hostilities, Republicans wished to abandon conciliatory gestures and favored focusing instead on trade with the French; the Federalists, however, relied heavily on British financial investments, and therefore sent John Jay on a diplomatic mission to England in 1794.[19] After some negotiating, Jay came to terms with the British via the Treaty of London of 1794—or Jay's Treaty. The agreement included terms almost entirely favorable to the British, who were on most points unwilling to compromise. Nevertheless, the controversial treaty was approved by President Washington and passed by Congress due to a prevailing fear of war.[20]

[19] For more on Jay's Treaty, see Johnson, p. 21
[20] For the public's reactions to the signing of the treaty, see Stewart, pp. 188-202

From the French Revolution's beginning, Jefferson and his followers had identified with the movement and believed it would strengthen the cause of popular government across the globe. Dissent between America's two parties had intensified dramatically when the Federalists chose to pursue negotiations with the British at the expense of relations with the French; partisan bickering only worsened when the moderate Adams administration reached out to France in the late 1790s.[21] With tensions high following the neutrality-threatening "Citizen Genêt Affair" of 1793 and the passing of Jay's Treaty in 1795, President Adams decided in 1797 that a diplomatic mission to France would be necessary to ensure peace between the nations. Adams sent three distinguished political figures—Elbridge Gerry, John Marshall, and Charles Cotesworth Pinckney—to accomplish this daunting ambassadorial task. Unfortunately, the mission was a failure: French officials, attempting to raise funds for their overburdened government, demanded bribes from the American diplomats and avoided negotiations. The incident, known as the "XYZ Affair," further stoked the fires of partisan conflict at home; Federalists connected Republicans to the disreputable French officials, and even accused Gerry—who was politically unaffiliated at the time but had anti-federalist leanings—of secretly supporting the French Republic during the affair.[22] At the same time, relations between the U.S. and France broke down, and in July of 1798, an undeclared naval war between the two nations began; the "Quasi-War" would not end until the autumn of 1800.

Another key national issue of the era was centered around the government's handling of escalating civil unrest, particularly along the growing frontier. As rural settlers became increasingly dissatisfied with federal policy, some began to resort to active resistance, and civil unrest generally became more prevalent. It was critical that the United States government respond to and deal with these social threats effectively, in order to establish decisively its authority at an early stage.

[21] For more on the tense state of relations with the French during this period, see Goodman, p. 71
[22] For more on the XYZ Affair, see Wood, pp. 240-244

Washington's administration was put to the test in July of 1794. Already angered by the government's inability to secure their rural settlements from the threat of Indian raids, rebellious militiamen from Pennsylvania felt the newly-imposed federal excise tax on whiskey was the last straw, and started to march toward nearby Pittsburgh. Washington took this "Whiskey Rebellion" threat seriously, and sent 12,000 federal troops to smother the insurrection. Here, and with other incidents across the country's frontier, the Federalist administration was able to successfully neutralize threats to the civil order and assert its authority.[23] Much to the disappointment of some Republicans, the Federalists proved they could impose unpopular federal taxes to fund the growing U.S. government.

2.1.5 The Disorganized and Exclusionary Political Processes of the Early Republic

Although a select minority chose to employ active resistance as a means to influence national politics, the majority of American citizens decided to effect change through legal methods; for some, voting was an available option through which to do so. Suffrage requirements in the late 18th century varied from state to state, but were universally strict. In almost every state, only property-owning males could vote—greatly limiting the number of eligible voters from the outset. To add to this, however, some states also required that voters be white, excluding an even larger segment of the population.[24]

The voting processes used during the era were varied, often bizarre, and frequently yielded inaccurate tallies. The disorganized and unreliable nature of these election procedures is explained on the "New Nation Votes" website: "Voice voting and not-so-secret balloting were common….Often the ballots were not preprinted…[and] voters had to cast their votes by writing out the name of the party or person running for office. Within this system there was room for error…" ("Election FAQs") Americans at this time deeply valued their freedoms, including the freedom to vote "how they damned well pleased," as author "Jordan" puts it in his article on Philip Lampi. For this reason, no countrywide election

[23] For more on frontier unrest, see Johnson, pp. 19-20
[24] For a complete list of voting requirements throughout the United States, see Keyssar, pp. 306-27

standards were set in place during the period, and each state maintained its own idiosyncratic system. The nature and outcome of elections in Massachusetts were certainly influenced by the state's own unique electoral processes, and by the state's unique political discourse.

2.2 Local Historical Context

In Massachusetts, as in the rest of the nation, the final years leading up to the 19th century were characterized by pronounced political change. The state's increasingly partisan atmosphere was undoubtedly shaped to a large degree by national developments; ultimately, however, it was local histories and trends that determined the unique features of the Commonwealth's political landscape. Social and religious upheavals from the colonial and Revolutionary eras had left their indelible mark on the state's history, and continued to influence the course of events in the 1790s. The ongoing effects of these past occurrences converged with recent post-Revolutionary political advances to produce an environment conducive to party expansion. Just as the factors behind this partisan growth were unique to Massachusetts, so too were the parties themselves. The Commonwealth's Federalists developed essential ties to the Congregational establishment, relied on a voter base exclusive to the region, and enjoyed success in the state well after the decline of the party's national success. Jeffersonian Republicans in Massachusetts, facing an early disadvantage in a Federalist stronghold, quickly adapted to local circumstances by remaining largely moderate and appealing to key fringe groups. Amid statewide political struggle between these two parties, a complex and often disorganized electoral process worked to mold Massachusetts politics in subtle yet significant ways. In the turbulent 1790s, all of these elements came together to forever alter the state's civil framework and the course of its history.

2.2.1 Setting the Stage for Partisan Developments in Massachusetts

Massachusetts had occupied central roles both as a primary colony of the British Empire and as a center of rebellion in the Revolution; accordingly, the state's inherited colonial and Revolutionary legacies proved critical in the shaping of the Commonwealth in the early republic era. Prior to 1692 and the establishment of the Province of Massachusetts Bay, what would become the state of Massachusetts was split into two separate colonies. Plymouth Colony—which comprised Cape Cod and most of Southeastern Massachusetts—was established in 1620 by the group of English Separatists known today as "the Pilgrims." To the north, Massachusetts Bay Colony—which included, among other areas, the remainder of the present-day Commonwealth—was inhabited by the austere Puritans, and was founded in 1628. The two regions developed differing traditions in line with their differing ideological backgrounds. As James M. Banner explains, the Plymouth Colony area, by the turn of the 19th century, "had long felt estranged from the dominion of Massachusetts Bay," which had promoted a "non-Separatist Congregationalism" that contrasted with Plymouth Separatism (169). This foundational disparity between traditions produced important consequences for the development of the late 1790s partisan landscape, as party philosophy met embedded regional ideology.

The American Revolution, spanning from 1763 to 1788, in a sense imparted its own ideology—not just within specific regions, but within the entire state. As John and Samuel Adams led Massachusetts to independence, exciting new viewpoints entered the cultural consciousness; philosophies emphasizing republicanism, natural rights, and liberalism were discussed at length. Bostonians read Thomas Paine's Common Sense and rightfully sensed that change was on the horizon. The societal change brought on by the Revolution, as it turned out, would be long-lasting in its impact. Certainly in the 1790s the Revolution's presence was still being felt; its ideology and upheavals, as Ronald Formisano contends, "militated against political hierarchy" and "let loose powerful egalitarian impulses" (128). Although a persistent English tendency toward complaisance and civic deference would

counter it to some degree, the new Revolutionary ideology nevertheless managed to influence the Massachusetts political situation well into the 19th century.

In June of 1780, after an earlier draft had been previously rejected by the people, the Constitution of Massachusetts was finally ratified. Drafted by John Adams, Samuel Adams, and James Bowdoin, the influential document reflected a set of political ideals very different from the set of ideals that would come to dominate the discourse less than two decades later. The civil scheme suggested by the constitution was based on a conservative brand of republicanism, and stressed hierarchical authority structures; the influence of the old English tendency toward deference was apparent. The voting requirements set in place were strict and involved property requirements; suffrage was limited to the privileged. Although it contained a great deal of individual rights speech, the Massachusetts constitution, in its initial form, ultimately held that the town was the fundamental societal unit.[25] As increasingly egalitarian and individualistic political philosophies began to enter the public conversation in the late 1780s and early 1790s, it likewise became increasingly evident that parts of the state's constitution reflected an aging mode of thinking. By the time the era of the early republic would come to a close, significant changes would be made to the venerable document.[26]

In the years following the Revolution and the state constitution's ratification, disruptions to the existing social order and periods of localized civil strife shook Massachusetts society. Much of the old power structure, having depended upon British colonial rule, was being dismantled. While the displacement of old authority created opportunities for certain groups, the post-Revolutionary social mobility also created, as Paul Goodman points out, "persistent sources of tension" and societal instability (74-75). There was a distinct competitive current running through Massachusetts culture as different groups and individuals vied for positions of influence. It was this spirit of competition that gave

[25] For more on the philosophies behind the Massachusetts Constitution, see Formisano, pp. 29-30
[26] For a broad history of the Massachusetts state government and Constitution, see Frothingham

birth to the fervent debates and rivalries between the state's Federalists and Republicans in the late 1790s and early 1800s.

The post-Revolutionary chaos in Massachusetts at times manifested itself with more outward immediacy, taking the form of disrupting outbursts of civil unrest and violence. The most notable of such incidents was Shays' Rebellion, which occurred in western and central Massachusetts in the late 1780s and was named after rebel leader Daniel Shays. The lenient fiscal policies of John Hancock, while in office as Governor from 1780 to 1785, were the principal root cause of the rebellion: having never enforced strict debt regulations and tax collecting, Hancock allowed the state's debt situation to get out of hand. As James Bowdoin came into the Governor's office in 1785, British and merchant creditors had begun to hassle Massachusetts' farmers and the state government was in dire need of funds. To alleviate the fiscal burden of the state, Bowdoin—a staunch Federalist—started to collect back taxes and levy new ones. One group in particular was expected to bear the greater part of the taxation load: the farmers. Fed up, rural citizens from central and western Massachusetts took action in 1786. The rebels, calling themselves "Regulators," shut down county courts and eventually threatened to capture Springfield Armory.[27]

Although the rebellion quickly folded to government suppression, it succeeded in having a wide impact on Massachusetts political culture. A factor that had contributed to the farmers' disenfranchisement, as Goodman notes, was a lack of previous political involvement: "The alienation of substantial elements, convinced that the polity was unresponsive to their welfare, occurred partly because farmers had failed to participate directly in government. For generations they were content to delegate authority to others…" (14) Shays' Rebellion and the events that followed, however, marked the end of this political complacency. In the spring elections of 1787, the public—expressing a wide-spread

[27] For a lengthy explanation of Regulator activity, specifically around Worcester County, see Brooke, pp. 189-192

sympathy for the Regulators' cause—voted in large numbers and backed the populist ticket. Hancock, portraying himself as friend to the yeoman, beat Bowdoin by a wide margin and entered the Governor's office for the second time.

Just as the effects of past incidents of social disorder were still being felt in 1790s Massachusetts, the effects of past religious upheavals were likewise still shaping the political environment. The evangelical spirit associated with the Great Awakening of the mid 18th century had made a lasting impact upon the towns of Massachusetts; throughout the state existed small pockets of religious "dissenters" whose communities had been created or strengthened by the Awakening's anti-establishment attitudes. Groups of Methodists, Baptists, and other dissenters found homes in the rural corners of the state—in areas such as the Berkshires and southern Worcester County.[28] [29] Although only constituting a small minority of Massachusetts' population, these groups nevertheless played a key role in the development of local politics in the 1790s as Republicans began to rely on their support in specific ways. The Great Awakening had altered the state not only through its minority dissenters, but also by influencing—by way of new popular spiritual ideals—the Congregationalist Calvinists that represented the religious majority during the era. The distinct post-Awakening Massachusetts theological landscape proved to significantly influence the political proceedings of the partisan era; as a new series of religious revivals swept over New England, building upon the changes wrought by the first Awakening, the relationship between religion and politics only grew stronger.

The Second Great Awakening reached New England and Massachusetts in the 1780s, and would continue well into the 19th century. Evangelical dissenters—inheritors of the first Awakening's "New Light" tradition—orchestrated a series of dramatic revivals across the state and secured scores of converts. Led by striking and charismatic figures, including John Leland of Cheshire and Middleboro's

[28] For more on the dissenter population of the Berkshires, see Goodman, p. 79
[29] For more on the dissenter population of Worcester County, see Brooke, p. 75

Isaac Backus, these groups of fervent Baptists and Methodists were distinguished by what Thomas S. Kidd calls an "aggressive evangelism"; "divine dreams, trances, and visions of spiritual beings" characterized the religious experience of the second Awakening's radicals (196). Evangelical dissenters in Massachusetts, tired of being forced to support the state-sponsored Congregational establishment, agitated for expanded religious liberties. Although they would find allies among the deists and rationalists of the Republican Party, the Commonwealth's evangelicals still had to contend with the hegemonic Federalist and Congregationalist institutions. But the Congregationalist establishment felt threatened by the growing numbers of vocal Baptists and Methodists, and for good reason: between 1790 and 1820, Congregationalism showed the slowest rate of expansion among all denominations in Massachusetts (Banner 199). Moreover, a major internal schism—with origins in the first Great Awakening—was threatening to destroy the Congregational establishment from the inside.

During the Great Awakening of the mid 18th century, New England's religious community was essentially split into two opposing camps; on one side, evangelicals held that personal emotional experiences were key to spiritual growth, and on the other side, traditionalists emphasized the importance of rational understanding of theological principles. By the late 18th century, this fundamental split had led to the development of two distinct forms of Congregationalism. The "Old Lights," following the philosophy put forth by Charles Chauncy, continued the tradition of logical investigation of doctrinal matters; further influenced by Enlightenment rationalism and Arminianism, these Congregationalists developed a liberal branch of the denomination that was based along the Massachusetts coast.[30] The "New Lights," embracing the perspective of Jonathan Edwards, developed a conservative brand of Congregationalism that focused on Calvinist principles and rejected Arminian notions of free will. In the 1790s, it became clear to conservative Congregational leaders that the threat presented by coastal liberalism was significant and needed to be addressed. Unfortunately, however,

[30] For more on the "Old Light" liberals, see Breitenbach, p. 245

the Calvinists were themselves divided at the time, and could not develop a conservative response while lacking unity.

Led by Yale president Timothy Dwight, a new group of conservatives—labeled "Hopkinsians," after theologian Samuel Hopkins—developed a Calvinist movement known as "the New Divinity" in the early 1790s. According to the Hopkinsians, the New Divinity countered the Arminian argument in a way orthodox Calvinism could not; as William Breitenbach explains, the movement "reconciled human accountability and divine sovereignty" without forsaking basic Calvinist tenets (246). The orthodox Calvinists, led by Ezra Stiles and Jedidiah Morse, argued that the new doctrine did in fact break Calvinist principles, and that moreover, it perpetuated the old Great Awakening divide.[31] Ultimately, the Hopkinsians came to agree on the latter point: it was becoming increasingly apparent in the late 1790s that conservative Congregationalists needed unity in order to execute a counterattack against coastal liberalism. By the turn of the 19th century, the orthodox and Hopkinsians—under the joint leadership of Morse and Dwight—were orchestrating a concerted push across the Connecticut River Valley, taking advantage of widespread second Awakening fervor. In the region's static and isolated rural communities, Calvinist Congregational ministers—who happened to be overwhelmingly Federalist—were able to establish loyal congregations.[32] The conservative coalition benefited not only Calvinist Congregationalism, but also Federalism, an ideology with a similar moral outlook. Despite these significant gains, however, the Commonwealth's Federalist-Congregationalist establishment still faced the considerable threat posed by coastal liberalism and the expanding Republican Party. As the partisan era progressed through the early years of the 19th century, signs of a coming power shift became hard to ignore.[33] [34]

[31] For more on the orthodox argument against the New Divinity, see Birdsall, pp. 248-249
[32] For a detailed explanation of conservative success in the Connecticut River Valley, see Banner, pp. 200-202
[33] For more on the declining influence of Congregationalism in the face of dissenters and Republicans, see Kidd, pp. 174-175

2.2.2 The Federalists of Massachusetts: Ascendancy Under Junto Leadership

By examining the key trends and events discussed above, one can better make sense of the dynamic political environment of Massachusetts in the late 1790s and early 1800s. The unique politics of Massachusetts were defined by its unique histories, traditions, and demographics. Perhaps its most striking political feature was its status as Federalist stronghold; after Federalists had lost significant ground in states across the country, Massachusetts remained firmly under Federalist control for several years. The state's social environment—with its colonial-era power structures, urban centers, and rather uniform demographics—had long been conducive to the Federalist viewpoint which stressed unity and the strengthening of established societal organizations. Still, Massachusetts culture was not immune to the broader tides of change, and eventually, even the Massachusetts Federalists were defeated by the growing numbers of Jeffersonian Republicans.

But before it became the scene for the vanishing Federalists' last stand, and before it had even seen the first vestiges of the coming Republican opposition, Massachusetts appeared to be an environment ill-suited for any impending partisan political contests. Prior to the developments of the mid 1790s, the Commonwealth's political landscape was characterized by widespread acquiescence, a lack of significant competition, and occasional disputes between factional interests.[35] The proto-Federalists who dominated state politics at the time had no need for a formalized party structure: lacking real competition, they simply used the government they controlled as an organizational mechanism. Even in the early 1790s, it seemed unlikely that political parties could emerge from the Massachusetts culture. Important foreign policy developments would quickly put an end to this relative calm, however. Following the so-called "Citizen Genêt Affair" and the signing of Jay's Treaty, divisive questions relating to American neutrality and overseas allegiances entered the public discourse and

[34] For more on the fall of the Congregational establishment, see Sassi, pp. 121-123
[35] For additional information on the pre-party state political landscape, see Formisano, pp. 30-31

galvanized opinion. These foreign policy issues greatly accentuated ideological disagreements that had originated in the ratification debates; the former anti-federalists of Massachusetts rallied under a common cause—as members of Jefferson's recently formed Republican Party—and the state's Federalists responded accordingly. By 1797, bitter political quarrels were engrossing the public, and the process of party development was well underway.[36]

Amid this rapid development, the Massachusetts Federalist Party became undeniably dominant; key leaders within the party helped to steadily increase its political supremacy until it reached its peak just beyond the turn of the 19th century. Massachusetts Federalists of this era lived in the shadow of John Adams, Bowdoin, and Hancock—the important figures who had, in the years following the Revolution, determined the character of the state's civil and political structures. The Federalist politicians of the 1790s and early 1800s, while holding their own ambitions, looked to these veterans for guidance. John Adams, who would become famous for his contributions to national politics, had an instrumental role in the development of the Massachusetts Federalist Party as well as the state's governmental organizations. One of the primary drafters of the Massachusetts Constitution, Adams was a visible and influential figure in the state's political environment until his focus shifted to the national level. His politics were largely moderate and he was not afraid to diverge from the party line. Much to Adams' dismay, his Federalist colleagues in Massachusetts would mostly stick to partisan politics and refuse to compromise with Republicans.

James Bowdoin, another of the principal drafters of the Massachusetts Constitution, was an important proto-Federalist and inspired a generation of uncompromising party leaders. Unlike Adams, Bowdoin remained active primarily in the state political scene for the entirety of his career, and in many ways, had a more direct influence on the politics of the Massachusetts Federalist Party. Although he also

[36] For more on the early stages of the partisan era, see Goodman, pp. 52-69

served in the General Court from the 1750s through the 1770s, and was President of the Massachusetts Constitutional Convention, Bowdoin is perhaps best known for his actions as Governor from 1785 to 1787. His strict, tax-heavy Federalist policies—designed to correct the mistakes of Hancock—outraged the already burdened Massachusetts farmers and led to Shays' Rebellion. Ultimately, it was the staunch Federalism of Bowdoin, and not the moderate Federalism of Adams, that served as the more influential precedent among the party's next generation.[37]

The leaders of this new generation of Massachusetts Federalists came together to form the powerful group known as the "Essex Junto." Caleb Strong and Fisher Ames were perhaps among the most visible politicians of this collective; the two men were considered effective leaders at the time and contributed much to the party cause. Strong—who followed in Adams' footsteps and remained moderate—became a popular public official and represented the last bastion of Federalism in the state while serving as Governor from 1800 to 1807 and 1812 to 1816. Ames, who served in the U.S. House of Representatives from 1789 to 1797, acted as an important leader among House Federalists. His widely read essays and speeches embodied classic Federalist thought and shaped the politics of his colleagues. In a 1788 speech, he conveyed common party attitudes toward public participation when he stated that he "would not have the first wish [that] the momentary impulse of the public mind, become law" (Ames). The Federalist Party would come to overwhelmingly adopt this viewpoint, which recognizes the importance of democratic ideals, but is wary of the potential dangers. In order safeguard against such hazards of democracy, the Federalists believed a strong centralized leadership structure was absolutely necessary. In Massachusetts, they had exactly that, with leading Junto members such as Timothy Pickering, the famous British apologist and the third Secretary of State; Harrison Gray Otis, a key voice of moderation; Theodore Sedgwick, who held a variety of positions on both state and national levels;

[37] For more on this next generation of Federalists, see Banner, p. 6

Theophilus Parsons, a Chief Justice of the state's Supreme Judicial Court; Francis Dana, another Chief Justice; and George Cabot, a U.S. Senator and great-grandfather of Henry Cabot Lodge.

Although reluctant to afford the public much political power, Massachusetts Federalists nevertheless had to rely on the common citizen for his vote. In general, support for the party was strong in the regions that compromised the eastern part of the former Massachusetts Bay Colony, particularly within urban areas.[38] Additionally, the Federalists established dedicated rank-and-file support in the isolated rural communities of the Connecticut River Valley. In this part of the state, conservative Congregationalists—who tended to support Federalism—dominated the religious landscape. Conservative Congregationalists had a natural affinity for the party's cause: in line with their traditional Calvinist ethos, the Federalist philosophy emphasized unity and stability.[39] Junto leaders would often find their ecclesiastical support to be fervent and outspoken. In a fiery 1812 political sermon, Medford preacher David Osgood declared Republican leaders to be "nearly akin to the deists and atheists of France," and labeled them "men of hardened hearts, seared consciences, reprobate minds, and desperate in wickedness" ("Solemn Protest" 14-15).

Although Massachusetts Federalists did rely on critical support from the state's wealthiest citizens, the backing of the monied class alone would not win them elections. The party won the support of certain lower class groups, and counted on their votes on election day. As Banner puts it, "regional history, social tradition, occupation, and religion were far better indices of political identification than wealth" (183). The farmers of Worcester, for example, were largely Federalists, despite their poverty and rural background. In the Connecticut River Valley, the situation was much the same: poor and isolated farming communities consistently voted Federal. For the lower class Federalist voters, the party's allure stemmed not only from religious appeals, but also from an attraction to established

[38] For an explanation of the differing traditions of the former Mass. Bay Colony and Plymouth Colony, see Banner, p. 169

[39] For more on the Federalist philosophy, see Banner, p. 202

authority; many enjoyed identifying with distinguished men of wealth and power.[40] The Essex Junto leaders were well aware of this type of support from the poor, and quickly took advantage of the situation. In accordance with their beliefs regarding the potential dangers of democracy, many Federalist leaders felt it was their duty to control popular opinion and perception, lest an uneducated and unrefined public sentiment should prevail. In an 1804 letter to Timothy Pickering, George Cabot displayed this elitist attitude when he declared "democracy in its natural operation" to be "the government of the worst" (341).

In order to avoid this "government of the worst," Massachusetts Federalists developed an idealized plan for a structured society within their overall party platform. At the core of their philosophy was an emphasis on "harmony, unity, order, [and] solidarity" (Banner 53). Within the ideal Federalist society, citizens would have fixed hierarchical positions and specific tasks to perform; the stratified public—under the leadership of enlightened rulers—would work as a unified whole to accomplish common goals. The Federalists of Massachusetts categorically denied James Madison's claims of an inevitable class struggle, placing greater faith in public cohesiveness. Their idealistic vision of unified society was almost certainly engendered by the influence of the demographically uniform Massachusetts social environment. The state's citizens during the era were largely of the same race, ethnicity, and religion; compared to other states, there were few non-whites and dissenting religious sects in late 18th century Massachusetts. The state's Federalists, as a result, had a somewhat unique perspective that would accommodate their political positions.

2.2.3 The Commonwealth's Republicans: Laying Siege to the Federalist Stronghold

Advocating their platform of unity and relying on critical demographics for support, the Massachusetts Federalists, under Essex Junto leadership, maintained political dominance until just after

[40] For additional information on the concept of identifying with the ruling powers, see Banner, pp. 168-169

the turn of the 19th century. As the first years of the 1800s progressed, however, the growing Republican movement began to reach Massachusetts in full force and the Federalists lost their grip on state politics. Increasingly criticized by opposition for their loyalty to Britain in matters of foreign policy, Junto politicians fell out of favor with voters who were beginning to see the Republican appeal. Although Federalists would enjoy a brief resurgence at the outset of the War of 1812—thanks to the voters who wished to avoid armed conflict—, their party would still ultimately fall to the Jeffersonians. The story of John Quincy Adams can be seen as representing this dramatic political shift in Commonwealth politics. The son of John Adams, he began his political career in Massachusetts as a Federalist; but after siding with the Jefferson administration on key issues and angering the Junto leadership, John Quincy Adams broke with his party and joined with the Republicans in 1808. In an 1810 letter to his mother, he discussed the "unpropitious changes" for the Federalists "not only in Massachusetts, but in New-Hampshire, Vermont, and Rhode-Island" and, expressing a popular criticism of the party, referred to his former colleagues as "Anglo-federalists" (J.Q. Adams). Clearly, the times were changing.

As they whittled away at Federalist hegemony, Massachusetts Republicans emphasized an "outsider" ethos which held the Essex Junto as an elitist authority in need of knocking down. This strategy proved largely successful under the guidance of effective and influential leaders. Like the Federalists, Republican leadership looked to veteran politicians for direction and ideological foundations. Samuel Adams, who drafted the Massachusetts Constitution with Bowdoin and John Adams, was the patriarch of the state's Republicans. A solid anti-federalist, Samuel Adams strongly opposed Jay's Treaty and favored Jefferson as President over his cousin John. But like his cousin, Samuel would occasionally break from the party line: in 1794, for example, he advocated swift suppression of the Whiskey Rebellion—a movement that generally invoked Republican sympathies. His level-

headedness and commitment to personal beliefs made him popular with the public, however, and he proved to be an excellent role model for the following generation of Commonwealth Republicans.

Among the most prominent of this next generation of Republican politicians was Levi Lincoln Sr., a respected Worcester resident who held a number of notable positions within state and federal government. His election to the U.S. House of Representatives in 1800 was an important victory for Republicans in Massachusetts and marked the beginning of a shift in political fortunes. Lincoln only served as the 4th Western District's Congressman for less than a year before being appointed Jefferson's Attorney General in 1801. Jefferson was confident he had made a good choice; Treasury Secretary Albert Gallatin had declared Lincoln a "sound and decided Republican" and a "man of great discretion" (qtd. in Malone 57). The Commonwealth's Federalists, on the other hand, disliked Lincoln, labeling him as too extreme.

James Sullivan—another of the state's key Republican leaders—was, like Lincoln, widely popular with the party's voters. His moderate policies allowed him to remain Massachusetts' Attorney General at a time when Federalists still had the larger share of control over the state (1790-1807). As Attorney General, Sullivan played a critical role in the state's transition from British colonial rule to independent government, revising a large portion of the Commonwealth's legislative framework. Sullivan's victory in the gubernatorial election of 1807 over incumbent Caleb Strong was another critical milestone for Massachusetts Republicans, as Strong was one of the last Federalist politicians with formidable support.

Other notable Republican leaders, including Elbridge Gerry and William Eustis, contributed to the extensive progress made by Lincoln and Sullivan. Early in his career Gerry was politically unaffiliated, but after his involvement in the so-called "XYZ Affair" in France, he became a Republican. He served in the U.S. House of Representatives, as Governor of the Commonwealth, and as Madison's Vice President; during the ratification debates, Gerry firmly refused to endorse the Constitution until it included a bill of

rights. William Eustis, who had worked as a surgeon during the Revolution, served in the Massachusetts General Court, the U.S. House, and became Massachusetts Governor in 1823. As President, James Madison—evidently placing great trust in Eustis' abilities—appointed him to be Secretary of War despite a lack of military expertise; later, Madison chose Eustis to be the U.S. minister to the Netherlands.

These influential leaders structured the Massachusetts Republican Party specifically to attract "persons either outside the elite or enjoying a recently acquired and insecure position in local society," as Paul Goodman puts it (75). Republicans found success in several of the major rural areas of inland Massachusetts—in places such as Berkshire County, Middlesex County, and Norfolk County. In rural communities, the party's "plain folk" focus often appealed to farmers; plus, Republican dissent was able to more easily establish footholds in smaller communities, with less existing political structure to push back. Commonwealth Republicans had some success in cities as well, particularly among the newly-monied merchants and capitalists. And while the Federalists had a firm grip on the eastern portion of the former Massachusetts Bay Colony, Republicans essentially had free reign in the areas of the former Plymouth Colony. Moreover, they found reliable support among Baptists and other groups of religious dissent in the state; liberal Congregationalists, despite retaining large numbers of Federalists among their ranks, were far more likely than their conservative counterparts to vote Republican.[41] Thus, even though Federalists had secured the larger populations associated with the eastern Bay Colony and conservative Congregationalism, the Republicans were able to establish an essential foundation of dissenter and Plymouth Colony support that would allow them to gradually spread across the state.

The political successes of the Massachusetts Republicans were due in part to the broad appeal of the party's platform, which emphasized the rights of states and individuals. As with Republicans across the country, the Republicans of the Commonwealth strove to reduce the size and powers of

[41] For more on the differing voting tendencies of liberals and conservatives, see Banner, pp. 203-204

centralized government. In Massachusetts, a state still largely entrenched in the colonial-era systems of rule, this ethos manifested itself as an outsider movement to take down the elitist and "Anglo-federalist" power structures. As Goodman says, the "Republican appeal was essentially an attack on traditional sources of leadership" and a "demand for enlarged opportunities for the excluded" (77). This message, of course, had great appeal for the state's fed-up minority religious groups, who had long been oppressed by the Federalist and Calvinist leadership. Republican criticism of British sympathizing among Federalists proved popular with key demographics as well, particularly in the years of the War of 1812. Reflecting this trend, a satirical hymn published anonymously in 1812 mocked Governor Strong's apparent deference for the British, declaring sarcastically that "freedom is nothing but a jest, a bubble—a delusion," and that "our government was much the best before the Revolution" (Strong Fast). Obviously, by this point, the Federalist sway over the public mind had been irrevocably broken.

2.2.4 The Commonwealth's Electoral Processes: Systems of Disorder and Tradition

A crucial component of the Massachusetts political framework at the turn of the 19th century, the state's developing electoral processes frequently acted as the deciding factor in the heated partisan contests between Federalists and Republicans. The procedures associated with the election system—including candidate selection and vote casting—were characterized by adherence to tradition, exclusion of the unprivileged, disorganization, and susceptibility to exploitation. As partisan competition intensified, party leadership attempted to influence the ongoing development of increasingly standardized electoral procedures in order to give advantage to the party's candidates. For this reason, the state's election system at the end of the period would reflect the factious political atmosphere in which it was created.

Through the 1790s, both the Federalist and Republican parties in Massachusetts lacked an official organizational means of selecting candidates to run in elections. This resulted in situations in

which popular candidates of the same party ran against one another for the same seat—or, more frequently, situations in which minor candidates of entirely local fame ("scatter" candidates) diverted crucial votes from their party's big-ticket contenders. Fed up with these recurring election conditions, and identifying disorganization as the root cause, the Commonwealth's Federalists worked to devise a solution in 1800. It was Theodore Sedgwick—House Speaker and representative of the 1st Western District at the time—who suggested that the party adopt a caucus system for selecting candidates. The Federalist Party did so, and in the years following, made increasing use of a legislative caucus; Federalists nominated candidates, made key policy decisions, and established committees through the new central council. The state's Republicans quickly followed suit, creating a legislative caucus of their own.[42] On both sides of the partisan divide, party organization improved drastically, and the new candidate selection process began to eliminate the scattering of party support. The caucus system, as James Banner argues, "[disciplined] the party" and "the whole political system" as it "eliminated irregular candidacies" and "forced voters to take one of two sides" (232). With this form of central council governance, party leaders worried less about keeping the party together and focused more on aggressive political strategy.

Like the candidate selection procedures of the 1790s, the era's voting methods lacked refinement and were not yet standardized. Often adhering to local traditions, administrators enforced balloting procedures that were disorderly, imprecise, and prone to abuse. Election controversies became commonplace in the period, as party leaders increasingly accused their opponents of exploiting flaws in the voting system. Procedures varied from town to town, and in many cases, did indeed display what could be perceived as flaws. Voting was frequently conducted in an open fashion, whereby the assembled voters could examine the choices made by one another. Open balloting was generally associated with vote by voice, and also lent itself to abuse through intimidation. Echoing his party's

[42] For a detailed history of the development of the caucus system, see Banner, pp. 221-233

stance on the subject, Republican Elbridge Gerry argued in 1811 that "the right of ballot" must entail "a mode secret in its nature, for restraining an undue influence" (qtd. in Formisano 146-147). As strange as it may seem to modern sensibilities, Republican support for the secret ballot did not reflect dominant attitudes: in turn-of-the-century Massachusetts, many leading voices—usually Federalists—declared that open ballots were necessary to ensure that the easily swayed lower classes voted in solidarity with their superiors.[43]

In a separate but related debate, Republicans once again found themselves arguing against the electoral traditions of the Commonwealth. The most common alternative to voting by voice, the written vote was typically employed for nonlocal elections, and involved the rather tedious process of writing out by hand the party ballot to be used by voters. The practice was cemented in state culture by a 1788 law which required that officials, for state and federal elections, only accept votes "delivered in writing by the voter in person" (qtd. in Formisano 144). Because Federalists tended to have more support among the secretarial professions, particularly within urban centers, they also tended to have more available ballot writers; this put the Republicans, who could not match the Federalists' output of handwritten ballots, at a disadvantage. Wanting to increase their presence at the voting stations, Republicans in the 1790s began to advocate the printed ballot as the standard. Federalists, of course, pushed back strongly. John Adams, in a 1794 letter to his wife, criticized the Republicans for making an "unwarrantable" attempt at manipulating elections "by sending agents with printed Votes" (1-2). The printed ballot would eventually supplant the written vote as the state norm, but only well after the end of the first partisan era, in the 1830s.[44]

The flaws and peculiarities of the period's voting systems not only fostered partisan controversy, but also promoted inaccuracies and miscalculations in the tallying of votes. Voice votes and written

[43] For more on popular beliefs regarding open ballots, see Formisano, pp. 143-144
[44] For more on the controversy surrounding printed ballots, see Formisano, pp. 144-145

ballots proved particularly problematic, as mistaken interpretations and misspellings could easily lead to an unintended vote for a candidate (and possibly a non-existent candidate). With paper ballot elections, votes were often placed "in the wrong box"; a candidate would commonly find some of his earned votes allocated to the wrong election race. As the American Antiquarian Society astutely notes on its "A New Nation Votes" website, the voting systems of the era had significant "room for error" ("Election FAQs"). Problems could even occur during the process of sending returns to Boston for counting. After polls had closed, towns were given two weeks to send in their votes, but would still sometimes miss the deadline—often because of negligence among local officials. A missed deadline meant that the town's votes would not be tallied, and in some cases, this could result in a candidate losing an election he would have otherwise won. In a 1789 U.S. House of Representatives election, seventeen towns that had supported candidate William Lyman failed to deliver their returns to the capital within the allotted time; Lyman subsequently lost the election by a narrow margin.[45] The Commonwealth's capricious electoral procedures had the power to make or break political fortunes.

As with other facets of the state's election system, the voting requirements in place at the turn of the 19th century were the result of ingrained traditions and habitual exclusionary practices. Reflecting suppressive traditions inherited from the state's Puritan past, suffrage requirements in Massachusetts remained quite strict throughout the latter stages of the colonial era. As of 1770, in order to vote, one had to have an income of 40 shillings per year from "rent of freehold"; one had to own personal property valued at £40; one had to be 24 years of age if a non-freeman and/or a non-church member, or 21 years of age otherwise; and suffrage for non-church members was restricted to citizens "non vicious in life" (Beeman 293). Voting requirements became somewhat more lenient with the ratification of the state constitution in 1780, but still continued to exclude a large portion of the Commonwealth's population. While there were no taxpaying, race, or citizenship requirements set in

[45] For more on Lyman's misfortunes during this election, see Stephens, p. 59

place, restrictive property requirements remained. In order to vote in state Senate elections, one had to own a freehold estate with an annual income of at least £3, or own any estate worth £60; in order to vote in state and U.S. House elections, one had to own property in a town in which one had been a resident for at least a year. These property requirements would not be eliminated until 1821. Suffrage was also explicitly limited to males, and an 1807 ruling by the state's Supreme Court barred inhabitants of incorporated plantations from voting in gubernatorial elections—effectively excluding large numbers of Native Americans.[46] With this strict set of voting requirements in place, much of the Massachusetts population was denied the right of political participation during the first partisan era. It was a small group of propertied men alone that decided directly the outcome of the Federalist-Republican political battles.

All of these features of the state's electoral system—flaws, peculiarities, and exclusions—contributed to the shaping of Commonwealth political culture at the turn of the 19th century. Voting requirements, balloting methods, and candidate selection processes evolved in significant ways during the era, but continued to be influenced heavily by tradition. The election system overwhelmingly favored the privileged in the realm of democratic participation; in the sphere of party politics, it could favor either of the two parties, depending upon the circumstances and the efforts of party leaders. When examined alongside a detailed history of politics, these electoral trends illuminate the often perplexing sets of voting data that come out of this important era.

2.3 Geographic Information Systems as Analytical Tools

A geographic information system (GIS) is a decision-making tool based on the creation, storage and analysis of geographic data; that is, data referenced spatially by its position on the Earth. Typically, the term GIS refers to a computer system with such a function. Any information can be used in a GIS

[46] For a complete list of voting requirements, see Keyssar, pp. 306-327

provided that its constituent data points can be given locations. This spatial information is converted to map form, so that it can be layered against other information, showing their spatial relationship (Sims). Practically, this allows the comparison of multiple variables from numerous types of data that might otherwise be difficult or impossible to relate.

Geographic information systems in the general sense have been around for centuries. In response to London's deadly cholera outbreak in 1854, physician John Snow traveled around the city interviewing residents and recording the deaths it caused. He then plotted the locations of the fatalities on a map of the city, and consequently identified the source of the outbreak. At the time germ theory didn't exist, and most believed the spread of disease to be the result of polluted air. Yet Snow, skeptic of this theory, mapped his results and found that the frequency of fatal cases was proportional to their proximity to a particular water well. After seeing his geographic evidence, the city heeded Snow's advice and shut off the well's pump, effectively ending the epidemic (Johnson). This was the first documented example of the use of a geographic information system to solve a problem. Near the turn of the 20th century, French engineer Jules-Henri Poincaré identified the cause of a deadly mine explosion in Magny by drawing detailed maps showing the direction of the mine's air flow. Later, Poincaré's popularity landed him in charge of France's Bureau of Longitude's mission to create a network of latitude and longitude measurements in Quito, Ecuador. Such feats of geographic information analysis, as well as his method for mapping the path of an asteroid, now known as Poincaré's Map, "intertwined geography, location, visualization, data, and analysis" (Galati xxii). Evidently the concept of a GIS is nothing new. For centuries cartographers have combined observation, survey information, and measuring tools in the production of hand-drawn maps. The development of new technology, however, has continually improved the accuracy of geographic information, culminating in the modern GIS, today powered by data sources like satellite imagery, Geographic Positioning System (GPS), and computer-aided design.

Recently, their use has spread to research, business and government alike, with a myriad of applications ranging from land and natural resource management to marketing and real estate analysis (Foote). Thus, their greatest value today is in integrating discrete technologies in order to perform geographical analysis in ways beyond the capacity of manual techniques. As a technology, GIS makes it possible to map, model and analyze large quantities of data all at once (Foote).

As the field of GIS has grown into a technological tool, there are many software applications made for carrying out GIS tasks. Developed by Esri, ArcGIS is a popular GIS software package that has an extensive variety of applications. Recently, using the ArcGIS software, an insurance branch of the Royal Bank of Scotland Group known as NIG won the Insurance Times Insurer Innovation Award (2010). They created a geospatial system that combined visual representations of fire, flood, theft and wind damage risk factors for UK properties, which allowed for more efficient and accurate pricing on insurance claims (GEO: connexion). The United States Census Bureau also uses ArcGIS to collect data on the nation's population, demographics and economics, and to share this information through a presentable media (Vecchiarelli et al).

Given that data can be digitized in a number of different ways, one task ArcGIS facilitates is the conversion of data from one structure to another. A GIS uses two main formats for geographic data—raster and vector. Raster data is a spreadsheet made of columns and rows corresponding to different x and y coordinates, so that each data cell is linked to a specific position on the map. These cells store numbers that may represent any other feature, and each cell links its data value to its location. Raster data is therefore useful in thematic mapping. Additionally, since it is numerical in nature, multiple layers of raster data may be combined, with their corresponding cells adding or subtracting from each other in a process known as map algebra. Vector data is purely spatial and contains points, lines and areas. Its manifestation looks like a traditional map. These two data formats are made compatible and then

married in a program like ArcGIS, resulting in digital maps that enhance the practices of information dissemination and analysis. Furthermore, a GIS can produce other visuals like drawings and animations to further augment understanding and exploration. However, the integration of traditional mapping and third-party data to create a layered map, where sets of information can be isolated from one another and superimposed onto another, is the true power of GIS.

2.4 "A New Nation Votes"

The project titled "A New Nation Votes," sponsored by the American Antiquarian Society, Tufts University, and the National Endowment for the Humanities, is the digital manifestation of the lifelong work of historian Philip Lampi. At a young age Lampi developed an interest in election returns, noticing that the recorded data only went back to 1825, with the results from the United States' first 38 years of elections under the Constitution practically non-existent. Finding these numbers in old newspapers and copying them by hand quickly became a hobby, and ultimately a passion. With the realization that if he didn't collect this data then it may never be done, Lampi made it his primary purpose, forgoing family life and higher education for the pursuit of these voting records. Traveling the country in search of state archives, historical societies, newspaper collections and anything else that might yield elusive answers, he spent 1973 to 1988 mostly living out of his car, only renting a room every few days to shower (Mangu-Ward).

Since he recognizes the importance of every election, Lampi's quest has included every elected office from President to fence viewer. In the absence of the photocopier, the majority of this work was done entirely by hand. For years Lampi continued on this arduous journey without incentive, motivated only by his belief in the importance of the work. Eventually, the American Antiquarian Society noticed the significance of his efforts and offered him a job where he could continue his research as an employee for them. Consequently, Lampi has been able to carry on his work to the present day, where

the Society, in conjunction with the library at Tufts University, is in the process of digitizing the entire volume of election results, making it accessible and searchable for the public. The completed project aims to contain the election data from every state and territory that existed in 1825. These newly available records of how a young nation voted, inaccessible for two hundred years, offer an incredible opportunity for understanding the roots of American politics as well as analyzing post-Revolutionary demographics and geographies (Jordan). Regarding the significance of the database's launch, Andrew Robinson, history professor at the City University of New York says "having this available is a little bit like having an undersea expedition coming back with artifacts from Atlantis" (Mangu-Ward). Any initiative to make this gold mine of information more useful or accessible has the potential to be a vital contribution to American history.

2.5 Relevant Projects and Guides

In attempting to map this wealth of election returns, other work in mapping proved valuable as a resource. Another Interactive Qualifying Project (IQP) at Worcester Polytechnic Institute utilized a GIS as well and chose to use ArcGIS to accomplish its task. "Geographic Information Systems as a tool for Floodplain Management and Risk Assessment" used the ArcGIS software to combine aerial photographs of floodplain regions in San Juan, Puerto Rico with Census data and Flood Insurance Rate Maps to estimate populations in the floodplains. These population estimates, in conjunction with ArcGIS, permitted the creation of population density maps of the region, which facilitated the development of more effective evacuation procedures in response to floods. The most valuable aspect of this project was the detailed methodology it produced for the process of estimating population using ArcGIS and given data. This methodology, although not specific to our project's tasks, was useful in establishing an understanding of the basics of the software. In conjunction with Esri's online Discussion Forums, this project's methodology was sufficient as a tutorial to help us get started with ArcGIS.

Another independent project sought to create a GIS for the data from the "A New Nation Votes" project, in order to make the data more presentable to the public. This project's goal was to use the ArcGIS software bundle to map the voting results from Dorchester and Roxbury for a few select elections, as an example of how one could choose a city and see a visualization of that election. The goal was to lay the framework for the American Antiquarian Society to map more of their data in the future. The focus of the project therefore was on discovering and potentially streamlining a process for converting Lampi's data from its current spreadsheet format to a format compatible with ArcGIS so that it could be mapped (Kellogg 6). The project attempted to craft maps that would display the election results in an intuitive way for the public. It didn't, however, attempt to present any other information, such as demographics, which could have also been mapped based on their geographic nature. The obstacles for this project included the inefficient way that the data had to be converted line by line and the fluid nature of boundaries and political parties during that era (Kellogg 6). This project's account of the challenges created by dynamic political and municipal boundaries helped dictate which elections we would map. Based on this information, we chose Massachusetts from 1794 to 1800 because the Congressional Districts were constant for these elections, and Massachusetts has record of all its changes in town boundaries since becoming a state.

Chapter 3: Methodology

3.1 Selecting and Obtaining Mapping Software

Esri, a leader in geographic information systems technology, recently released ArcGIS 10.1, a software package for designing and managing solutions with geographic information. According to Information Technology Newsweekly, "the new release puts mapping and geospatial analytics into the hands of more people than ever—even those with no geographic information system (GIS) expertise" (2012). This technology seemed ideal for the task at hand, so we obtained access to the software by institutional means. Worcester Polytechnic Institute has a license for this software, and simply using a remote desktop connection to access the school's system allows the program to be used from any computer. The component of the ArcGIS package that allows the creation and editing of maps is called ArcMap, and it is the only ArcGIS program necessary for this project. Adding and editing data for use with ArcMap requires a third party program that can manage data tables, and Microsoft Excel, fully compatible with ArcMap, is the most basic and practical option.

3.2 Map Setup

Our project sponsor, the American Antiquarian Society, recommended that we examine U.S. House of Representatives elections within Massachusetts in 1794, '96, '98 and 1800. With a limited amount of time to complete the project, we opted to focus on the elections of 1798 and 1800, as these are the more politically interesting elections due to the Republican Party's rapid ascension prior to Thomas Jefferson being elected president in 1800. To start we needed a base map of Massachusetts showing town boundaries as they existed during the chosen time period. MassGIS, the Massachusetts Commonwealth's Office of Geographic Information, offers on its website a free map of the state and its town borders ("The Official"). The map is in the form of an Esri shapefile, a computer file compatible with Esri software like ArcMap. To import the shapefile into ArcMap 10, we opened a blank map in

ArcMap and selected the **Add Data** button on the toolbar—highlighted in yellow in the image below—and browsed for the downloaded files. We simultaneously selected "TOWNSURVEY_POLYM.shp" and "MA_Towns_Survey_Shaded_Group.lyr" and then hit the "add" button (see fig. 1). A ".shp" file indicates an Esri shapefile, made up of one polygon for each town, while a ".lyr" file includes additional layers displaying town names and borders.

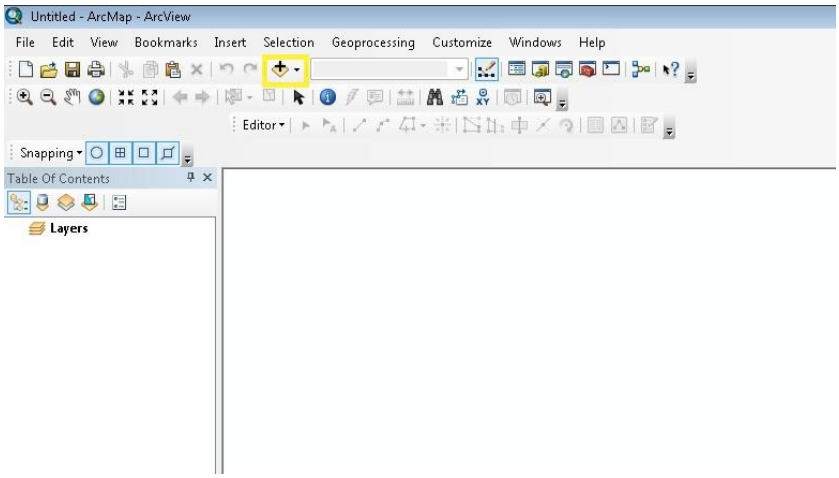


Figure 1. ArcMap's "add data" tool.

Once open in ArcMap, the shapefile can be edited. In order to alter the map to reflect our time period, we used Carlton's *Map of Massachusetts*, published in 1802, as a reference for town boundaries. Burlington was incorporated as a town in 1799, so we made a note of this change but initially edited the map to reflect the landscape in 1800.

A quick comparison of the modern map and the 1802 map revealed a handful of differences in town boundaries that had to be accounted for. The majority of these discrepancies simply involved two currently existing towns that together formed a single community in 1802; North Andover, for example, was formally a part of the town of Andover. To adjust for this type of boundary change, ArcMap's "Merge" function was appropriate. Before editing, the proper layer had to be selected. In the **Table of Contents** window at the left of the screen in ArcMap, one may toggle layers in and out of view on the

map and change their order, so the layer at the top of the list lies on top of the other layer(s) as they are displayed in the map. Keeping the “TOWNSURVEY_POLYM” shapefile on the top of the list and checked at all times, one can toggle the “MA_Towns_Survey_Shaded_Group” layer on and off as necessary. In order to edit the shapefile, the layer file must be unchecked.

To begin editing, we clicked the **Editor** button on the editor toolbar, highlighted in figure 2, and selected **Start Editing**.

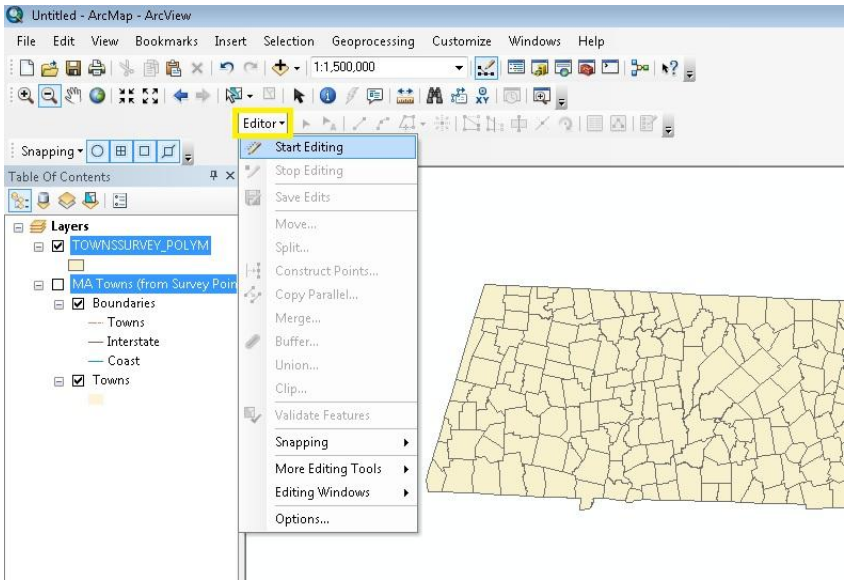


Figure 2. ArcMap 10’s editor toolbar.

Once in editing mode, we zoomed in on the area around Andover and North Andover. The “MA Towns” layer can be checked again in the Table of Contents now once editing mode has been initiated. This is crucial to identifying the proper towns before merging them. However, once the towns to be merged have been identified, the “MA Towns” layer must be unselected again. Making sure that the **Edit Tool** was selected on the Editor Toolbar, we held the shift key and clicked first on Andover and then on North Andover to select both polygons. Then we clicked the **Editor** button again to bring down the edit menu and clicked **Merge…** A window popped up and we chose “Andover” as the feature with which other features were to be merged, as “Andover” was the name of the composite town before the split. Then we selected **Stop Editing** from the edit menu to finish and save our edit.

In some cases, the necessary changes were less straightforward—in municipalities like Lawrence, for example. The present-day city of Lawrence is comprised of land that once belonged to Methuen and land that once belonged to Andover. To account for such a border change we used the **Cut Polygons** tool by clicking **Start Editing** and then selecting the Lawrence polygon by clicking on it on the map. We then selected the **Cut Polygons Tool** button, also located on the Editor Toolbar (see fig. 3).

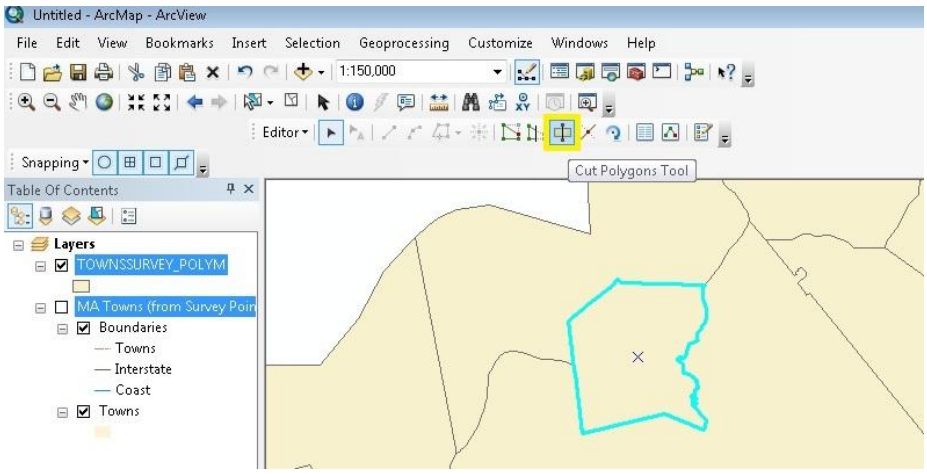


Figure 3. ArcMap's "cut polygons" tool.

We drew a line along which to "cut," attempting in the process to mimic the appropriate border—in this case, the border formed by the Merrimack River. To trace the border effectively, we clicked in a few different key locations to place a vertex at each spot. Once our line ran from one end of the polygon to the other, we selected **Finish Sketch** on the Feature Construction tab that appeared on the map after selecting the first vertex (see fig. 4).

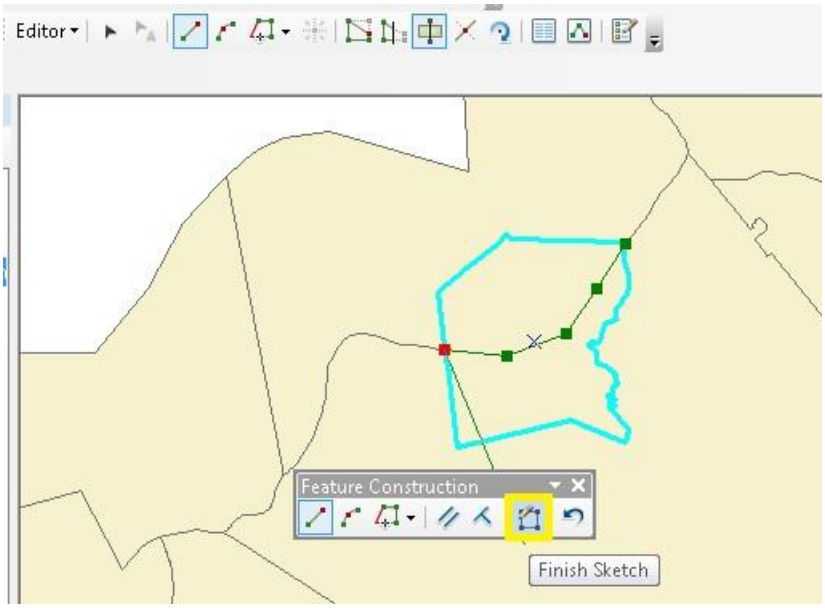


Figure 4. Cutting a polygon in ArcMap.

This split the polygon into distinct pieces, and then we merely had to **Merge** each piece with its respective town.

The final type of required border editing we employed in situations similar to the one presented by the town of Bradford, which existed in 1802 but no longer exists in the present day. Bradford was made up of the part of modern Haverhill that is south of the Merrimack River, along with the area that now forms Groveland. Since Groveland did not exist in 1802, we split Haverhill in the same manner as we did with Lawrence and then merged the southern segment of Haverhill with Groveland. To rename the newly formed polygon to "Bradford," we right clicked on it, selected **Attributes** from the drop down menu, and edited the name that appeared in the "TOWN" field of the "Attributes Table" that opened on the right (see fig. 5).

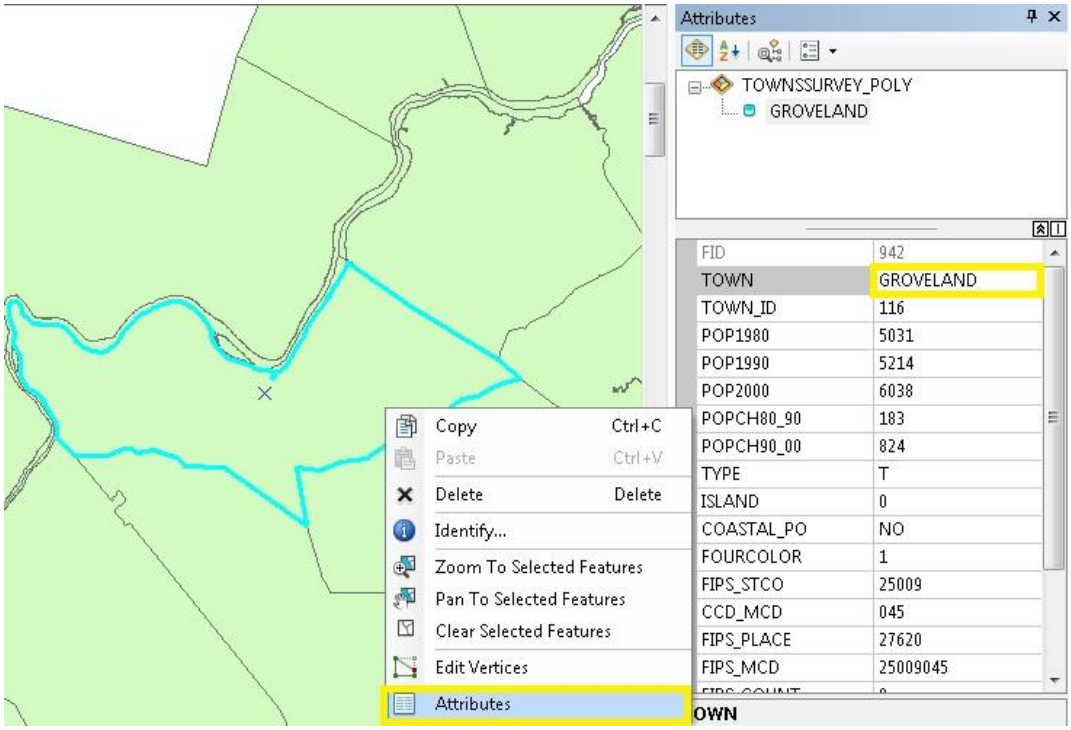


Figure 5. Editing polygon attributes in ArcMap.

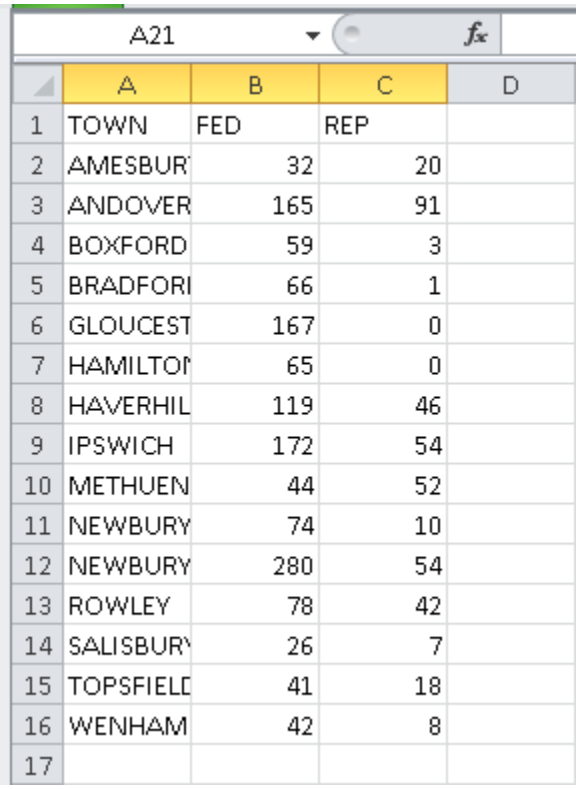
In addition to these boundary changes, some towns have been renamed between 1802 and the present day while their borders have stayed constant. For instance, the current town of Wayland was known as East Sudbury in 1802. To account for these name changes, we simply edited the "TOWN" field in the "Attributes Table", just as we did to rename the Groveland polygon as "Bradford."

This process was carried out across the entire state, until we had produced a map just like Carlton's *Map of Massachusetts Proper*. On top of town incorporations, disintegrations and instances of renaming, there were also a handful of unincorporated areas that we had to add to the map. They included the Oxford South Gore, the Bernardston Grant, the Sundry Grants and a number of areas simply designated "Unincorporated Land."

3.3 Obtaining and Compiling Electoral Data

Having established a base map, the next step was to incorporate the election data, so we proceed to the online database for "A New Nation Votes" hosted by the Tufts Library website. We chose to view the

data **By Office** and selected **U.S. House of Representatives**. From this list we chose the **Massachusetts 1800 U.S. House of Representatives, District Middle 4** first because it had a small number of towns and only two significant candidates, which made it ideal for facilitating the learning process. We manually copied the numbers from the table into an Excel spreadsheet and organized them by making individual columns for town, corresponding Federalist votes and corresponding Republican votes. The result looked like this:



	A	B	C	D
1	TOWN	FED	REP	
2	AMESBUR	32	20	
3	ANDOVER	165	91	
4	BOXFORD	59	3	
5	BRADFORI	66	1	
6	GLOUCEST	167	0	
7	HAMILTOI	65	0	
8	HAVERHIL	119	46	
9	IPSWICH	172	54	
10	METHUEN	44	52	
11	NEWBURY	74	10	
12	NEWBURY	280	54	
13	ROWLEY	78	42	
14	SALISBUR	26	7	
15	TOPSFIELI	41	18	
16	WENHAM	42	8	
17				

Figure 6. Organization of electoral data in MS Excel.

Titling each column in the first row is not only important for organizational purposes but is also necessary in order for ArcMap to make use of the data. The titles assigned to each column must be eight alphanumeric characters or fewer and cannot begin with a number; if they do not satisfy these criteria, then they do not register when transferred to ArcMap.

We repeated this process for the rest of the state's districts in 1800, simply adding them below the first district's worth of towns. Furthermore, once the list of towns was comprehensive, we also

added the names of the eleven congressional districts and the four names for the unincorporated areas—Bernardston Grant, Oxford South Gore, Sundry Grants, and Unincorporated Land—even though the districts and unincorporated areas did not have corresponding values for the other columns. Some of the necessary data was not yet available on the website. The American Antiquarian Society provided us this data directly, in the form of Excel spreadsheets.

In the 4th Middle District, the vast majority of the votes were for the two primary candidates—one Federalist and one Republican. In other districts, this was not the case. In some of these other instances, the votes were spread relatively evenly between more than two candidates, and there were often a number of scatter candidates receiving just a handful of votes. Errors were frequent and often times the names of men running in different elections appeared with the congressional votes. Given this information, we deemed it appropriate to devise a method of eliminating insignificant candidates from our mapping endeavor. We opted to retain any candidate who received at least 5% of his district's total votes or who received the highest number of votes cast by any single town, and we excluded the rest of the candidates.

This left us with a manageable number of candidates, but we still had a number of districts with more than two candidates. For the sake of graphically imposing the data onto a map, reducing candidates to their political parties gives more options; when the data is consolidated into two opposing values it can be displayed via a color gradient. Furthermore, working with the goal of creating maps that may further our understanding of the history behind the data, we believed it to be more illustrative to group candidates by their party affiliation and map the cumulative number of votes for one party against the other. Doing so required the knowledge of every candidate's political affiliation. For candidates lacking party information from a reliable source, we developed two methods for estimating likely affiliation—one based on historical information, and the other based on numerical information provided by the voting data.

The historical method of determining likely party affiliation involved biographical research and analysis of broader social, religious, and political trends; we carefully examined a candidate's biography, making note of non-political associations and attitudes frequently connected to a particular party preference. In turn of the 19th century Massachusetts, as in all cultures, certain religious beliefs, social practices, and philosophies were closely tied to a specific political outlook. With this in mind, we searched historical accounts of the lives of the candidates in question, looking for these important signifiers. When an adequate number of significant indicators had been found among the recorded biographical details of a candidate, we at that point decided that we had arrived at a likely estimation of the candidate's party affiliation.

In the case of the 2nd Western District's Warham Parks, for example, we began with the most basic facts of his life and career; a landlord, tavern owner, and active figure in local politics, Parks was very much a part of the region's cultural establishment. He had a long military career, serving in leadership roles during the Revolution and, importantly, during the suppression of Shays' Rebellion. As he worked with his contingent of soldiers to subdue civil unrest in the Springfield area, Parks was personally involved in moments of intense confrontation with the rebels. Traveling near West Springfield, then being held under martial law by Shaysite leader Luke Day, "Parks and Dr. Paul Whitney of Westfield were seized in their sleighs" by the rebels (Lockwood et al. 161). Parks not only confronted the Shaysites during the rebellion, but had also clashed with the angry farmers in the years leading up to the incident, long before they had taken up arms. Parks was one of the few dozen Hampshire County shopkeepers that had, from 1784 to 1786, repeatedly filed debt suits against their indebted customers (Szatmary 31). In a sense, Parks had contributed to the economic pressures that had prompted the Shaysites—the Shaysites he was now fighting—to initially revolt.

In light of this, we thought it highly unlikely that Parks would have given any consideration to the party that often identified with the rebels' cause—the Republican Party. Two additional biographical

facts would further support our conjecture that this candidate was a Federalist: Parks was married to his second wife, Rebecca Gorham, by the rabidly anti-Republican Congregationalist Jedidiah Morse, and his marriage announcement, along with his death notice later on, was published in Benjamin Russell's *Columbian Centinel*—Boston's preeminent Federalist newspaper. Given all of these key indicative details, we felt the historical method had satisfactorily established a probable partisan affiliation for this candidate. We then moved on, as with every candidate we examined through this process, to the numerical method.

The numerical method involved looking at the voting tendencies of critical towns. For a candidate of unknown affiliation, we made a note of each town in which he won a majority of votes. If none existed, we chose whichever towns he received the most support from, as a percent of the total votes cast within the town. Then we searched for patterns in that town's voting record. For example, Thomas Dwight ran for office in the 2nd Southern District in 1798 and received a significant 24.39% of the vote. Dwight won majorities in six towns: Abington, Halifax, Hanover, Marshfield, Pembroke and Plimpton. We looked at the fraction of the vote he won in each of these towns, and in his case it turned out that they were all substantial victories. He earned at least 63% of the vote in all 6 of them. In 1800, there were two trials for the 2nd Southern district, so we looked at the voting patterns of these six towns in each of the two trials. Out of these twelve cases, the majority of the vote went to Republican candidates eleven times. Yet the district as a whole was much more bipartisan, voting 47% and 54% Republican in each trial respectively. So we concluded that these critical towns were rather Republican-leaning in an otherwise neutral district. Thus, the fact that they were also very supportive of John Dwight led us to believe that he was most likely affiliated with the Republican Party.

When the historical and numerical methods both indicated the same result, we considered it a safe assumption to label the candidate in accordance with the analysis. This process left only one candidate unknown: Samuel Savage, who ran in the 1st Southern District in 1798**.** Throughout this

election's five trials, he received majorities in at least two trials in Chatham, Chilmark, Dennis, Edgartown, Provincetown, Sandwich, Truro, Wareham and Yarmouth. When these towns were not voting for him, they most often voted for the Federalist Lemuel Williams. However, Savage's profession as a physician, membership in a Fraternal Masonic Lodge and burial at a Unitarian church all imply that he was most likely a Republican (Rogers 108-111). He fit our criteria for significance because he won a majority in the town of Wareham, but he only received 2.39% of the district's votes; given his political ambiguity, we chose not to include him in the party totals.

Following this process of labeling and grouping, we compiled the results from each of the Commonwealth's eleven districts by Federalist votes and Republican votes for the elections of both 1800 and 1798. Where numerous candidates' votes had to be summed into a singular party-vote total, Excel's "SUM function" expedited the process. By typing **=SUM(** into a cell and then clicking on the first and last cells in a row or column, the program automatically sums the values within all of the included cells. Some gaps existed in the data, for various reasons, although often it was due to the fact that certain towns did not get their votes sent in to the capitol on time. In these instances, we made their values zero.

For the purpose of mapping, we then created a column for total votes—defined as Republican votes plus Federalist votes—and a column for margin of victory—defined as Republican votes minus Federalist votes. Excel's ability to perform these arithmetic functions made calculating these values simple. Finally, to facilitate organization, we created a column to represent each town's congressional district. The final spreadsheet was very large, but the beginning of it looked like this:

	A	B	C	D	E	F	G	H	I	J	K	L
1	TOWN	FED00	REP00	TOTAL00	MARGIN00		FED98	REP98	TOTAL98	MARGIN98		DISTRICT
2	AMESBUR	32	20	52	-12		11	0	11	-11		4M
3	ANDOVER	165	91	256	-74		83	0	83	-83		4M
4	BOXFORD	59	3	62	-56		19	0	19	-19		4M
5	BRADFORI	66	1	67	-65		29	0	29	-29		4M
6	GLOUCEST	167	0	167	-167		0	0	0	0		4M
7	HAMILTOI	65	0	65	-65		50	0	50	-50		4M
8	HAVERHIL	119	46	165	-73		89	0	89	-89		4M
9	IPSWICH	172	54	226	-118		82	0	82	-82		4M
10	METHUEN	44	52	96	8		38	0	38	-38		4M
11	NEWBURY	74	10	84	-64		36	0	36	-36		4M
12	NEWBURY	280	54	334	-226		90	0	90	-90		4M
13	ROWLEY	78	42	120	-36		19	0	19	-19		4M
14	SALISBUR	26	7	33	-19		20	0	20	-20		4M
15	TOPSFIELI	41	18	59	-23		22	0	22	-22		4M
16	WENHAM	42	8	50	-34		0	0	0	0		4M
17	BEVERLY	325	26	351	-299		56	0	56	-56		3M
18	DANVERS	257	139	396	-118		60	0	60	-60		3M
19	LYNN	308	122	430	-186		36	0	36	-36		3M
20	LYNNFIELI	54	5	59	-49		26	0	26	-26		3M
21	MANCHES	83	0	83	-83		30	0	30	-30		3M
22	MARBLEHI	66	377	443	311		111	0	111	-111		3M
23	MIDDLETC	29	25	54	-4		15	0	15	-15		3M
24	SALEM	467	470	937	3		220	0	220	-220		3M
25	BEDFORD	26	18	44	-8		13	18	21	5		3M
26	BILLERICA	151	23	174	-128		65	0	65	-65		3M

Figure 7. Electoral data in MS Excel ready for importation into ArcMap.

3.4 Integrating the Data and Map

In order to import these numbers into ArcMap, we first needed to save the table as a comma separated values file, by selecting **File > Save As** and choosing **CSV (comma delimited)** for the "Save as Type" option. Then, in ArcMap, we made a copy of the shapefile layer by right-clicking on "TOWNSURVEY_POLYM" in the "Table of Contents" and selecting **Copy** and then from the main ArcMap window selecting **Edit > Paste**. Doing this created an identical layer for which we could alter the "Symbology" options without affecting the first layer. We renamed the new layer "MASS 1800," right-clicked on it and selected **Joins and Relates > Join** to summon a "Join Data" wizard. Filling out the wizard according to the image below, we hit **OK**. Note that "Election Data.csv" is the name of the voting table we created in Excel.

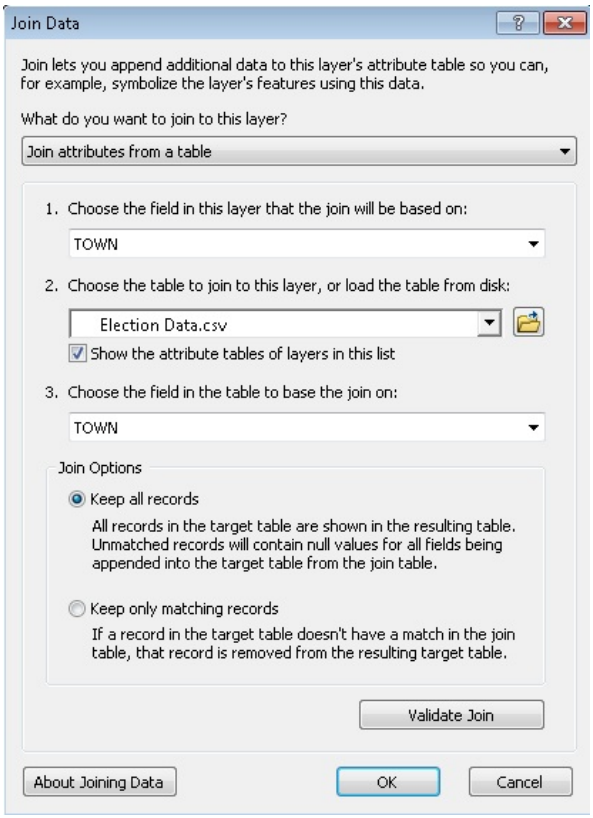


Figure 8. ArcMap's "join data" wizard.

This added the values in our spreadsheet for FED00, REP00, TOTAL00, MARGIN00, FED98, REP98, TOTAL98, MARGIN98 and DISTRICT to the attribute table for the town polygons in ArcMap.

3.5 Visualization of Electoral Data

What is potentially the most useful aspect of this project is the ability of visualizations to aid in the analysis of historical trends via the election data. Regarding display options, the philosophy of author Edward Tufte, expert on infographic design, is apropos. His stance on visual design is that it is more useful as an analytical tool than an expository one. In his words, from an interview for Technical Communication Quarterly, "at their best, graphics are instruments for reasoning" (Zachry). His work is concerned less with rhetoric and more with cognitive science. He believes that effective designing creates images according to the mental task they are attempting to assist. For example, "if a thinking task is to answer a question and compare it with alternatives, the design principle is 'Show

comparisons'" (Zachry). This principle on the relationship between display and the information we wish to convey is useful in choosing ideal visual options.

Joining the data file to the map made it possible to visualize the data with the "Symbology" tab in the "Layer Properties" window. To create visuals for the newly added data, we opened the "Symbology" window by right-clicking our shapefile layer in the "Table of Contents," selecting **Properties**, and then clicking the tab labeled **Symbology**. ArcMap offers several different ways to display data. The **Graduated Colors** display—under **Quantities**—and the **Stacked** display—under **Charts**—are suitable for the election data. To use the "Graduated Colors" display, we first selected "MARGIN00" for the "Value," "TOTAL00" for the "Normalization" and "2" for the "Classes." Finally, in the "Classification" portion of the window, we clicked **Classify** and changed the "Method" to **Equal Interval**. This gave each town a numerical value representative of the party it favored in 1800 and the amount by which they favored that party. Since these values ranged from -1.0 to 1.0, the **Equal Interval** setting set the divide at zero, so that any negative value was one color and any positive value was the other. Note that if the range of data in the Excel file did not extend from -1.0 to 1.0 then it would have been necessary to manually edit the "Intervals" in the "Classification" window.

Because we calculated the "MARGIN00" value as "REP00 – FED00," a positive value correlateed with Republican support and a negative with Federalist. During the War of 1812, the Federalists were known as "Blue Lights," so we selected a "Color Ramp" that went from blue to red. That way, blue colors corresponded to a majority of Federalist votes and red colors corresponded to a majority of Republican votes. With the "Classes" value set to "2," this configuration displayed each town as one of two colors: a dark red or a dark blue. Clicking **OK** and ensuring that the layer was checked in the "Table of Contents," we had our first map. We uncheck the "MA Towns" layer in the "Table of Contents," which contained the town names, because they were too difficult to read on a map of the whole state like this:

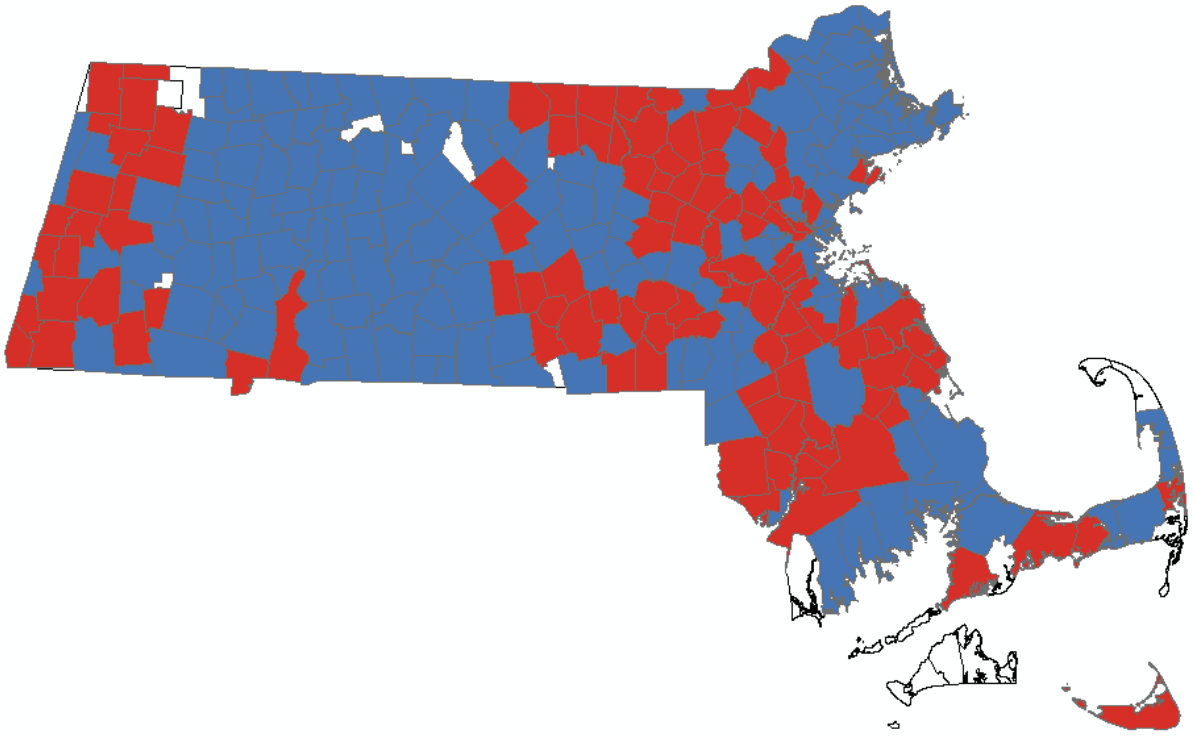


Figure 9. Statewide binary representation of 1800 data.

After creating this two-color map, we also decided to make a map with a red-blue color gradient showing the margin of victory in each town. To change the color scheme, we reopened the **Symbology** tab and changed the "Classes" value to "10," which automatically assigned values to different colors along the blue-red color spectrum we chose. The choice to have ten colors was based on a balance between allowing for variation and having each color remain distinguishable from the others. On that note, to enhance the distinction between the colors, we edited the "Color Ramp" so that it began and ended with a darker red and a darker blue by right-clicking on it, selecting **Properties**, and editing each of the two "Algorithmic Color Ramps." It made sense that a dark red should indicate a strong Republican victory and a dark blue a strong Federalist victory, with progressively lighter colors indicating smaller margins of victory and ultimately converging at white. Thus, we changed the colors of the first ramp to "Ultra Blue" and "Arctic White" and the colors of the second ramp to "Arctic White" and "Poinsettia Red," in that order. Doing so produced a complete color ramp that spanned from dark blue to white to

dark red. We right-clicked on the "Color Ramp" once it was done and selected **Save to Style**, so that to switch back to a two-color display, we simply had to change the "Classes" value back to "2." Next, to make this color scheme easy to reproduce in other layers, we made a copy of this layer and renamed the new one "MASS 1798."

To map the 1798 election, we opened the "Symbology**"** tab for the new layer, selected **Import**, and chose to import the symbology definition from the "MASS 1800" layer, merely changing the "Value Field" to "MARGIN98" and the "Normalization Field" to "TOTAL98" when prompted. This programmed the new layer to reflect the 1798 election, and after having mapped this, we were free to switch back and forth between the two elections by checking and unchecking their respective layers in the "Table of Contents."

To add district borders, we had to create another separately editable layer. To do this, we right-clicked on the "TOWNSURVEY_POLYM" layer in the "Table of Contents," selected **Data > Export Data**, and renamed the new layer "District Layer." Creating the layer with this method enabled us to edit the new layer's polygons without affecting the other layers. Using the editing toolbar and choosing to edit the new layer, we merged all of the towns in the state into their respective districts. To make the process more efficient, we used **Selection > Select by Attributes** to select every town in a district simultaneously. For example, to select every town in the 1st Middle District, we typed "DISTRICT" = "1M" into the "Select by Attributes" wizard. This handled all of the selecting that was necessary before applying the merge function, with the exception of the unincorporated areas, which we selected manually. To create borders, we used the "Symbology" tab and selected the **Single Symbol** display—under **Features**—and set the "Fill Color" to "No Color," the "Outline Width" to "1.5" and the "Outline Color" to "Black." Making sure that this "District Layer" was above the other layers in the "Table of Contents" list, the district borders could be toggled on and off by checking and unchecking the layer. The state-wide gradient map with the district borders looked like this:

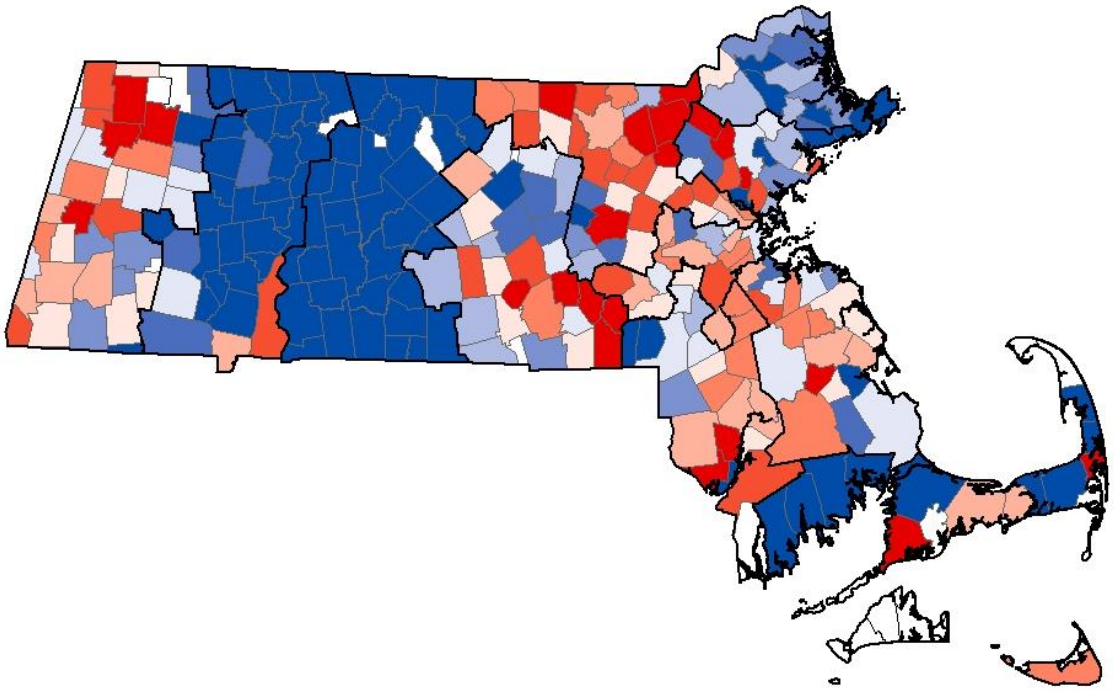


Figure 10. Statewide ten-color "graduated colors" representation of 1800 data with district borders.

To supplement these town-level maps, we used this new layer to make district-level maps of the election as well. While in "Edit" mode we renamed the eleven district polygons, and added these names to the "TOWN" column in the "Election Data.csv" Excel spreadsheet. We calculated the "FED00," "REP00," "FED98" and "REP98" values for the districts using Excel's "SUM function" and the "TOTAL" and "MARGIN" values by adding and subtracting just as we did for the towns. In order to allow ArcMap to recognize that changes had been made to the "Election Data.csv" spreadsheet, we had to rename it to "DistrictData.csv" and do a "Join" to the "District Layer" in the "Table of Contents." Following the join, we imported the symbology definition from "TOWNSURVEY_POLYM" to produce the ten-color gradient visualization for the district vote totals in both elections.

3.6 Mapping Special Cases

These preliminary maps only assigned color to towns which cast votes in the election being mapped. As such, there were a number of blank spots on the map for various reasons; some towns

didn't cast any votes in one or both of the elections, while the scattered unincorporated territories naturally did not vote either. We decided that the map should differentiate between towns that did not vote and areas that were not incorporated. To do this, we made another copy of the "TOWNSURVEY_POLYM" layer in the "Table of Contents," renamed it to "MASS Special Cases," and opened its "Symbology" tab. In this window, we set the type of symbology to Unique Values—under Categories—and set the "Value Field" to "TOWN." We clicked on Add Values and individually added "Bernardston Grant," "Mashpee," "Oxford South Gore," "Sundry Grants" and "Unincorporated Land," which enabled us to edit the way each of these polygons was displayed.

The Gore and the Grants were just unincorporated areas that had been given names, so we chose to group them together with the various generically labeled Unincorporated Lands. By simultaneously selecting these, right-clicking and selecting Properties for Selected Symbol(s), we changed the "Fill Color" to "Gray 70%" for all of the unincorporated areas. We edited the symbol for "<all other values>" by double-clicking on it, selecting Edit Symbol, and changing the "Type" to "Line Fill Symbol" and the "Separation" to "3."

At the time of the 1798 and 1800 elections, Mashpee was designated as Indian Lands and thus had no eligible voters. Since this was a special case, we changed its symbol's "Fill Color" to "Leaf Green," so that it would be clearly distinct while not interfering with the reds and blues of the electoral visualizations. After closing the "Symbology" tab, we moved this "MASS Special Cases" layer to the bottom of the list in the "Table of Contents," as this instructed ArcMap to draw it beneath the other layers. By doing so, the representation from this layer was only visible through the election layers in towns that were previously blank.

The final anomaly that had to be accounted for was with the towns of Templeton and Plainfield. In the election of 1800, these towns failed to deliver their votes to the capitol by the deadline, so they

were not counted in the election. However, our data included these towns' returns. We felt that for the purpose of historical analysis it was beneficial to include said returns in our maps, but that it would be necessary to make it clear that these cases were unofficial. Based on our previous decision to display towns that did not vote with a line pattern over a blank background, it followed logically that Templeton and Plainfield ought to have the same line pattern over a background color indicative of their voting totals. This merely required making another copy of the "TOWNSURVEY_POLYM" layer, renaming it "MASS Special 2," and following the same procedure as the other special cases. The only difference this time was that we used Add Values to add Templeton and Plainfield, gave them the "Line Fill Symbol" type with the "Separation" set to "3," and changed the "<all other values>" symbol's "Fill Color" to "No Color" and its "Outline Width" to "0." Lastly, by placing this "MASS Special 2" layer above the election layers in the "Table of Contents," the line pattern for these two towns was superimposed on their visualization of the election data. Following all of these special case tweaks, the resulting binary view of the whole state in 1800 looked like this:

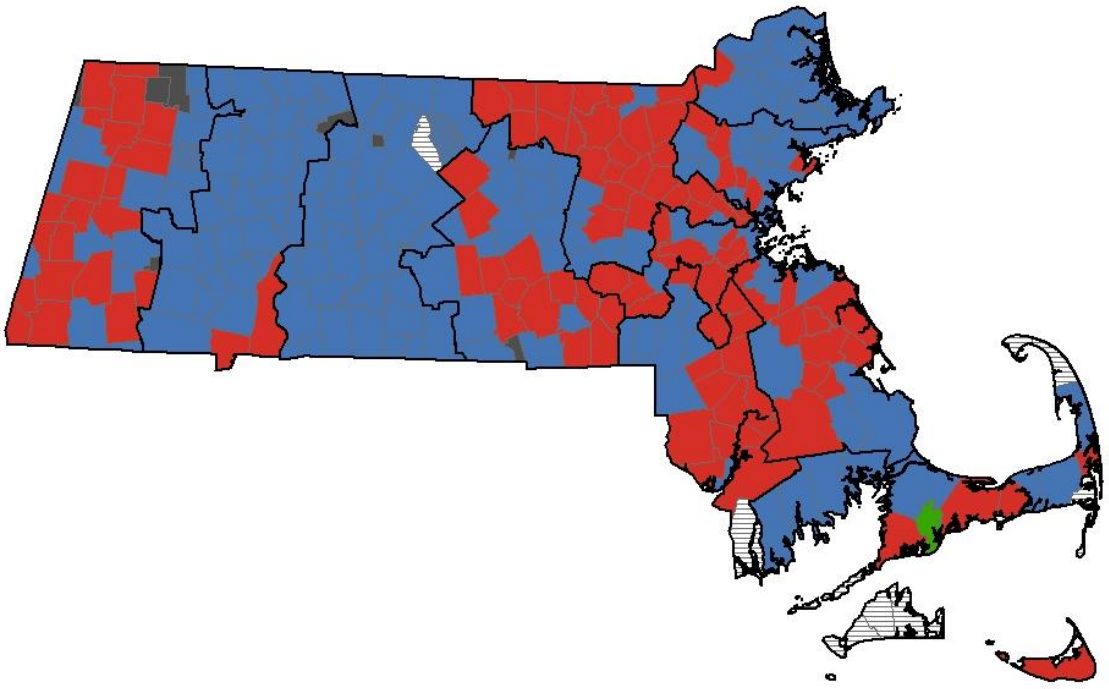


Figure 11. Statewide binary representation of 1800 data with district borders and special cases.

3.7 Exporting Map Images

The above image was our first map, which for organizational purposes we called Map B2, and we exported it as an image file by selecting **File > Export Map** and saving it as a **JPEG** file. We also produced an image from the ten-color gradient representation of the same election, Map B4, and then repeated the process with the district-by-district data naming the binary one Map B1 and the gradient one Map B3. Upon completing that, we prepared to make maps of each individual district, which would allow for easier viewing of small areas while also enabling the town names to be shown. While seeing the two-color display on a bigger scale doesn't add much, a close-up of the ten-color representation aids in distinguishing between colors that are adjacent to one another on the "Color Ramp," so we only produced the individual district maps with the ten-color gradient display.

To isolate a district by blanking out the others, we made a copy of the "District Layer" in the "Table of Contents" which we named "Single Districts." In this new layer's "Symbology" tab, we chose

the **Unique Values** subset of the **Categories** type and clicked **Add All Values** to add the eleven districts to the list of values. Right-clicking and selecting **Properties for All Symbols**, we set the "Fill Color" to "Arctic White" and the "Outline Width" to "0." This set the whole layer to a white that covered the entire state. Then we changed the "Fill Color" of a single district to "No Color," zoomed in on it, exported a ".jpeg" image and repeated the process for the remaining districts, producing a set of maps that we called B5-B15.

Before applying this procedure to the 1798 election data, we had to account for Burlington, which separated from Woburn in 1799. In ArcMap, editing a shapefile such as our "TOWNSURVEY_POLYM" layer, or any of its copies, makes permanent changes to the file that the software is drawing from, affecting all related layers. That is, removing Burlington in the "MASS 1798" layer also would have removed it from the "MASS 1800" layer. Rather than starting from scratch with a new shapefile, we remedied the situation with "Merge" function, using to combine Burlington and Woburn, by initiating but not terminating editing mode. Doing so permitted us to produce the same maps for 1798 as we did for 1800 and then select **Edit > Undo Merge** to recover Burlington. Our 1798 maps followed the same naming convention, making these Maps A1-A15.

3.8 Integrating Census Data

To fully utilize the potential of our maps as a geographic information system, we sought out other spatial data which we could layer over the election results. Finding any data from our time period with town-level specificity proved difficult, but the US Census Bureau began producing their decennial census report in 1790, and the 1800 census report included individual town populations. While no population data specific to 1798 existed, we felt that the use of the 1800 town populations in 1798 maps was an acceptable approximation. To incorporate this data, we downloaded the report from their website and manually copied the numbers into our Excel spreadsheet in another column, labeled "POP" (United

States. Dept. of Commerce. Census Bureau). We also used Excel's "SUM function" to determine the population totals for the eleven districts.

To make a useful representation of the population data, we added the area of each town to the Excel sheet as well, in a new column titled "AREA." Land area statistics exist for towns today, so municipalities that have remained constant between 1800 and the present are readily researched. However, for towns which have undergone boundary changes in the last two centuries, the most efficient means of approximation is to use ArcMap's **Measure** tool to **Measure a Feature**, as highlighted in yellow in the image below:

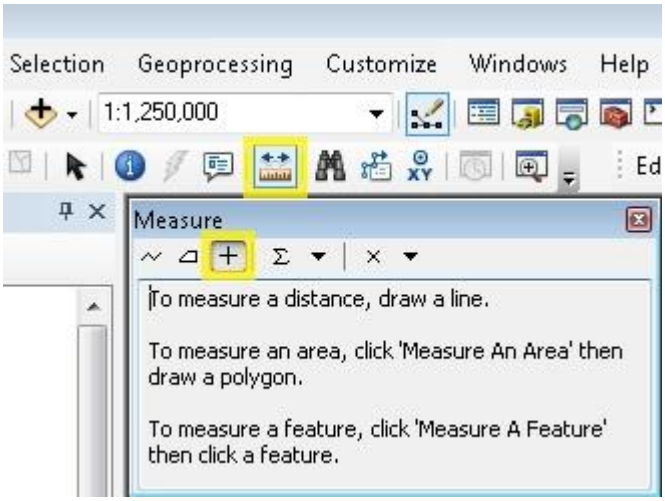


Figure 12. ArcMap's "measure a feature" tool.

For the sake of consistency, we calculated the area of every town with this tool and recorded the values in the Excel sheet. Additionally, we measured the areas of the districts, as well, by using this tool on the "District Layer." In order for ArcMap to notice the change, we had to save the amended spreadsheet with a different name, so we called it "Population Data," remembering to still use the ".csv" file format.

Back in ArcMap, in order to present the new population data in the same map as the voting data, we created a copy of the "TOWNSURVEYPOLY_M" layer and named it "MASS Population." Then we joined the data to the new layer by right-clicking on said layer in the "Table of Contents," selecting

Joins and Relates > Join, and filling out the "Join Data" wizard the same way as before but with "Population Data.csv" as the file to join to the map.

Once the join was complete, we opened the "Symbology" tab for the new layer, selected **Quantities > Graduated Colors** on the left and chose "POP" for the "Value" and "AREA" for the "Normalization." We set the "Classes" to "10," left the classification on "Natural Breaks," and by right-clicking on the "Color Ramp" to edit its **Properties**, we constructed a ramp that spanned from "Gray 10%" to "Black."

This visualization effectively displayed the population density of each town, which lent itself very well to historical analysis when combined with the electoral data. Using the "Graduated Colors" display for population data in place of voting data necessitated the use of another visualization option for the voting data when the two were to be mapped simultaneously. The "Stacked Chart" option came in handy here, although the columns it produced were too big to view town-level data over the entire state. Thus we began with the town-level data looking at close-ups of individual districts.

The voting data we needed was already joined to our map through the "MASS 1798" and "MASS 1800" layers; however, to isolate single districts, we had to rearrange the data in the Excel sheet. We created a new spreadsheet for this and copied the "TOWN" column from our "Election Data.csv" sheet, yet instead of making columns solely for 1800 Federalist votes, 1800 Republican votes, etc., we made separate columns for each district in each election. That is, we made a column for 1800 Federalist votes in the 1st Western District, another column for 1800 Republican votes in the 1st Western District, and so on. This created a staggered table that looked like this:

	A	B	C	D	E	F	G	H	I
1	TOWN	F1800M4	R1800M4	F1798M4	R1798M4	F1800M3	R1800M3	F1798M3	R1798M3
2	FIX	0	0	0	0	0	0	0	0
3	AMESBUR	32	20	11	0				
4	ANDOVER	165	91	83	0				
5	BOXFORD	59	3	19	0				
6	BRADFORI	66	1	29	0				
7	GLOUCEST	167	0	0	0				
8	HAMILTOI	65	0	50	0				
9	HAVERHIL	119	46	89	0				
10	IPSWICH	172	54	82	0				
11	METHUEN	44	52	38	0				
12	NEWBURY	74	10	36	0				
13	NEWBURY	280	54	90	0				
14	ROWLEY	78	42	19	0				
15	SALISBUR	26	7	20	0				
16	TOPSFIELI	41	18	22	0				
17	WENHAM	42	8	0	0				
18	BEVERLY					325	26	56	0
19	DANVERS					257	139	60	0
20	LYNN					308	122	36	0
21	LYNNFIELD					54	5	26	0
22	MANCHESTER					83	0	30	0

Figure 13. Electoral data in MS Excel organized for use with "stacked charts" display in ArcMap.

Note that when any cell in the second row is left empty, ArcMap cannot understand the data, so we added a row, labeled "FIX," and filled it with all zero values so as not to affect any of the real data.

This spreadsheet contained four separate columns for each of the eleven districts, as well as four columns for the district totals of 1800 Federalist, 1800 Republican, 1798 Federalist and 1798 Republican votes.

Before joining this spreadsheet to the map, we made one last change to adjust for the 1st Middle District, where the relative population of Boston created a scale issue. Due to the size of the capitol, the number of votes cast in Boston dwarfed the numbers from the other towns in its district. As a result, any representation of the vote totals with the "Stacked Chart" symbolization either made Boston's columns too big to fit on the map or the remaining towns' columns too small to distinguish between. To resolve this, we made four more columns for the vote totals in all of the 1st Middle District excluding Boston.

We saved the new spreadsheet as "Election Data Columns.csv," and back in ArcMap joined it to a new layer named "MASS Columns," which we created from a copy of "TOWNSURVEY_POLYM." In this layer's "Symbology" tab, we selected **Charts > Stacked** for the type, and began by double-clicking "F1800W1" and "R1800W1" from the "Field Selection" window. We respectively changed the symbol color of these values to "Ultra Blue" and "Poinsettia Red," and set the **Size** to "40." This generated red and blue columns in the 1st Western District for each town, where the size of the blue portion of each column was indicative of the number of Federalist votes cast, and the red portion of the number of Republican votes cast, in 1800. Turning on both this layer and the "MASS Population" layer in the "Table of Contents," while using the "Single Districts" layer above them to cover the remaining districts, we zoomed in on the district and exported a ".jpeg" of this image:

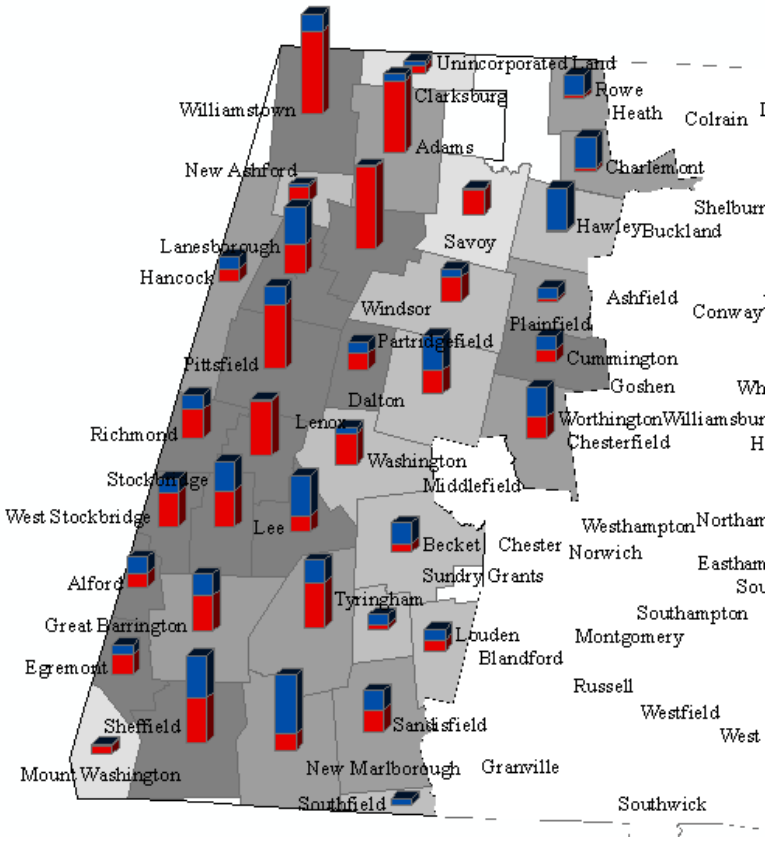


Figure 14. 1800 electoral data in "stacked charts" over population data in 1st Western District.

The unincorporated territories here were left white by unchecking “MASS Special Cases” in the “Table of Contents,” so as not to be confused with the grays of the population density layer. This process was used to produce a similar map for each district in 1800; these were named Maps B17-B27. We repeated the process for 1798, labeling these Maps A17-A27.

To make district-level versions of the same type of map, we made two copies of the “District Layer” in the “Table of Contents,” naming them “District Population” and “District Columns.” We joined the “Population Data.csv” file and the “Election Data Columns.csv” file to these new layers, respectively. With these we followed the same procedure as before, exporting a “.jpeg” image of the whole state in 1800, by district, as Map B16, and an equivalent “.jpeg” of 1798 as Map A16.

3.9 Change in Voter Turnout Maps

Having mapped the election returns and the available demographic data, we sought out further applications for our GIS endeavor. Based on the “A New Nation Votes” data, it was possible to investigate the change in the number of votes cast as a means of locating and quantifying public fervor for the chosen elections. Unfortunately, simple voter turnout maps for each election were not possible. They would require knowledge of the number of eligible voters, data that was not available to us, as voting requirements were based on a number of factors not included in the census report. The change in total voters between 1798 and 1800, however, was in itself an elucidative piece of information, based on the assumption that the number of eligible voters within a given town did not change significantly from one election to the next.

While we found it necessary to exclude insignificant scatter candidates in mapping the election results, where the concept of voter turnout was concerned, we preferred to include all candidates in order to obtain truer realizations of total votes cast. As such, we returned to our numbers from the “A New Nation Votes” database and used Excel’s “SUM function” to obtain totals for votes cast in each town and district for each of the two election years. We allocated these totals to new columns, which

we named “ALL1798” and “ALL1800,” and then we created a column, titled “VOTEDIFF” that was defined by the difference of the two previous columns, entered into its cell as “=ALL1800–ALL1798.” Based solely on this definition, however, a town that failed to vote in 1800 but did vote in 1798 would have registered as a huge decline in voter turnout in 1800. Given that the goal with the change in voter turnout map was to measure a town’s theoretical enthusiasm for the 1800 election relative to 1798, this classification was misleading. Consequently, we opted to exclude from this representation any towns that failed to vote in either election. Rather than replace values from said towns with zero values, we left their cells blank so that ArcMap would not recognize them at all. Otherwise, towns that we excluded would have been represented the same way that towns with no change in voter turnout did, of which there were a few. We were also careful not to calculate the cumulative district totals for “ALL1798,” “ALL1800” and “VOTEDIFF” until we had removed the misleading towns, so that the graphic displays of the districts would match those of their constituent towns.

Saving the spreadsheet as “Change in Turnout.csv,” we joined it to a copy of “TOWNSURVEY_POLYM” in ArcMap which we named “MASS Turnout.” To create an effective visualization, we needed two colors not yet used by any of our other maps, and we elected to use maroon as a strong, dark color to represent an increase in votes cast and yellow as a weak, light color to represent a decrease. We opened the “Symbology” tab, chose **Quantities > Graduated Colors**, and set the “Value” field to “VOTEDIFF” and the “Normalization” field to “ALL1798.” This symbology definition instructed ArcMap to assign towns colors based on the formula:

$$\frac{ALL1800 - ALL1798}{ALL1798} \times 100\%$$

Figure 15. Formula for calculating percent change in voter turnout.

which is the standard definition for percent change, in this case change in percent of voters from 1798 to 1800.

Right-clicking on the “Color Ramp” to edit its **Properties**, we used two “Algorithmic Color Ramps,” one which spanned from “Solar Yellow” to “Arctic White” and another which spanned from “Arctic White” to “Dark Umber.” We set the “Classes” to “11” and clicked **Classify** to change the “Method” to “Geometric Interval” to produce an appropriate scale, but then we manually edited the interval values slightly so that the middle interval ranged from “-0.00001” to “0.00001.” That way, a “VOTEDIFF” value of “0” was aptly marked white, and anything above it became maroon, while anything below became yellow.

We made sure that our “District Layer” and “MASS Special Cases” layer were checked in the “Table of Contents,” and exported a “.jpeg” image of the entire state, Map D2, which looked like this:

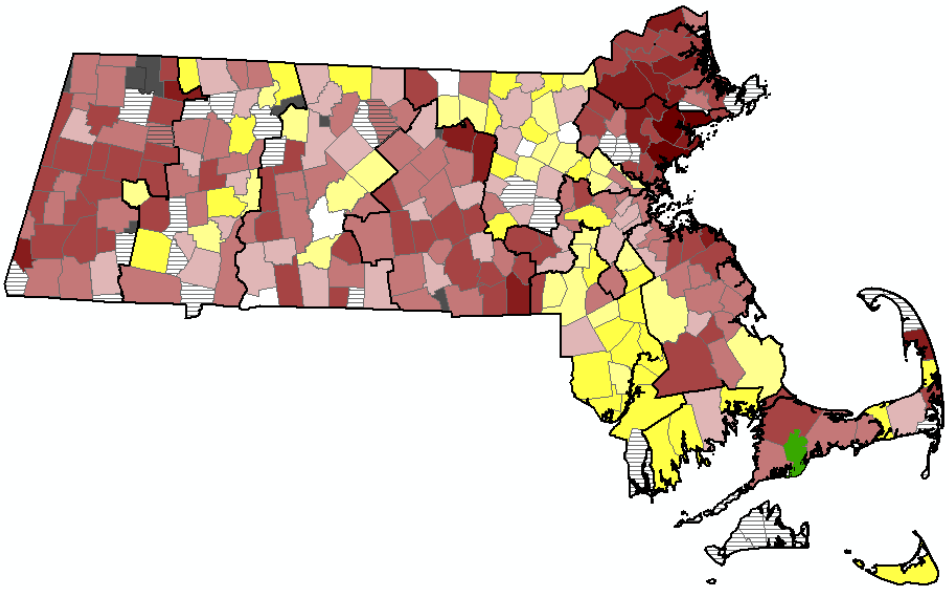


Figure 16. Statewide change in voter turnout representation.

Then using the “Single Districts” layer to cover the other ten districts, we zoomed in and exported close-up “.jpeg” images of the eleven districts individually, labeling these Maps D3-D13.

Following the town-level voter turnout maps, we made a copy of the “District Layer” in ArcMap’s “Table of Contents,” named it “District Turnout,” and joined the “Change in Turnout.csv” file

to it. In the "Symbology" tab for this layer, we used **Import** to apply the symbol definition we created for "MASS Turnout," and exported an image of this district-level visualization, which we called Map D1.

3.10 Change in Party Support Maps

The final visualization we implemented involved tracking the change in the way towns voted between 1798 and 1800. Although such change is easily discerned from the numerical data, we discovered that the presence of a visual aid significantly streamlines and enhances critical investigation. Stored in the "Election Data.csv" spreadsheet, we already had calculations of the margin of victory for each election. We made two new columns for the normalized margin of victory in the two elections. One column, which we named "MARGNORM," we defined as "=MARGIN00/TOTAL00," and the other, which we named "MARGNO98," we defined as "=MARGIN98/TOTAL98." The creation of these allowed us to calculate the difference in party support from 1798 to 1800, by defining a column with the value "=MARGNORM-MARGNO98," which we named "MARGDIFF." Ultimately, the display was governed by this formula:

$$\left(\frac{REP1800 - FED1800}{TOTAL00} - \frac{REP1798 - FED1798}{TOTAL98}\right) \times 100\%$$

Figure 17. Formula for calculating change in share of vote.

Much akin to the change in voter turnout maps, an issue arose when a town failed to vote in either election. Based on the above definition for the difference in party support, a town that didn't vote in 1798 and then voted strongly in favor of the Republican Party in 1800 would show up as having a large increase in Republican support, where such a conclusion may not have been true. As a result, we once again excluded any town that did not vote in both 1798 and 1800 by removing their value for "MARGDIFF" and leaving the cell blank.

We calculated "MARGDIFF" values for the districts as well, excluding results from any towns that did not vote in both elections. We saved this file as "Change in Support.csv" and joined it to new layers

in ArcMap named “MASS Change” and “District Change,” which we created from copies of “TOWNSURVEY_POLYM” and “District Layer,” respectively. Following the joins, we imported the “Symbology” definition from “MASS 1800” to the new “MASS Change” layer for consistency in color, changing the “Value” field to “MARGDIFF” and the “Normalization” to “none.” Regarding the “Classification,” we set the “Classes” number to “11” and clicked **Classify** in order to manually set the “Break Values” to “-1.6, -1.2, -0.8, -0.4, -0.00001, 0.00001, 0.4, 0.8, 1.2, 1.6 and 2.0.” Doing this was necessary to produce a visualization scheme that accurately mirrored the red and blue scheme of Maps 1A-E and 2A-E while also adjusting for neutral values. With the old classification scheme, a town with a zero value for “MARGDIFF,” indicative of no change in party support from 1798 to 1800, would show up as light blue. By adding the eleventh classification interval, zero values were displayed by a plain white color.

We exported a “.jpeg” image of the whole state with the “District Layer,” “MASS Change,” and “MASS Special Cases” layers checked in the “Table of Contents,” and called it Map C2:

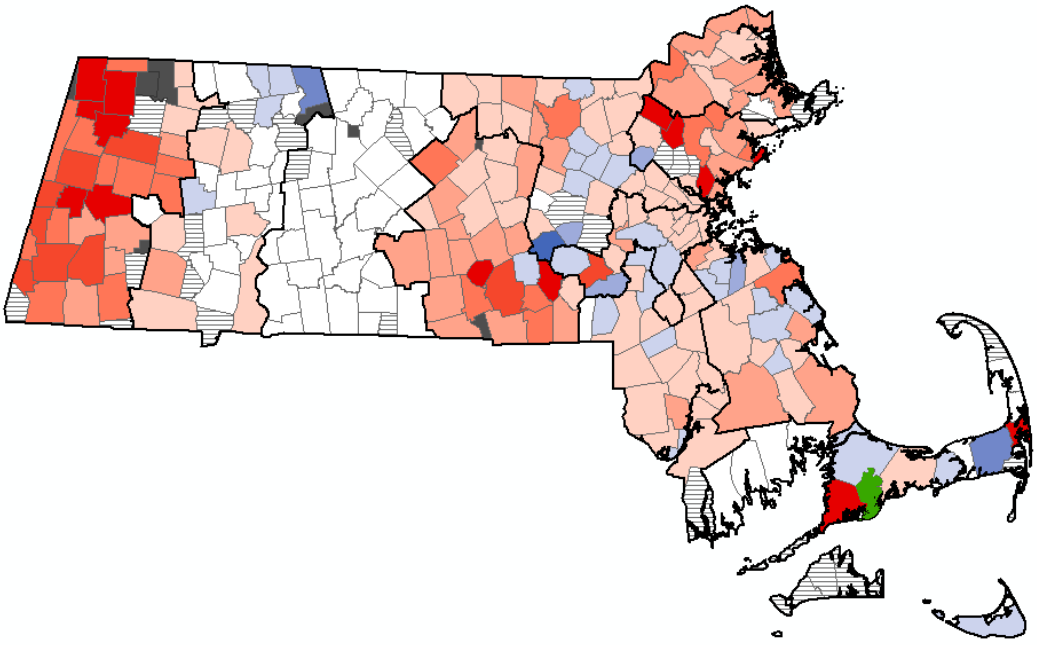


Figure 18. Statewide change in share of vote representation.

Using the “Single Districts” layer to isolate one district at a time, we exported images of each individual district with this display and called them Maps C3-C13. Then we turned on the “District Change” layer by checking it and unchecking “MASS Change” in the “Table of Contents,” imported the “Symbology” definition from “MASS Change,” and exported an image of this map, which showed the change in party support at the district level; we called it Map C1. Then using Adobe Photoshop, we produced legends for all of our maps as they appear in the Appendix.

Chapter 4: Results and Analysis

4.1 Results and Analysis: GIS

The ArcGIS software provided two basic ways to display spatially coordinated data over the map of the state. The data corresponding to a particular town could either be represented in the color filling in the town or in a symbol placed within the town, and each of these options had its own strengths and weaknesses. We began with the "graduated colors" display, and given that our task was to map bipartisan election data, we chose to use two colors—red and blue. Naturally, for the binary maps which only indicated the winning candidate, towns were colored either red or blue, and that was it. For the maps that showed margin of victory, the red-to-blue color gradient offered an effective means of visualizing the strength of the partisan support in each town. We elected to use ten distinct colors—five shades of red and five shades of blue—for two reasons; first, any more than ten and it became difficult to differentiate between similar colors, and second because it allowed us to employ an even interval, where each color represented a range covering 10% of the possible vote distribution. This color scheme lent itself well to the direct comparison of multiple towns, as each of the ten shades was noticeably distinct and easily recognized. Therefore, a quick glance at the map was sufficient to make comparisons between relative party support in different towns.

The "graduated colors" arrangement was inherently limited, however, by its inability to express more than two values at a time or to show the total votes in a town. To remedy this, the symbol visualization known as "stacked chart" came in handy. This view placed a blue column, whose size was indicative of the number of Federalist votes cast, on top of a red column, indicative of the number of Republican votes. In doing so, the height of the total column, made up of a red part and a blue part, signified the total number of votes cast in a given town. Moreover, the "stacked chart" didn't interfere with the color of the town, thus leaving space on the map for another layer of data. However, with this

type of display, smaller differences in voting patterns between towns weren't as clearly distinguishable. Thus, by Tufte's visual design principle, this type of map would be less useful in a relative analysis, but more useful in a quantitative analysis. It should also be noted that the "stacked chart" was readily capable of including more than two numbers per town, so although it did not apply to our project, if someone were to map individual candidates rather than grouping them by party, this display would be advantageous.

For the visualization of population density, unlike electoral data, each town corresponded with only a single quantity, and thus the parameters for what constituted the ideal display were different. The "stacked charts" were no longer useful, as a comparison of population or population density by column size would not be precise. In its place, there was a "dot density" option that we liked initially which assigned each town a number of dots based on its population and randomly spread them throughout the town's area on the map. As such, the nature of the visualization technique incorporated the size of each town, effectively representing population density. This approach was limited, however, because it assigned the most densely populated municipalities such a high concentration of "dots" that they filled in the territory completely, impeding on the ability to display another data layer through these towns' background colors. Consequently, we measured each town's area and calculated population density values for each town, which we applied to the "graduated colors" scheme. Note that with our decision to layer the election results, in the form of "stacked charts," over the population density, we could have used either "dot density" or "graduated colors" for the population values. We opted to use the "graduated colors" for their superior comparative quality; objectively distinguishing slight differences in dot concentration was much less accurate than identifying changes in color.

For our third and fourth sets of maps, which were of change in voter turnout and change in share of vote, the "graduated colors" display was the obvious choice. Both types of maps were two-

sided in nature; the change in voter turnout values included both increases and decreases, and the change in share of vote values had some shifts toward Republican support and some shifts toward Federalist support. Since the "stacked chart" and its relatives could not reflect negative values, they were not viable options for the representation of this type of data. The "graduated colors" display, however, could cater to this duality, just as it did when mapping Federalist and Republican votes in the first two map sets.

The change in voter turnout maps, blind to faction as they were, required a color scheme that did not involve red and blue, colors we had already assigned to the two political parties. We desired a system that would intuitively indicate increases and decreases in votes cast. Through trial and error we found that a maroon-yellow color spectrum, centered on a neutral white, was straightforward when maroon corresponded with an increase and yellow a decrease.

On the other hand, for the change in share of vote maps, we deemed it ideal to reuse the red-blue color scheme of the earlier maps. While the change in share of vote was undoubtedly a distinct entity from the plain share of vote, the calculated values for this concept were still either "Republican" or "Federalist" in nature. In a sense, the change in share of vote numbers were simply the 1800 share of vote numbers relative to the 1798 ones, and therefore they were equally deserving of the reds and blues as were the initial maps.

Perhaps equally as important as our representation of the electoral data was how we dealt with the non-data; i.e., the non-voting geographical entities. These included the Bernardston and Sundry Grants, the Oxford South Gore, the Mashpee Indian reservation and the various nameless unincorporated territories. In accordance with map historian J.B. Harley's view of the map as a rhetorical text, capable of creating and perpetuating ethnocentric social structures, we realized the potential implications of our decisions. As such, were careful not to overlook these areas, lest selective omissions

implicitly deny their significance. In the words of Harley, arguing against the objectivity of mapping, “indeed, the freedom of rhetorical manoeuvre in cartography is considerable: the map-maker merely omits those features of the world that lie outside the purpose of the immediate discourse” (11). The Grants, Gore and unincorporated areas were officially recognized because they were largely uninhabited, but Mashpee was its own community, a final refuge for the native peoples of Cape Cod as European colonization methodically drove them out of their homeland (Campisi). Its failure to be recognized by the state legislature and given the right to vote was a microcosm of the total oppression it faced. Thus, we felt that had we not distinguished it cartographically from the other unincorporated territories, we would have been retroactively perpetuating this oppression. Granted, our task dealt with mapping Congressional voting data, and Mashpee did not vote in these elections, so it was inevitably going to be in some way excluded. By giving it a unique representation, though, we hoped to avoid an implication of unimportance. Ultimately, we marked Mashpee a vibrant green color, regrettably separate but not to be overlooked.

By far the most significant visualization decision we made, though, was to group the electoral candidates by political party. It is crucial to note this decision, because it altered the nature of all of our maps on a very fundamental level, yet it could easily go unnoticed. In order to appropriately inform our audience, we must keep in mind that people “often tend to work from the premise that mappers engage in an unquestionably 'scientific' or 'objective' form of knowledge creation,” while that assumption is certainly not true in this case (Harley 1). While we did strive for objectivity in all of our mapping endeavors, the decision to group candidates by party involved a sizable assumption regarding how the field of cartography could best be applied to the data. In retrospect, our feelings haven’t changed on the matter, though. Our candidate consolidation enabled us to produce much more descriptive maps by virtue of the fact that there were only two categories of votes to be mapped. With three or more candidates, the distribution of votes would not have been linear, and therefore it

wouldn't have prescribed itself to the "graduated colors" spectrum that we favored. Additionally, the ability to classify the Commonwealth's political trends by the larger political structures they were a part of allowed the analysis of national politics to give our chosen elections context, and thus a broader significance.

4.2 Results and Analysis: Map Interpretation

As the Commonwealth's Federalists and Republicans competed for political influence in the late 1790s and early 1800s, the state's electorate became increasingly divided, as certain groups sided with the party of Hamilton and others the party of Jefferson. The classic paradigm for the Federalist-Republican demographical split did not apply in Massachusetts; the state political situation involved greater complexity than did the stereotyped model that simply pit the modest Republican yeomen against the imperious mercantile elite of the Federalist Party. While the Commonwealth did have its share of prosperous Federalist traders, and a considerable number of Republican farmers, it also had within its borders Republican merchant families of great wealth and stature, as well as a large population of poor Federalist farmers. With highly local circumstances and anomalies frequently dictating the partisan composition of key sections of the electorate, sweeping generalizations—based on geography, wealth, or even religion—fail to adequately portray the intricacies of Massachusetts culture during the era. "Beneath the top levels of wealth, occupation, education, and family," James M. Banner explains, "a kaleidoscope of political patterns existed—diverse, unpredictable, complex" (196). For every rule, there were notable exceptions.

This is not to say, however, that meaningful political patterns cannot be identified; although "diverse," "complex," and at times, seemingly "unpredictable," distinct tendencies within the electorate become observable through methodical analysis. Geographic information systems and digital mapping serve as exceedingly useful tools in such investigation. The illustrative renderings they produce help to

make clear significant broad trends and, more importantly, highlight key exceptions to these trends. Although data tables and lists occasionally prove effective in carrying out these tasks, digital maps—especially those with insightful demographical data layers—are much more suited to this mode of inquiry. The political maps created through this project have been carefully designed to facilitate historical analysis and interpretation; the immediacy of the maps' interpretive guidance allows a researcher to quickly recognize and classify cultural currents impacting the political situation.

This project's GIS representations thus illuminate the important social, religious, and economic forces that shaped the partisan landscape of turn of the 19th century Massachusetts. An examination of these digital maps reveals the commanding influence of regional factors and local circumstances in forming the precise character of the state's electorate. Widening religious schisms—between Congregationalists and dissenters, and among Congregationalists themselves—and pervasive occupational traditions certainly had far-reaching effects on the Commonwealth's political landscape as a whole, but the frequency of local anomalies precludes historical explanations that rely exclusively on these types of broader trends. In order to construct an accurate picture of electoral tendencies during the period, the individual stories of towns and counties must be considered and placed at the fore: town rivalries, family feuds, local reputations, and communal concerns often held primacy in the political consciousness of the Massachusetts voter. When an understanding of the era's overarching voting patterns is tempered with an awareness of provincial exceptions, an authoritative and nuanced historical conception then becomes possible. This project's digital maps, which include useful demographical data layers and a range of visualizations, expedite the interpretive process of arriving at such refined comprehension. They show clearly that the outcomes of the Commonwealth's 1798 and 1800 House elections were the result of a confluence of diverse factors—local and statewide factors, religious and occupational factors, factors related to geographic histories, and factors associated with town traditions and influential family ties.

4.2.1 The Commonwealth Reacts to Contentious National Political Issues

As one of the key wider trends shaping the whole of the Massachusetts electoral landscape at the turn of the 19th century, the varied and changing public reactions to national political developments consistently affected the outcomes of elections held within the state. Exerting influence loosely and unevenly, divisive national events did not by any measure override the local considerations that had always dominated the course of state politics. Still, these events—the "XYZ Affair" and the 1800 presidential election in particular—managed to shape the electorate in notable ways, providing at least a basis for much of the drastic change that occurred between 1798 and 1800. The XYZ Affair, which seemed to connect Republicans to the shady dealings of French officials, gave credibility to the Federalists' contention that a corrupting Jacobin element existed within their rivals' party. Upon reaching public attention in the spring of 1798, the sensational and inflammatory story of the attempted bribery immediately put Jefferson's party on the defensive. The Federalists, including those in the Commonwealth, seized the fortuitous political opportunity and vocalized harsh condemnations of the Republican Party.[47] Across the country, Federalist candidates found strengthened support in the elections of that year. As Map A1 illustrates, Massachusetts' Federalists were remarkably successful in the U.S. House elections of 1798, taking nine of the eleven congressional districts in Massachusetts proper. Although these victories were the result of countless factors—much of them highly local in nature—they nevertheless indicate the strength of Hamilton's party within the national political environment of that year.

The Federalists would soon fall victim to a changing set of circumstances, however. Between 1798 and 1800, the tone of the national political discourse rapidly shifted, as the presidential election eclipsed the XYZ Affair within the public consciousness. By the fall of 1800, Federalists found that the advantage they had won exploiting the international controversy was being offset by widespread

[47] To see a range of political reactions to the XYZ Affair, see Stewart, pp. 293-317

enthusiasm for Jefferson's campaign. Coinciding with growing outrage over the Alien and Sedition Acts, the energetic Republican campaign gave Hamilton's party considerable difficulties in the electoral races of 1800—even in Massachusetts, the Federalist stronghold.[48] As Map B1 shows, Republicans won six of the eleven U.S. House races held in Massachusetts proper that year; they had only won two of these races in 1798. In just a couple of years, the Commonwealth's Federalists had lost their grip on the state's House seats. Map D1 demonstrates further the extent of the changes that occurred between 1798 and 1800: in ten of the eleven districts, Republicans gained votes over the two year period.[49] In the 1st Western and 3rd Middle Districts, they were particularly successful and vastly increased their overall share of the vote. Of course, as with the XYZ Affair, the specific effect of Jeffersonian campaign excitement on the various sections of the Massachusetts electorate depended almost entirely on local factors. Regional figures—like religious liberty activists John Leland and Isaac Backus—along with their supporters typically acted as the immediate catalysts for political transformations. The influence of national happenings like the 1800 presidential election could work to provide a foundation for change, but it was up to the local people and institutions to actually bring about the change. In a society characterized by regionalisms, the current events of the nation could never simply affect large swaths of the population in a uniform manner.

4.2.2 The Prominence of Religion in the Massachusetts Party Framework: Influential Schisms and Dissenters

Other broad trends within the Commonwealth's electorate produced more reliable links between societal associations and partisan affiliation. James Banner contends that there was only "one

[48] For more on the effects of the election of 1800, see Johnson pp. 27-34

[49] Although certain election races were prolonged through run-off elections (or "trials") and actually did not finish, in some cases, until the following year, we will consider all initial Sixth Congress races as part of "the election of 1798" and all initial Seventh Congress races as part of "the election of 1800" for the purposes of discussion—unless the prolonging of a race proves particularly significant in some explored instance. "Initial" Sixth and Seventh Congress races include all U.S. House elections that are not special elections, which have not been mapped by this project.

variable [that] had a universal influence on political affiliation in Massachusetts" during the era: this critical variable was religious involvement (197). An examination of our digital maps confirms the eminence of this consideration among other demographical indicators. Although ecclesiastical attachments were by no means definitively linked to certain political identities—being subject, as were all factors, to local variation—they nevertheless became correlated, sometimes strongly, with one of the two party philosophies. As an integral ideological component of the state's Federalist establishment, conservative Congregationalism was closely tied to Hamilton's party and was the preferred religious doctrine of its rank-and-file supporters in Massachusetts. Liberal Congregationalists—Universalists, proto-Unitarians, and those that generally subscribed to Arminian tenets—were in comparison more likely to vote Republican, as their mild theology was compatible with the deist and Rationalist views of the Jeffersonians. The Commonwealth's religious dissenters, including most notably the Baptists and Methodists, were overwhelmingly Republican; oppressed by state-sponsored Congregationalism, these evangelicals naturally supported the party of religious liberty. Understanding these religiopolitical associations and their influence within the electorate goes a long way toward understanding the turn-of-the-century Massachusetts partisan landscape on the whole. As our digital maps illustrate, religious trends in the state's electoral proceedings explain numerous instances of regional party support; of equal significance is the ability of these trends to account for striking anomalies across the political map.

With key ideological similarities fundamentally connecting the two doctrines, Calvinist Congregationalism and Massachusetts Federalism combined to create a hegemonic establishment that captured a large amount of electoral support during the first partisan era. Conservative Congregationalists—Hopkinsians and the orthodox alike—were naturally drawn to Federalism which, like their theology, extolled societal unity and stability. Both doctrines drew heavily upon ideas relating to tradition and hierarchy, and both would bemoan the rise of "Jacobin" politics and dissenting

evangelism.[50] Although many Essex Junto leaders were members of liberal congregations, one of the most important rank-and-file Federalist voters was the uneducated lower-class farmer with Calvinist religious views. At the turn of the 19th century, conservative Congregationalists—under the leadership of figures like Timothy Dwight and Jedidiah Morse—attempted to offset liberal gains on the coast by focusing their efforts on the isolated rural communities of the Connecticut River Valley. Simultaneously exploiting susceptibilities within the secluded populations and the energy surrounding the Second Great Awakening, Calvinist ministers were extraordinarily successful in the region. They not only strengthened the hold of conservative Congregationalism in the towns of the valley, but also reinforced the sway of Federalist politics among voters. As Maps A4 and B4 demonstrate clearly, the Connecticut River Valley towns of the 2nd and 3rd Western Districts were almost exclusively Federalist towns in 1798 and 1800. Surrounded by congressional districts that exhibited increasingly Republican electorates, these remote rural towns stood largely unchanged amidst the "Revolution of 1800," as Map C2 indicates. These maps effectively illustrate the power of the Federalist-Congregational establishment in the Connecticut River Valley, and show the importance of the conservative Calvinist vote within the Massachusetts political landscape.

Our digital maps not only display the wider effects of the Federalist-Congregational affiliation, but also highlight its influence on politics within the sphere of highly local affairs. Map A7, for instance, brings to light the instructive case of Medford—a Federalist town of Congregationalists that was completely surrounded by Jeffersonian towns in 1800. Following the ecclesiastical leadership provided by the noted and outspoken Federalist minister David Osgood, the town's voters offered nearly unanimous support for candidates of Hamilton's party in both 1798 and 1800, despite the growing Republican presence nearby. Osgood's role in producing this common partisan identity was certainly a significant one; a moderate Calvinist and "federalist of the old school," Osgood subjected his

[50] For more on Congregational reactions to the rise of liberals and Republicans, see Sassi, pp. 88-105

congregation to fiery and overtly political sermons that railed against the supposed Jacobin element of the Republican party (Brooks 237-242). As Charles Brooks notes in his history of Medford, "the doctrines of Arminius, Calvin, and Hopkins unequally divided this community" at the time of his instatement, and presented an imposing obstacle to the establishment of a conservative-Federalist consensus (243). Yet Osgood nevertheless led his town to this very consensus, during a period of divisive political issues and increasingly opposed religious pressures. Preaching to Medford's people, he declared the federal system under the Constitution to be the "most excellent form of government" and warned of an insidious French influence in the country's Republican organizations; based on their voting record, the townspeople took his message seriously ("Wonderful Works" 1227-1231). By displaying clearly Medford's status as a local anomaly, our digital maps draw attention to this informative local story of Federalist-Congregational authority.

Reflecting the vital ties between the two doctrines, the decline of Federalism in Massachusetts coincided with the waning of Calvinist Congregationalism. Likewise, the growth of the Republican Party and the coinciding emergence of a more vocal dissenter element reveal the fundamental connections between the two occurrences that proved key in the era's political culture. Attracted to the Jeffersonian emphasis on religious liberty and individual freedoms, the Commonwealth's Baptists and Methodists—led by energetic preachers like Leland and Backus—voted extensively for Republican candidates.[51] Struggling to dismantle the state's Federalist establishment, Republican leaders were glad to welcome this much-needed group of support into the party ranks. "The Republican leadership," as Paul Goodman notes, "sought to become the champion of dissent and disestablishment" (95). They were certainly successful, at the very least, in becoming associated with the push for religious liberty, as the voting tendencies of Baptist and Methodist towns reveal. Excited by the increasingly likely prospect of

[51] For more on Baptists and Methodists in the Commonwealth, see Kidd, pp. 171-175

eliminating state-sponsored churches, dissenters voted in especially high numbers in the elections of 1800, as the Jefferson presidential campaign swept the nation.[52]

Because they pinpoint areas of marked political change, our maps displaying change in party support are remarkably effective tools for locating areas of increased dissenter activity. While Map B4 shows that in 1800 there were four main areas of significant Republican support—the Berkshires, southern Worcester County, Middlesex County, and Southeastern Massachusetts—, Map C2 reveals that these four regions of support were not equivalent; this map shows that only two of these areas—the Berkshires and southern Worcester County—saw a substantial increase in the Republican share of the total vote between 1798 and 1800. As one might expect, these two regions had Baptist and Methodist populations that seemed quite large when compared to those of the other areas of Jeffersonian support. In southern Worcester County, the presence of dissenting religious sects, as John L. Brooke explains, "was strongly associated with Republican voting," and "their absence was linked with overwhelming Federalist majorities" (257). Methodist populations, along with Unitarian and Universalist groups, proved to be prominent in local Jeffersonian politics. In the Berkshires, "life seemed freer" and "less trammeled by settled ways and institutions," as Goodman puts it; evangelicals and dissenters, especially Baptists, thus thrived in the region (79).

In the town of Cheshire, John Leland's Baptist congregation became particularly galvanized over the course of the Jefferson presidential campaign. Between the Sixth Congress and Seventh Congress elections, the town's electoral activity had been considerably energized, as Maps C10 and D10 demonstrate. Although the district's Seventh Congress race had begun as planned in 1800, errors in the tallying of ballots forced another round of voting in March of 1801. Republican excitement in Cheshire had been high in November of 1800; in the following March, with Jefferson's victory confirmed and the

[52] For more on the political tendencies of Baptists and Methodists, see Formisano, pp. 158-159

inauguration occurring in the same month, enthusiasm within Leland's congregation reached a fever pitch. In the 1800 round of the protracted House race, one hundred and seventy-eight Cheshire voters backed the Republican candidate and three backed the Federalist; in the 1801 round of voting, two hundred and ten voters supported the Republican and, once again, three backed the Federalist. This thirty-two-vote increase is extremely significant, given the town's small size and the fact that only a few months had passed between rounds. It reflects the sheer intensity of the excitement that swept the Cheshire Baptists as Jefferson won the presidential election—an excitement that would later manifest itself in the form of the famous "Cheshire Mammoth Cheese." Map B24 further illustrates Cheshire's enthusiasm: in a district filled with Republican voters, the town managed to secure the largest Republican majority. This map, along with others of the 1st Western District, highlights Cheshire as a noteworthy town, and thus points researchers toward its fascinating history.

Compared to its conservative Calvinists and dissenters, the Commonwealth's liberal Congregationalists—along with the Universalists and proto-Unitarians—are significantly more difficult to reliably categorize politically. As noted earlier, voters of these groups were more likely than conservative Congregationalists to vote Republican; still, many stood by the traditional Federalist establishment, lacking the types of specific reasons for partisan realignment that convinced Baptist and Methodist voters. This being the case, very few sections of the state's turn-of-the-century political landscape can be definitively connected to the direct influence of Arminian theology. Middlesex County had a large population of liberals and Unitarians and generally voted Republican, as Maps A4 and B4 illustrate. On the other hand, Essex County—which also had considerable numbers of religious liberals—voted largely Federalist in both the 1798 and 1800 House elections, as Maps A4 and B4 also illustrate. Though

Republican success in Massachusetts depended a great deal upon the political receptiveness of religious liberals, conclusive religiopolitical relationships within this sphere cannot be easily established.[53]

4.2.3 The State's Local Stories: Reactionary Politics and Community Identities

In addition to illustrating the types of broad statewide electoral trends discussed above, the digital maps we have constructed also—and perhaps more importantly—bring to light noteworthy anomalies and exceptions within the political landscape. These incongruities in turn reveal local stories that are frequently fascinating and historically significant. Often, highly localized political and electoral factors involved the effects of strong community identity and the habitual favoring of local candidates. When a candidate that was a county favorite ran for his district's U.S. House seat, he often—depending on the size of the district and the degree of his support—had a real shot at success. Republican Levi Lincoln, for example, began his career as a well-known lawyer in Worcester and gradually spread his influence across the towns of southern Worcester County; persevering through a series of loses in the district's House elections, Lincoln eventually garnered enough support to win the seat in 1800.[54] Map A27 displays the towns surrounding Worcester that formed his foundation of electoral support in 1798; an examination of this map immediately reveals the importance of these anomalous towns, and thus also leads the researcher to their shared local history. Though they made frequent attempts at it, candidates that were merely town favorites rarely achieved success in district electoral races. Thomas Holt, for instance, ran in the 3rd Western District's House election of 1800; a Hopkinsian minister from Hardwick, Holt earned all nineteen of his total votes in his town of residence.[55] Our political maps do reveal instances in which successful candidates benefited from hometown support. The 2nd Middle

[53] For a discussion of the complex factors associated with Congregational political affiliation, see Banner, pp. 201-206
[54] For more on Lincoln and his status in the town of Worcester, see Formisano, pp. 77-79
[55] For more on Thomas Holt and his Hardwick congregation, see Paige, pp. 199-206

District's Joseph B. Varnum, for example, received an impressive amount of support from Dracut, his hometown, in both 1798 and 1800—as Maps A6 and B6 demonstrate.

While widespread partiality for local candidates might very well be the most common provincial cause for anomalies within the Massachusetts partisan landscape, it is certainly not the most interesting source of political exception, and the produced incongruities are not particularly significant historically. The most fascinating and historically important anomalies are often the result of entirely unique sets of circumstances that exist at the intersection of local histories and regional politics. As with other trend-defying variations, our GIS representations serve as an effective means of pointing out these notable unique situations. For example, in Maps A13 and B13, the town of West Springfield stands out conspicuously, as a bastion of Republican support amidst the pervasive Federalism of the 2nd Western District. Research into the area's history reveals that the town's incongruous voting patterns were the result of the lasting impact of Shays' Rebellion. William Shepard, the district's primary Federalist candidate in both 1798 and 1800, was the commander of the militia charged with defending the Springfield Arsenal during the 1787 insurrection; in order to drive off Shays' forces as they marched toward the armory, Shepard had his howitzers fire grapeshot into the crowd—an order that resulted in four deaths and dozens of non-lethal casualties.[56]

Across the river, in West Springfield, sympathy and outright support for the Shaysites was common. Daniel Shays' *de facto* second-in-command, Luke Day, was a prominent figure in West Springfield's public sphere. His formerly wealthy family had traditionally been a powerful presence in the town's municipal affairs, and the Day name still carried weight in the area. Following the rebel leader's capture and imprisonment, West Springfield's citizens evidenced their support—or at least their

[56] For more on Shepard's actions at the Springfield Arsenal, see Spichiger, "William Shepard"

sympathy—for Day and his cause by signing a petition requesting clemency for the man.[57] Thus West Springfield, though it did not count any of its citizens among the four dead, identified enough with the Shaysite movement to justify a prevailing dislike of Shepard within its borders. Animosity toward Shepard, the military leader who had so harshly suppressed the unrest in Springfield, was in fact common throughout the area—though evidently not the rule, given his overall success in House elections. Those who reviled him did so with a passion; as Shepard himself described in a 1790 letter, his enemies labeled him a "Murderer of Brethren," burned the fences on his property, and even gouged out the eyes of his "two valuable Horses" before "cruelly butchering" them (1). Given the proximity of his Westfield home to West Springfield, it is entirely possible that these arsonists and butchers were disgruntled supporters of Luke Day. Regardless, lingering ill will toward William Shepard, resulting from his actions at the arsenal, almost certainly played a key role in determining West Springfield's status as a Republican town. Granting researchers the ability to locate and evaluate such instances of localized reactionary politics, our digital maps are exceedingly useful tools within studies of historical partisan landscapes.

[57] For more on Luke Day and his family, see Spichiger, "Luke Day"

Chapter 5: Conclusions and Recommendations

5.1 Conclusions

When we began this project, we had little more direction than the idea that we would attempt to make digital maps of early American election results. We went in with two general goals: we wanted to create a new medium for presenting the data that could potentially make it more accessible, and we hoped that our mapping would facilitate analysis and help in locating trends and anomalies that might have gone unnoticed in numerical form. Based on these criteria, we feel that the project was a success and a worthwhile pursuit. This is not to say, however, that the maps we produced were without limitation. It would be easy to subconsciously equate the maps with the data, to believe that the maps are the visual manifestation of the data and therefore its logical and ultimate realization, yet this is far from the truth. The maps, rather, are a tool—historical and geographical. By showing how the data functions in space and time, they certainly provide another means of examination, and a valuable one at that. Where the study of history requires the integration of independent sources of research to draw conclusions, spatial relationships made visible by cartography can be quite contributive. Yet it is critical to understand that the map is not the data itself, and it can never replace it. “History is not in the GIS, yet much can be learned by viewing the GIS data and maps with the historical eye” (Kemp 17).

When we treated our maps as tools, we were at an advantage. The change in share of vote and change in voter turnout maps, in particular, shone a new light on the raw data. Rather than attempting to draw conclusions based on the maps, we used them as a metal detector of sorts, telling us where to dig. We followed trends and anomalies in the maps back to the data that produced them and tried to make sense of what the visuals were telling us. This process highlighted the regions—such the Berkshires and southern Worcester County—in which dissenter religion expressed itself not only in a swift increase in Republican support but also in an excitement for the elections of 1800. Similarly,

cartographically enhanced analysis quickly enlightened us as to the effects of Shays' Rebellion on the anomalous politics of West Springfield.

Always returning to the data was crucial for us, because the maps alone were prone to mislead. The greatest disparity between the electoral data and the geographic information system we created from it resulted from the way we grouped candidates. The varied applications of a GIS on historical study in the broadest sense are limited only by the creativity of the user, and we were undoubtedly influenced by the political maps we were used to seeing. Yet today's heavily bipartisan politics are a far cry from the political landscape circa 1800. The parties were much less united at the time, and as a result there were often numerous candidates running under the same label. Thus, our maps may indicate a similarity to current politics that is not entirely accurate. At the same time, this grouping hid contrarian voting in some of our maps. For example, shortly after giving the orders that led to the death of a Shelburne native in Shays' Rebellion, William Shepard ran for Congress in the 2nd Western District in 1800. Still upset over the incident, Shelburne refused to vote for the otherwise popular Federalist Shepard. However, they voted instead for Samuel Taggart, another Federalist, so the maps themselves make it seem that they voted in accordance with the majority of the district, for Shepard.

Another instance where this grouping caused a problem was with the 3rd Middle District and Loammi Baldwin. An engineer, Baldwin was instrumental in facilitating the construction of the Middlesex Canal, which ran through the southern portion of the congressional district. Benefitting from the canal's introduction, the towns along it were supportive of Baldwin, a Federalist, in 1798. The more popular candidate in the district, Samuel Sewall, also ran under the Federalist label, so the regional support for Baldwin was easily misconstrued as simple Federalist backing. Therefore, when many of these towns voted Republican in the following election, what was really an interest in local issues over party politics was portrayed as a substantial shift in party affinity.

Furthermore, while not related to GIS, the historical significance of the time period we mapped implied a much more radical political turnover than there really was. The XYZ affair, severely dampening the United States' relationship with France in 1797, hurt the pro-French Republican Party in the 1798 elections. Then in 1800, riding on the coattails of Thomas Jefferson, the Republicans made an enormous comeback. When the data from just these two elections is isolated, the trend of increasing Republicanism seems drastic, when over the long term it was actually a much more gradual ascent. Yet again the drawing of conclusions from a small set of information proved to be limited in its accuracy.

The analysis we performed made clear two things about the relationship between history and geography and the applicability of GIS to historical research. Primarily, our inquiry demonstrated the effectiveness of this marriage and its potential to contribute to not only electoral examination but also historical investigation in general. At the same time, though, this effort established and enforced the fact that GIS study is just one analytical tool; it is not capable of replacing other means of analysis. This fact must be remembered, for the appeal of the map is great: "Another danger is that the historian loses himself in the beauty of the map, seduced by a nice graphical presentation into giving it more attention than in-depth analysis of the story he wants to tell" (Doorn), but as our research revealed, until a GIS can be fully comprehensive and correct, the story it tells is incomplete without the original data. That being said, however, some of the discoveries we made using these maps may never have occurred without this wonderful tool. We feel that as long as mapping is used to complement data and not to replace it, its contribution to historical investigation is monumental and should be utilized to the fullest.

5.2 Recommendations

Having gone through this experience, we wish to make a few suggestions to future researchers and students interested in partaking in a GIS project similar to this one. For anyone uninitiated to GIS, as we were, the most crucial beginning step will be to find the geography of the region of interest in a file

compatible with some GIS software package. For us, this step entailed finding a freely downloadable Esri "shapefile" of the state of Massachusetts with town-level detail. The election data we were given, as well as the population data we found, did not limit the scope of our project—their form was irrelevant. We found that once we had the Massachusetts "shapefile" that was compatible with ArcGIS, the rest of the data was easy to manipulate and integrate manually. Had we not been able to find the Massachusetts base map, though, the rest of the project would not have been possible. For those interested specifically in the mapping of electoral data, such as that contained in the "A New Nation Votes" database, we look to where our project left off.

Before the Antiquarian Society expressed their preference for U.S. Congressional Elections in Massachusetts as the focus of the digital mapping venture, we gave consideration to which locale would be an ideal candidate for mapping. Based on the current progress of the New Nation Votes project, states whose election data was already fully digitized was preferential. Additionally, the stability of town and county boundaries in an area over the 1787-1825 time-period served as a narrowing parameter. Then the political and cultural significance of each remaining state functioned as the final step in the process of elimination, and we concluded that Maryland was the ideal state with which to begin the mapping project. South Carolina was another strong option, particularly because its division between the low country and the backcountry created a regionalized political landscape, which would lend itself well to geospatial analysis.

A great deal of importance was placed on border stability for this first effort in mapping "A New Nation Votes," because we didn't yet know whether it was possible to map this data, so we wanted to use a manageable state to maximize the chances of accomplishing the task. As a result, Maryland won out due to the instability of county borders in South Carolina. Thus, for future efforts toward this ambitious task of mapping the entire "A New Nation Votes" project, Maryland would offer a manageable, politically relevant state to map next.

Our project sponsor suggested that we look into mapping Massachusetts electoral data in the years 1794 to 1800, but due to time constraints we narrowed our focus to the elections of 1798 and 1800. We assumed these to be the most politically interesting due to the national rise of the Republican Party. Similarly, we chose not to map any of the "special elections" that occurred within our time period—elections to replace elected officials who stepped out of office in the middle of their terms. Since we produced detailed instructions for mapping Massachusetts in this time period, it would be relatively simple for someone else to continue where we left off by mapping the elections of 1794 and 1796, as well as the various special elections that occurred between 1794 and 1800.

In addition, much of what showed up in the data within our time period warrants additional exploration. With the large number of candidates in each election across the state, candidate biographies present an enormous wealth of information waiting to be tapped, all of which could factor in to the geospatial analysis given that the town-level election returns pinpoint the locale of each candidate's popularity. Furthermore, our efforts were focused entirely on making sense of the voting data, where it existed. We paid little attention, though, to the absences of data, which are potentially just as significant. For the numerous cases where towns failed to get votes in, we assumed that inclement weather or negligent town officials were to blame, but these may not have always been the case. We recommend that future efforts in this realm look into town hall records and contact local historical societies in search of stories behind these instances. Meanwhile, another form of relevant non-data deals with those who were prevented from voting. The prime case here was the Mashpee Indians; those who lived on the Mashpee Indian Reservation simply were not given the opportunity to participate in democracy, at least in the congressional elections that we studied. We did preliminary research on this subject, but we feel that it is possibly an important avenue to explore in researching the young country's idea and implementation of the democratic process.

Following the Seventh Congress in 1800, the Congressional Districts shifted in Massachusetts, so some adjustments would be necessary to map the elections that followed our time period. This amount of work would be minimal in comparison to beginning with a new state, however, and the cohesion that developed within each of the two political factions following 1800 with the development of the caucus system would make for interesting historical analysis. The War of 1812 and the true decline of Federalism add further significance to this period, and the growing practice of gerrymandering would of course be of particular interest where mapping is concerned.

Moreover, while our project was in the proposal stage, we had aspired to obtain spatially related religious data, such as the types and locations of prominent churches. We felt that superimposing such information onto our election results, akin to what we did with the population numbers, would provide a great opportunity for analysis. As the project progressed, we discovered that this undertaking was beyond our capacities in the time we had. Nevertheless, we still see much potential value in this type of analysis. That being said, we recommend the task of incorporating religious data for future interested parties. If the number of churches of a particular denomination were known within a town or a region, this information could be treated just as population was with either the “dot density” visualization or the “graduated colors” display. In a similar vein, economic data would be equally valuable as another layer to amend the electoral maps with. Based on records of tax valuations prepared by the state, average financial information for each town would lend itself well to the “graduated colors” display as well.

Regarding our decision to group candidates by political party for the sake of mapping, the ability of ArcMap to layer multiple pieces of data on the same map could be used for clarification. In some instances our maps misled by hiding contrarian voting when two candidates ran under the same party label. Based on a suggestion from “A New Nation Votes” project coordinator Erik Beck, we recommend the production of maps that indicate these differences. Where the ArcMap’s “graduated colors” display

is used to represent each party's share of the vote, the "pie charts" symbol display could be layered on top to distinguish between multiple candidates of the same party. There would be a number of towns in which multiple Federalist candidates and multiple Republican candidates both received votes, and such situations would require careful color choice in order to be clear and concise. This would also call for a fairly high-resolution computer to produce the map images, so that these details would be visible.

There are many possible directions this digital humanities endeavor can follow from here. Our work is only a beginning. Provided our executable methodology for making similar maps, we hope subsequent IQPs can continue this undertaking of mapping the wonderfully rich data from "A New Nation Votes."

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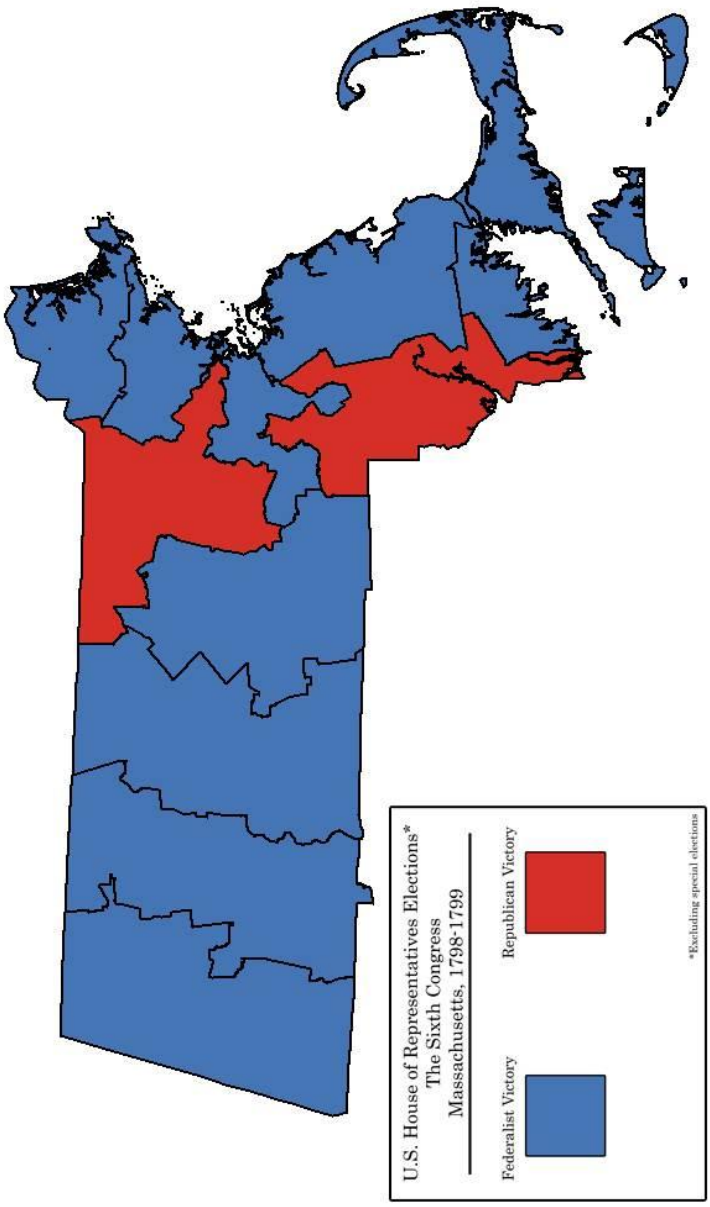
Appendix 1 – Maps

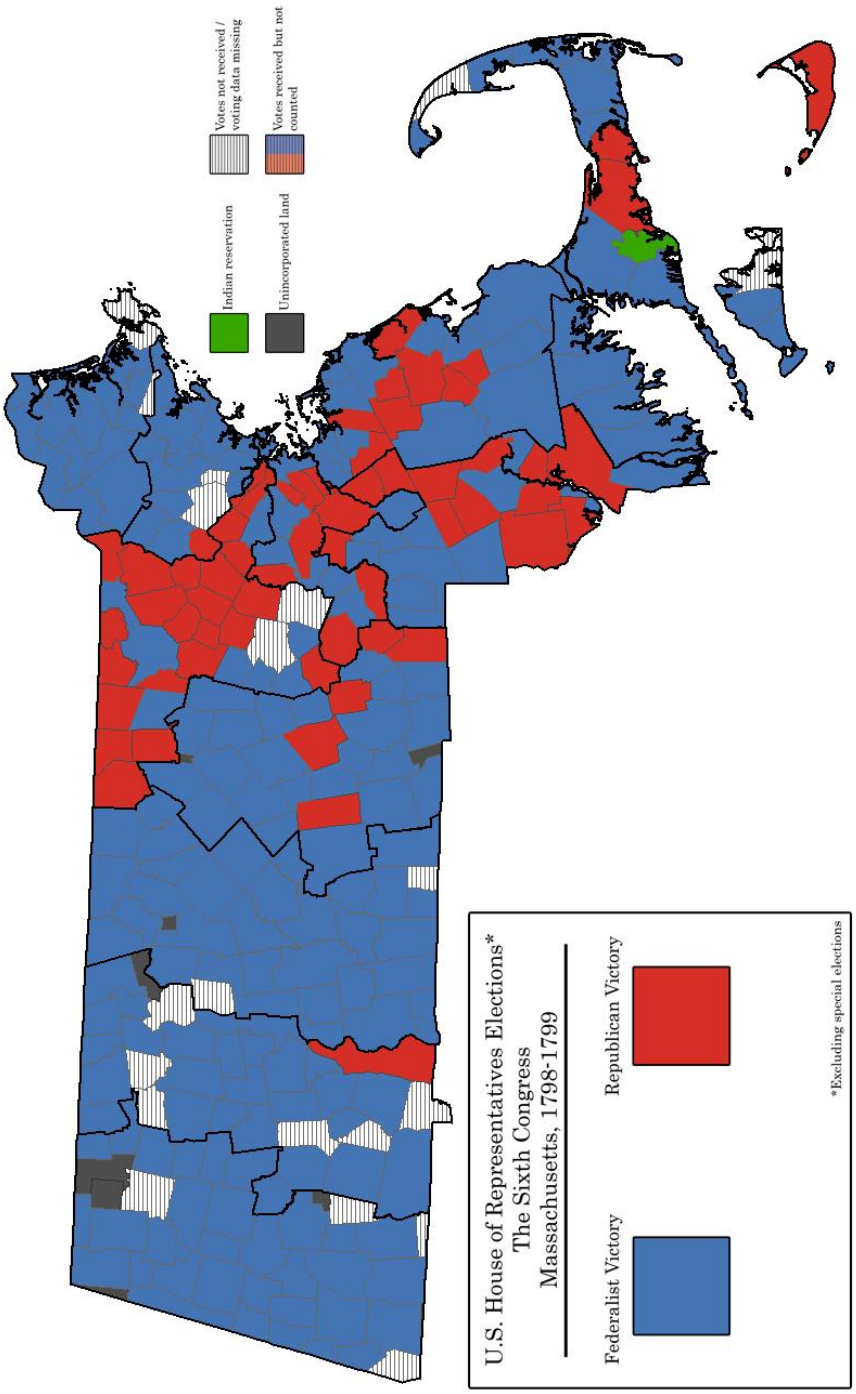
Map A1.

United States House of Representatives Elections – Winner by District
Massachusetts
Sixth Congress
1798-1799



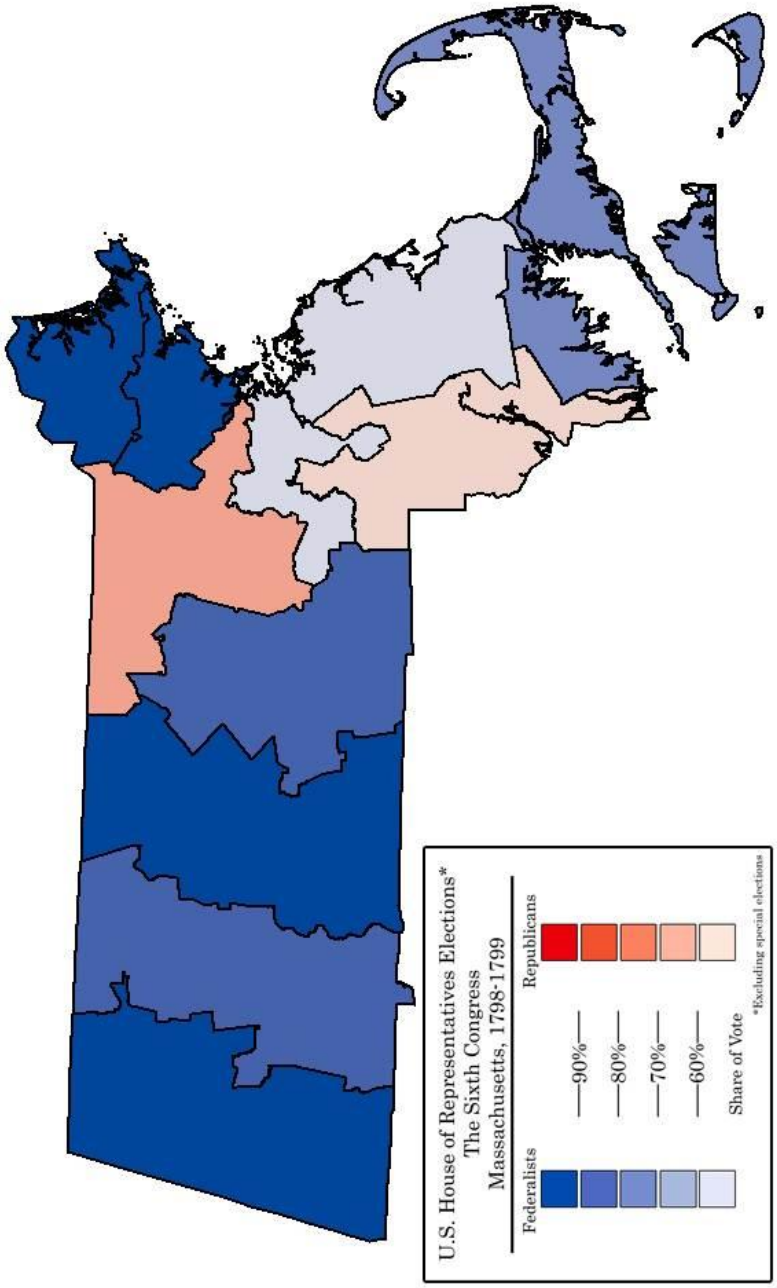
Map A2.

United States House of Representatives Elections – Majority of Vote by Town
Sixth Congress
Massachusetts
1798-1799



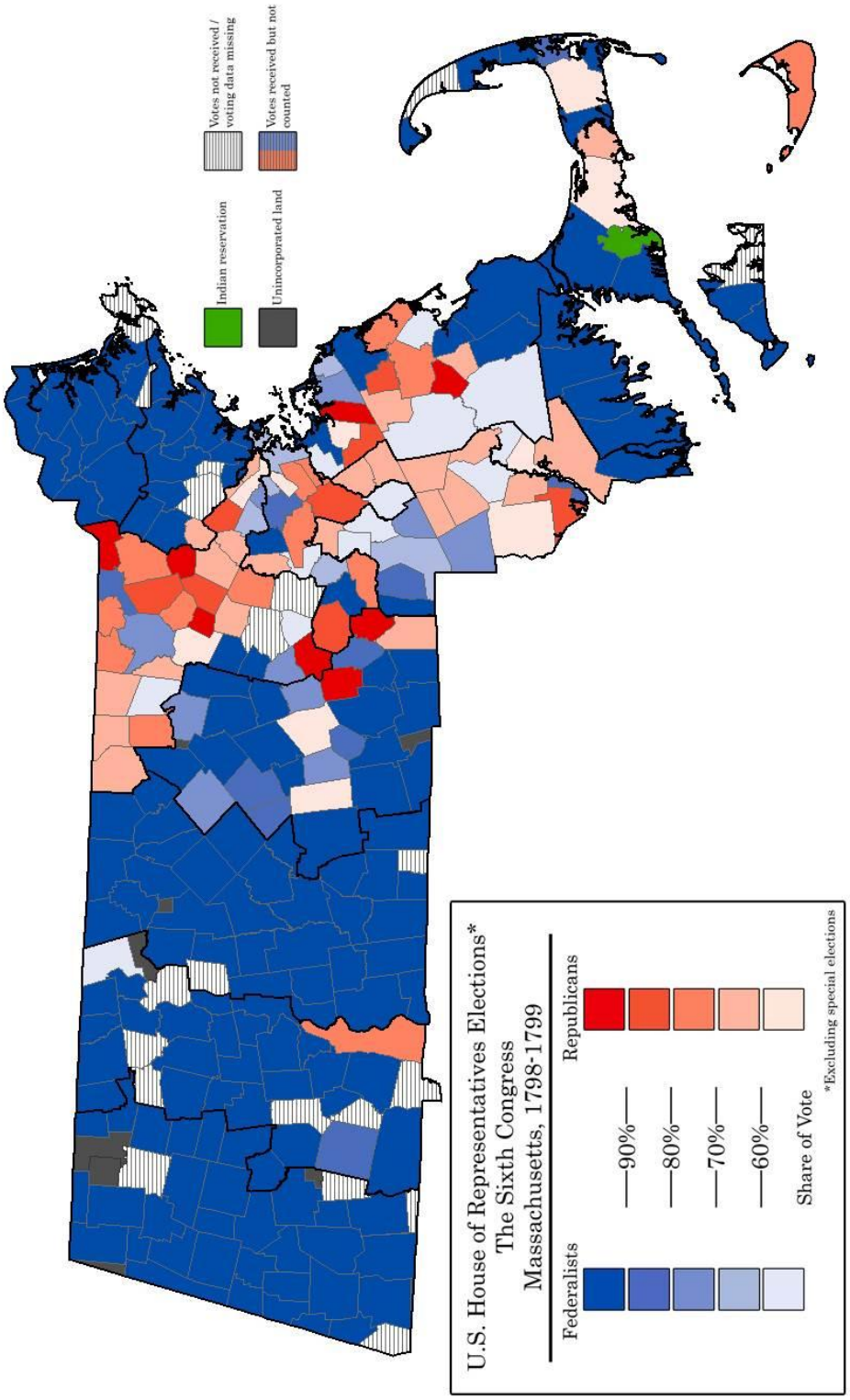
Map A3.

United States House of Representatives Elections – Share of Vote by District
Massachusetts
Sixth Congress
1798-1799



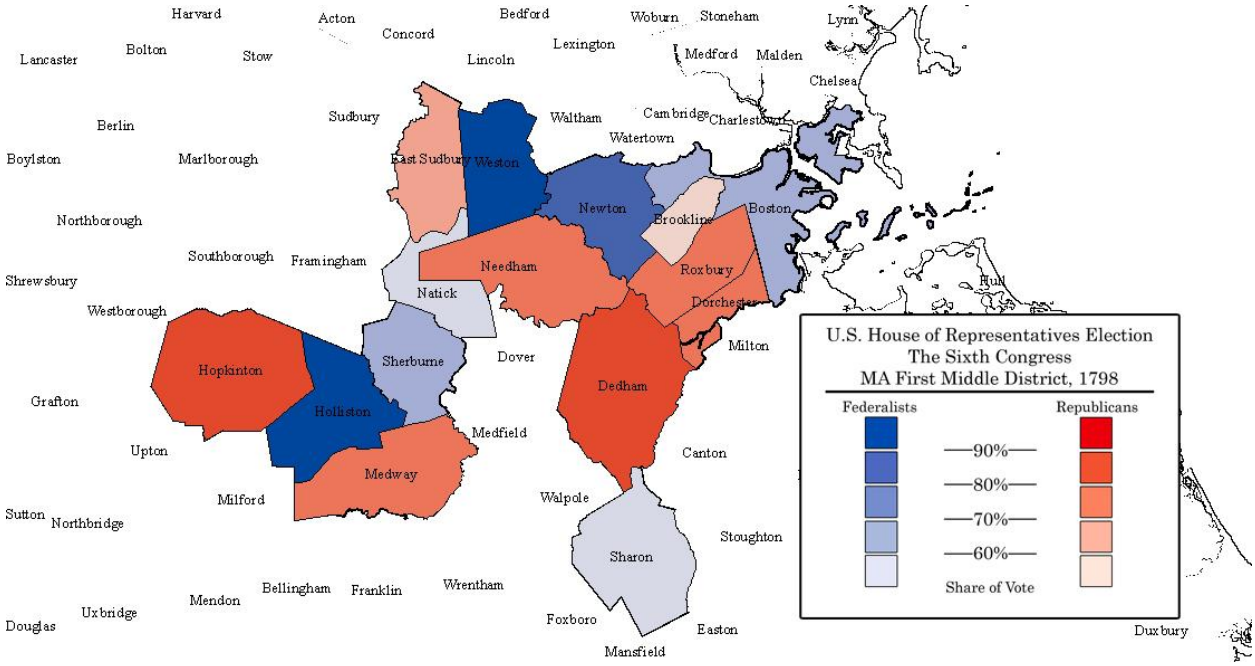
Map A4.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts
Sixth Congress
1798-1799



Map A5.

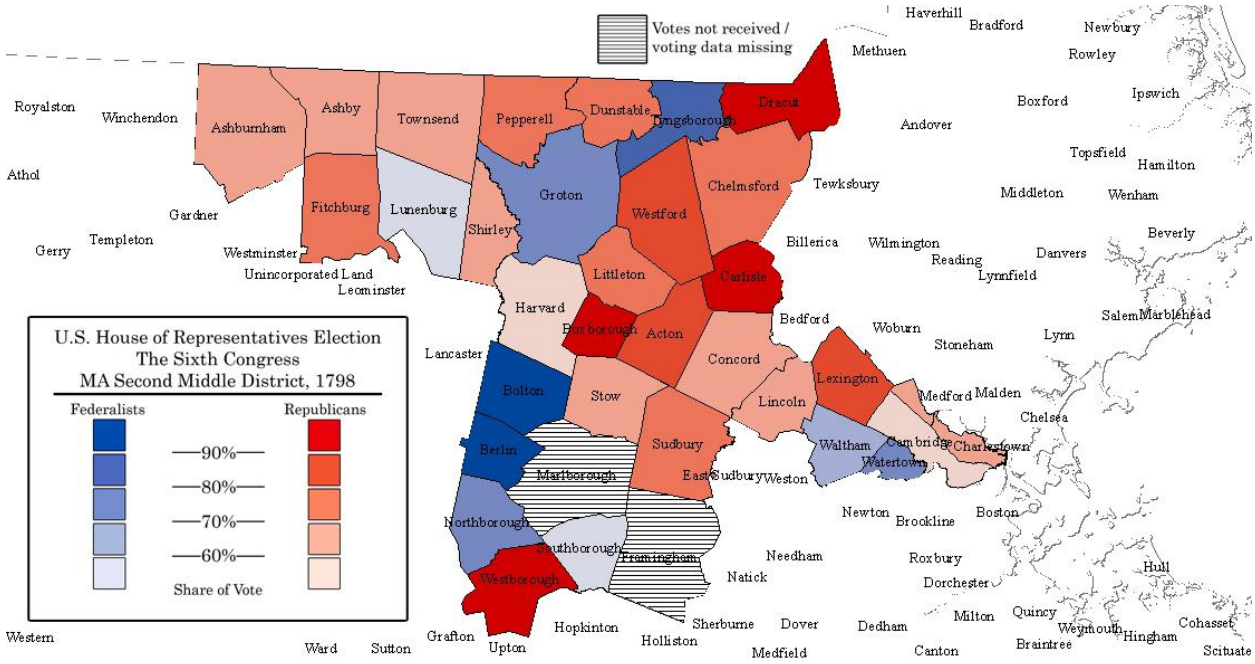
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 1st Middle District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
Harrison Gray Otis	(Federalist)	2167	[55.86%]
William Heath	(Republican)	1690	[43.57%]

Map A6.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts 2nd Middle District
Sixth Congress
1798

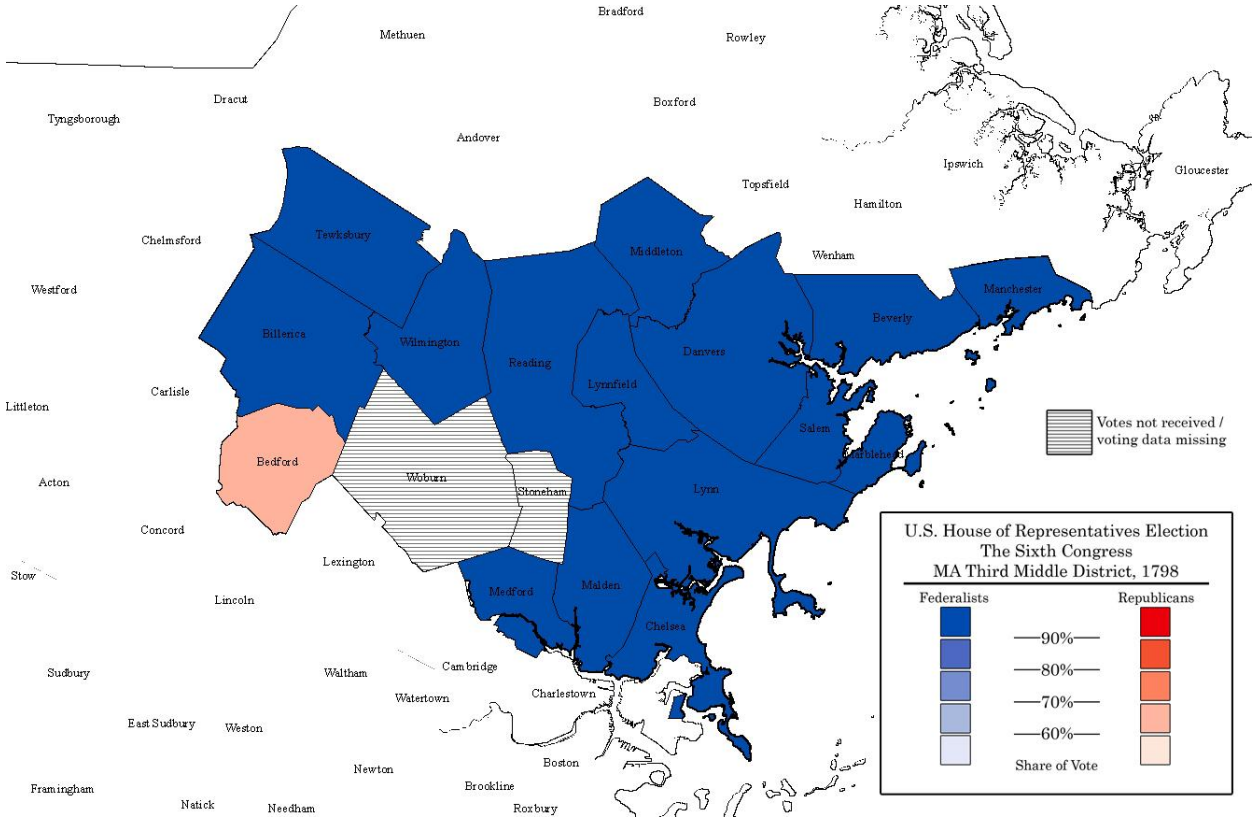


Candidate	(Party)	Votes	[Percent]
Joseph B. Varnum	(Republican)	1632	[61.96%]
Timothy Bigelow	(Federalist)	834	[31.66%]
Elbridge Gerry	(Republican)*	98	[3.72%]
Ebenezer Bridge	(Federalist)	55	[2.09%]

* Not *officially* a Republican until 1800, he was nevertheless considered opposition to the Federalists in 1798.

Map A7.

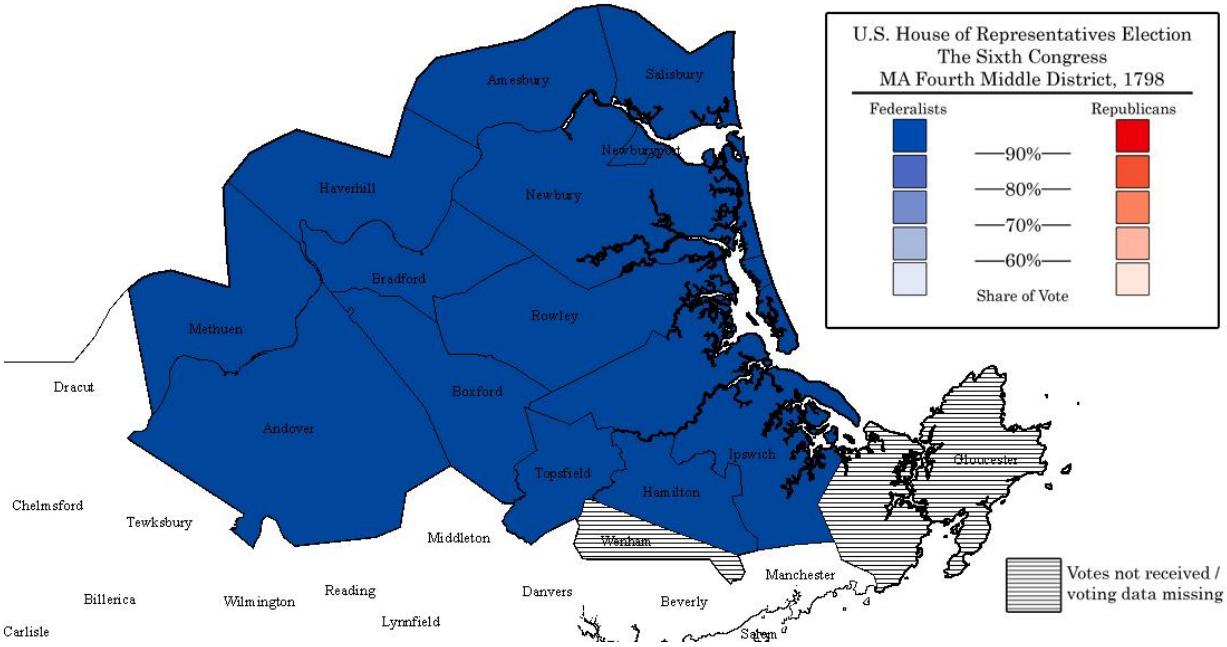
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 3rd Middle District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
Samuel Sewall	(Federalist)	692	[70.33%]
Loammi Baldwin	(Federalist)	202	[20.53%]
Benjamin Pickman, Jr.	(Federalist)	67	[6.81%]
Samuel Holten	(Republican)	18	[1.83%]

Map A8.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts 4th Middle District
Sixth Congress
1798

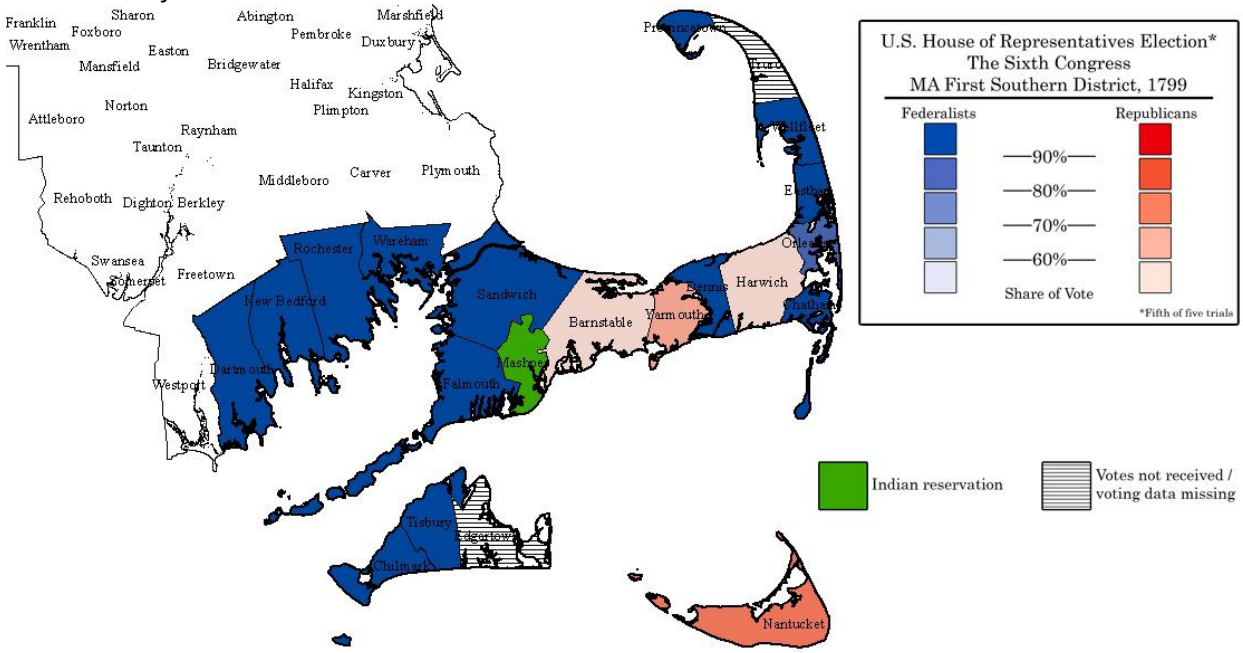


Candidate	(Party)	Votes	[Percent]
Bailey Bartlett	(Federalist)	588	[89.23%]

Scattering Candidates

Map A9.

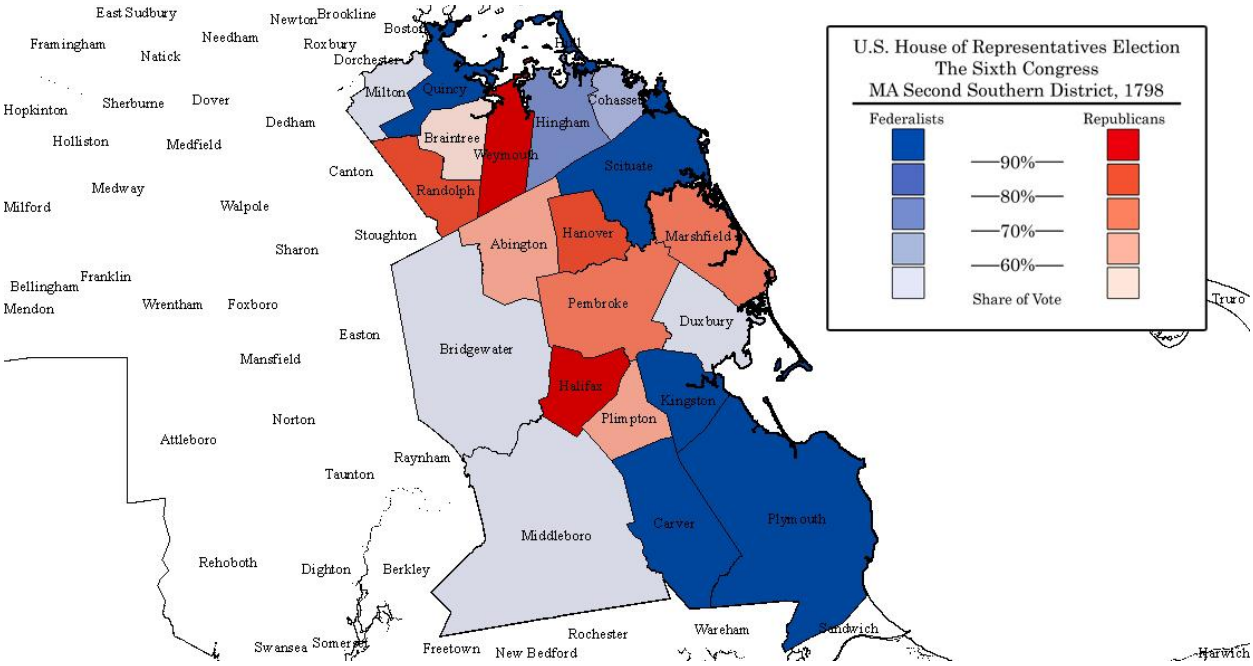
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 1st Southern District
Sixth Congress
1799
Final Round of 5



Candidate	(Party)	Votes	[Percent]
Lemuel Williams	(Federalist)	636	[72.44%]
Macajah Coffin	(Republican)	214	[24.37%]

Map A10.

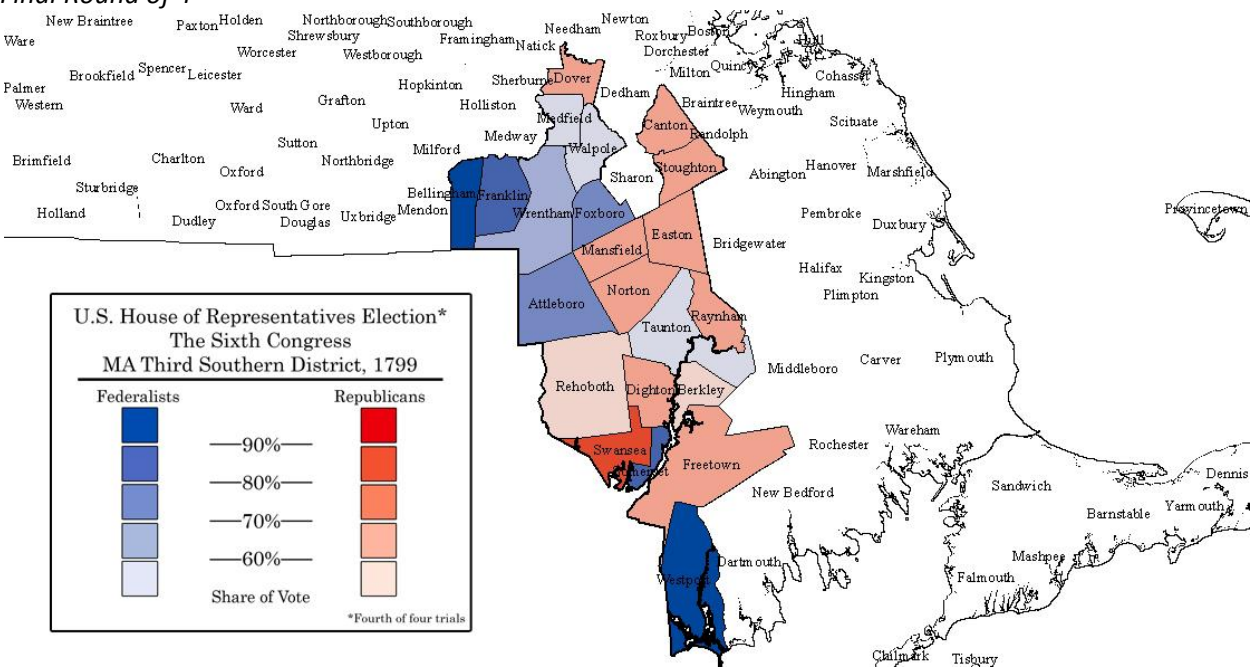
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 2nd Southern District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
John Reed	(Federalist)	1255	[52.51%]
John Dwight	(Republican)	583	[24.39%]
Daniel Snow	(Republican)	327	[13.68%]

Map A11.

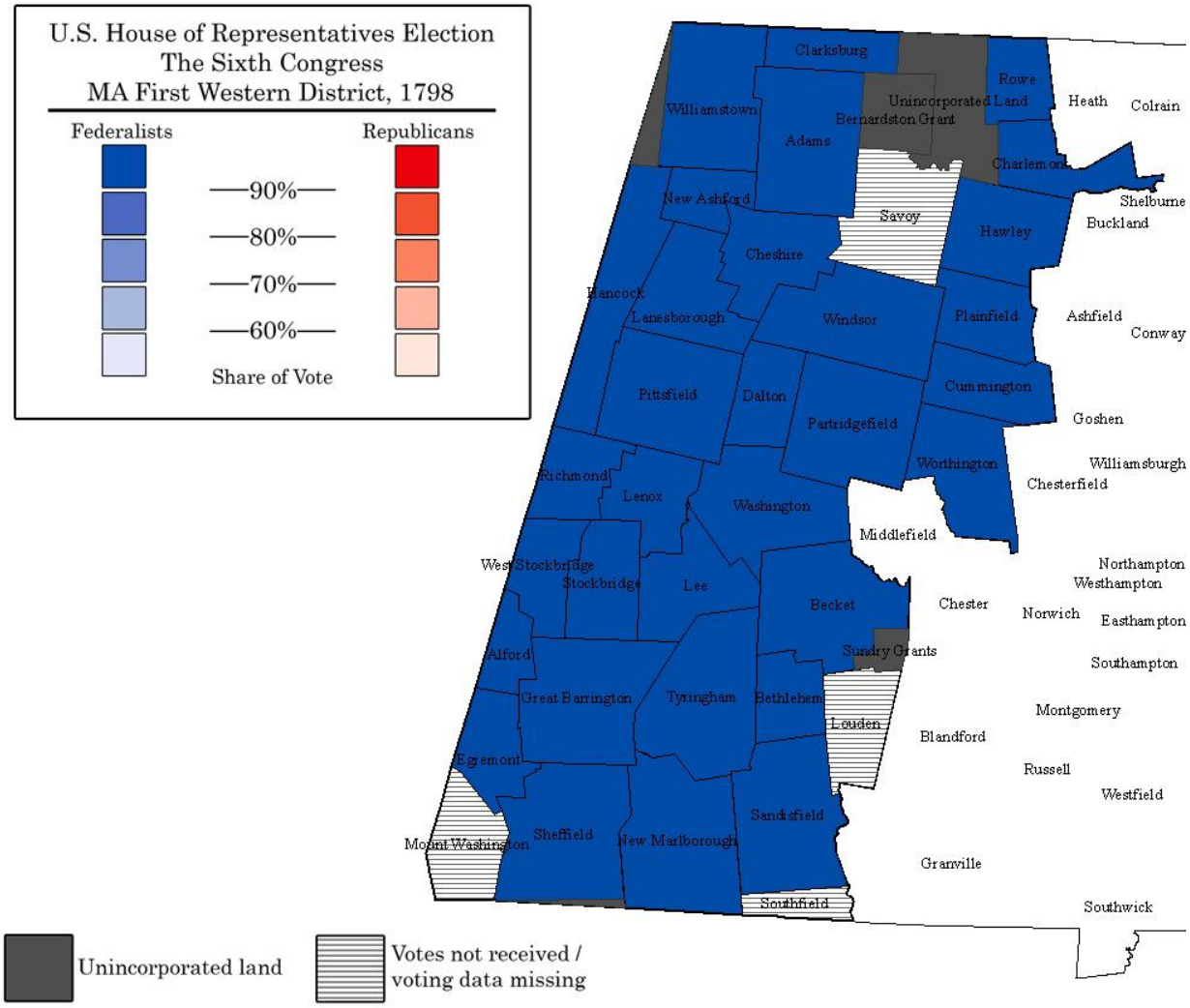
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 3rd Southern District
Sixth Congress
1799
Final Round of 4



Candidate	**(Party)**	**Votes**	**[Percent]**
Phanuel Bishop	(Republican)	1583	[52.04%]
Stephen Bullock	(Federalist)	1454	[47.80%]

Map A12.

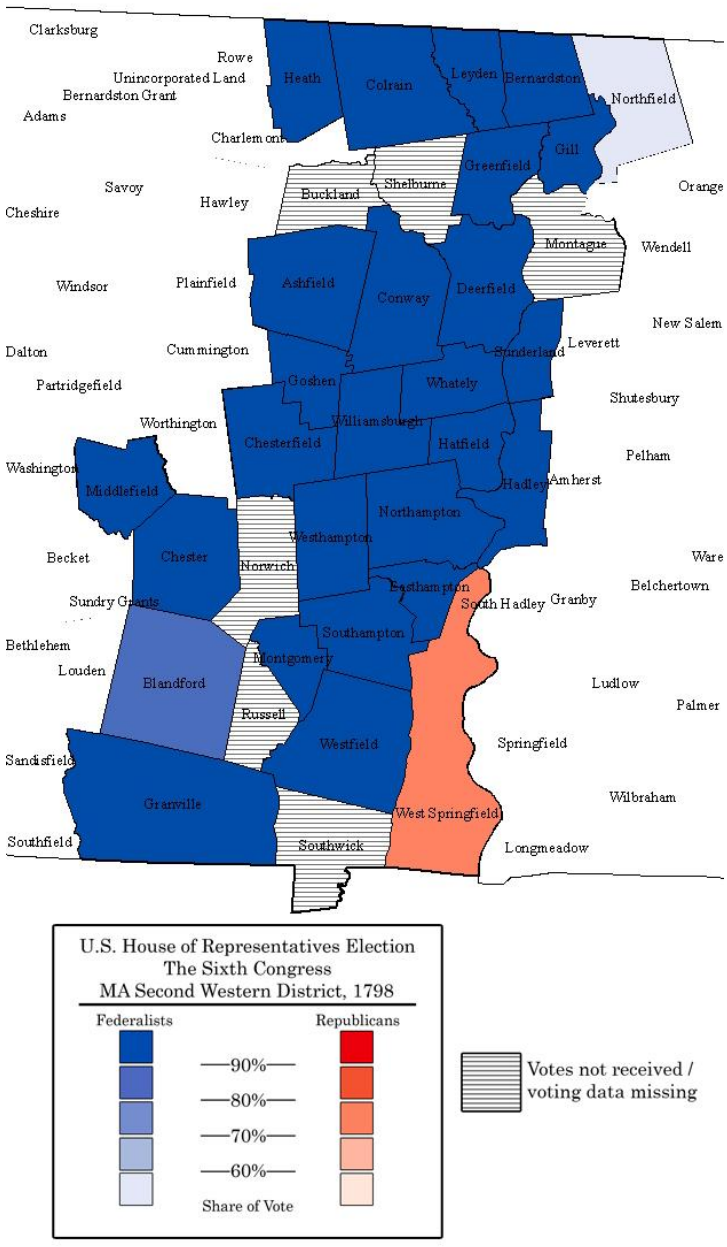
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 1st Western District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
Theodore Sedgwick	(Federalist)	1765	[75.95%]
Thomas Ives	(Federalist)	437	[18.80%]

Map A13.

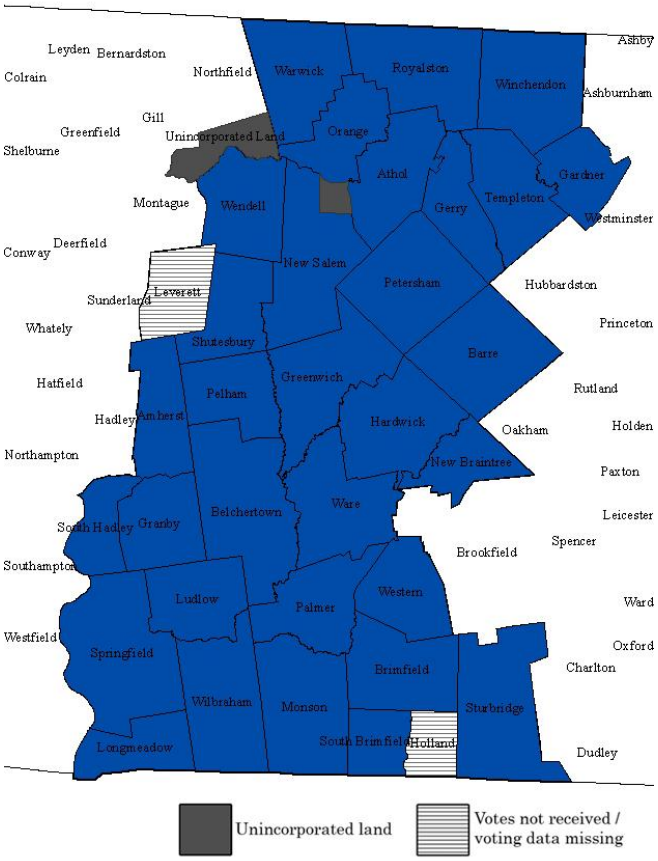
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 2nd Western District
Sixth Congress
1798

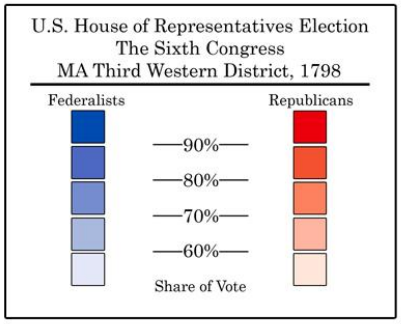


Candidate	(Party)	Votes	[Percent]
William Shepard	(Federalist)	1008	[87.12%]
William Lyman	(Republican)	113	[9.77%]

Map A14.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts 3rd Western District
Sixth Congress
1798

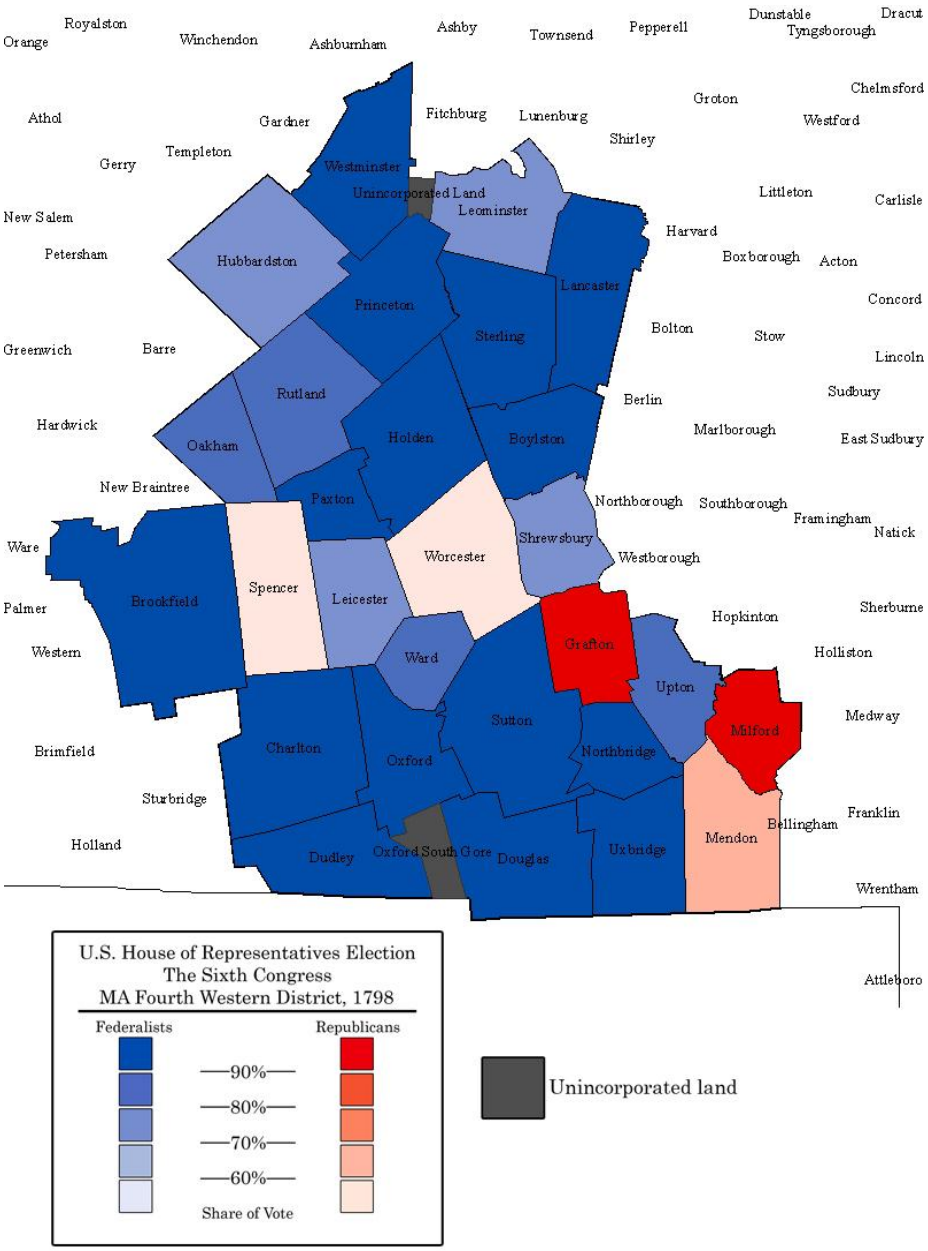




Candidate	(Party)	Votes	[Percent]
Samuel Lyman	(Federalist)	1195	[89.39%]
Daniel Bigelow	(Federalist)	86	[6.36%]

Map A15.

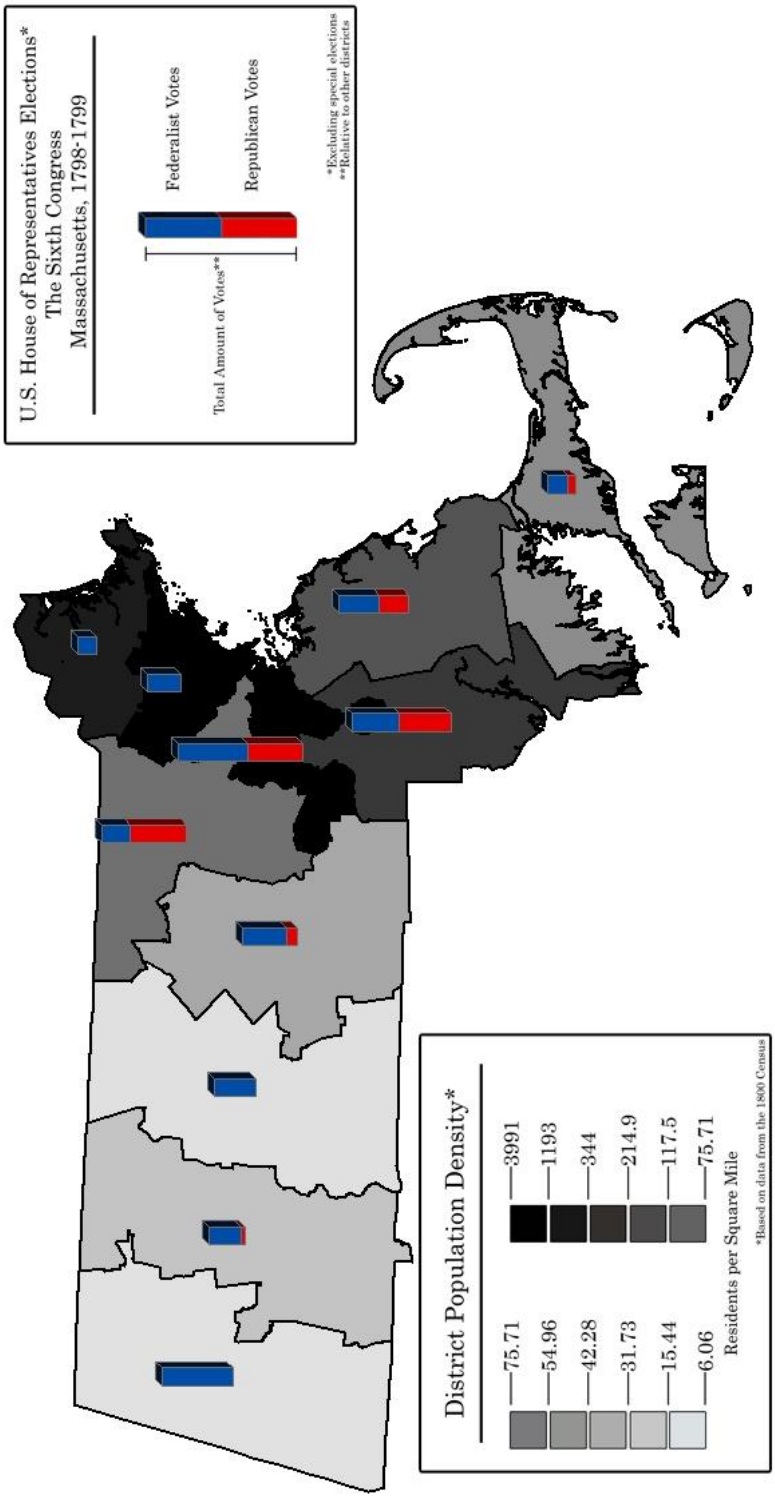
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 4th Western District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
Dwight Foster	(Federalist)	1358	[80.55%]
Levi Lincoln, Sr.	(Republican)	323	[19.16%]

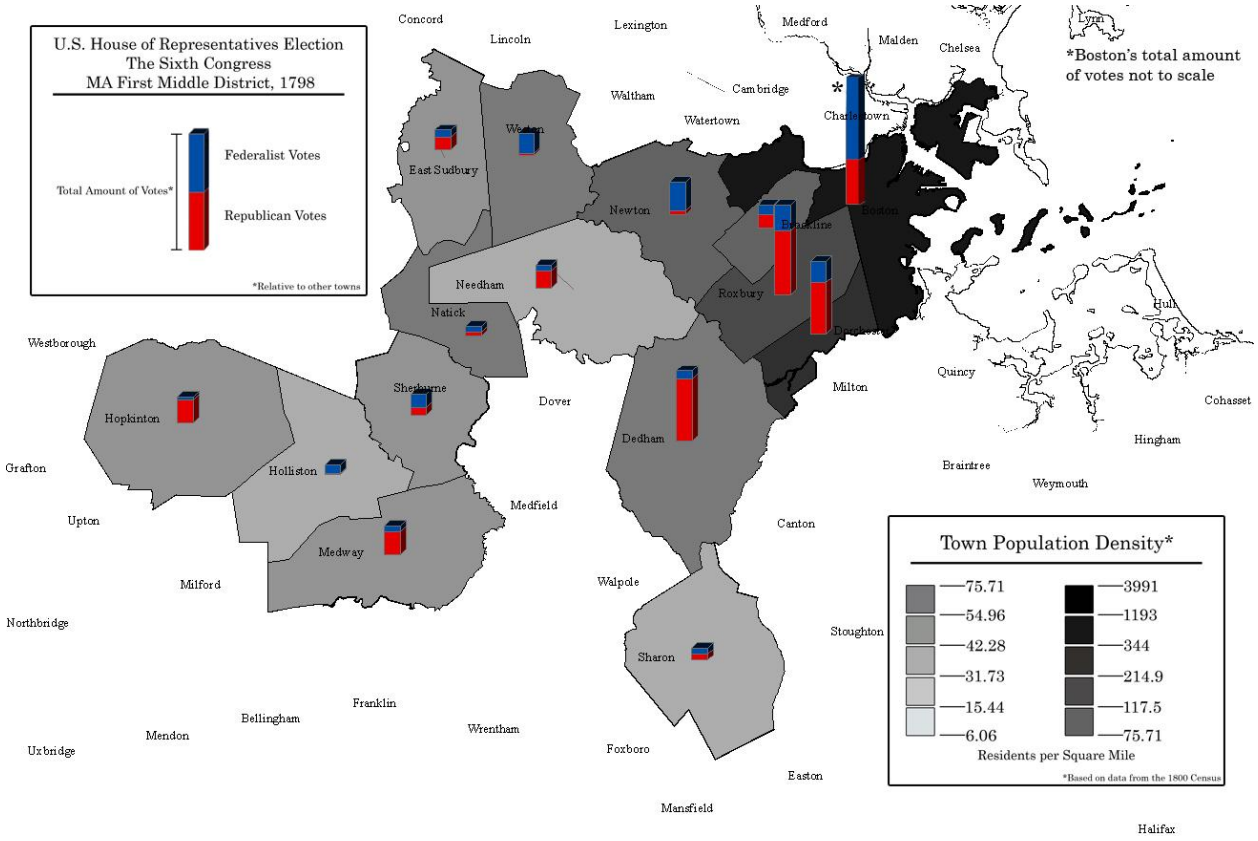
Map A16.

United States House of Representatives Elections – Vote Breakdown over Population Density by District
Massachusetts
Sixth Congress
1798-1799



Map A17.

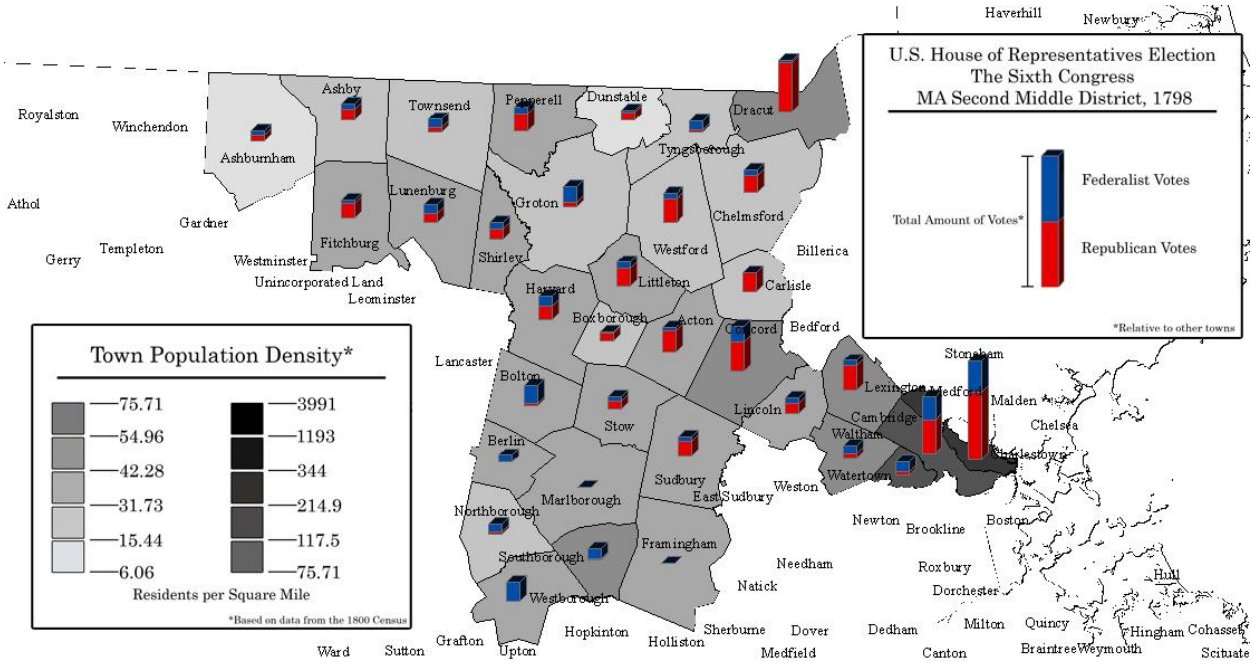
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 1st Middle District
Sixth Congress
1798



Candidate	**(Party)**	**Votes**	**[Percent]**
Harrison Gray Otis	(Federalist)	2167	[55.86%]
William Heath	(Republican)	1690	[43.57%]

Map A18.

United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 2nd Middle District
Sixth Congress
1798

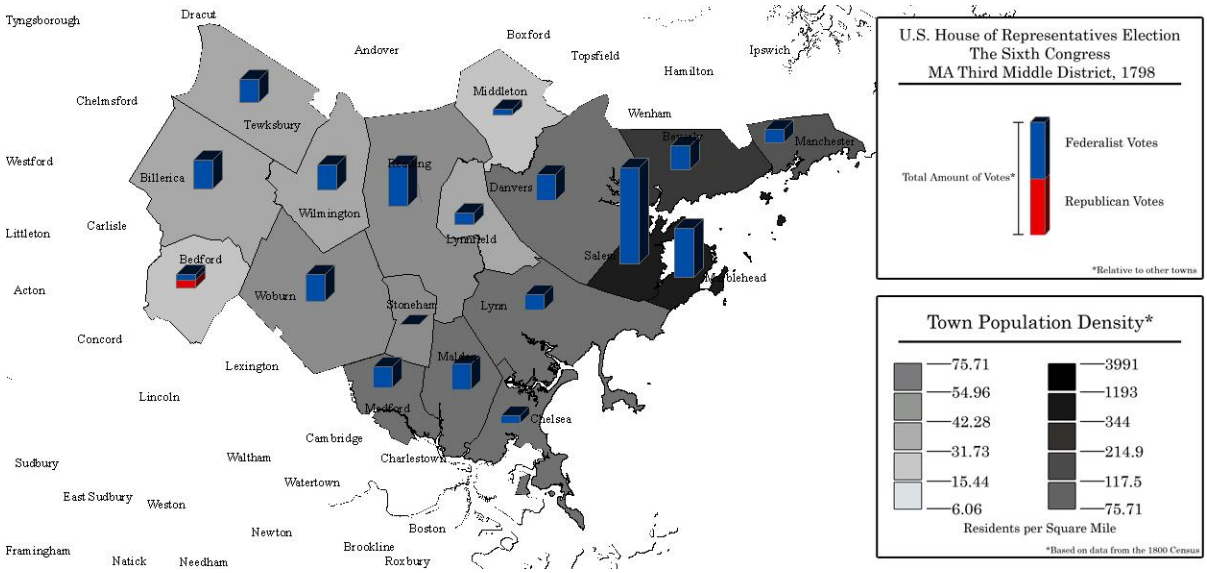


Candidate	(Party)	Votes	[Percent]
Joseph B. Varnum	(Republican)	1632	[61.96%]
Timothy Bigelow	(Federalist)	834	[31.66%]
Elbridge Gerry	(Republican)*	98	[3.72%]
Ebenezer Bridge	(Federalist)	55	[2.09%]

* Not *officially* a Republican until 1800, he was nevertheless considered opposition to the Federalists in 1798.

Map A19.

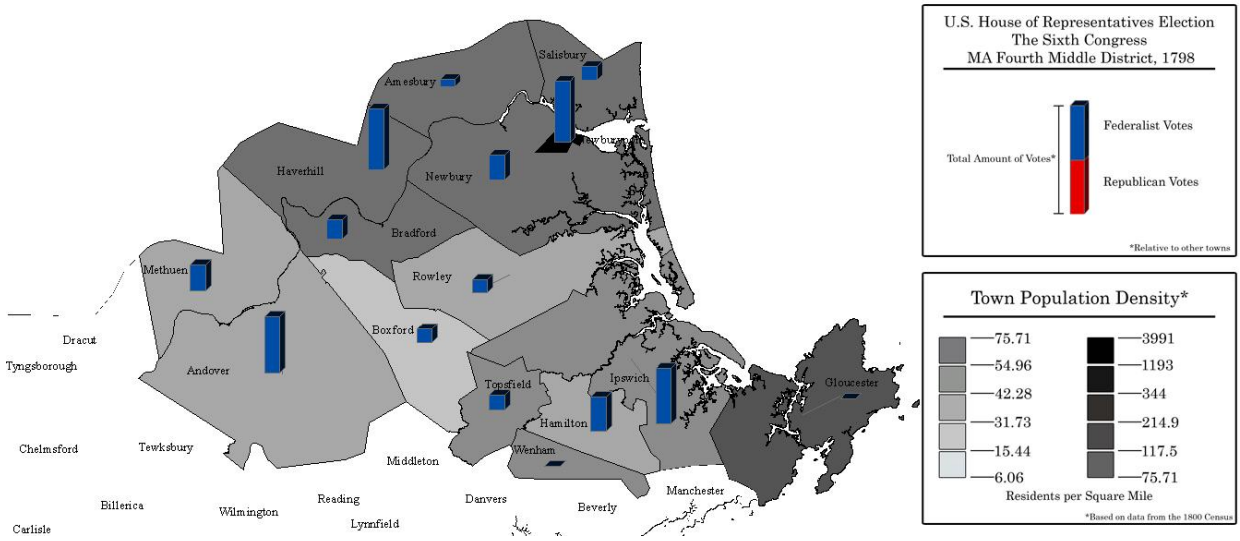
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 3rd Middle District
Sixth Congress
1798



Candidate	**(Party)**	**Votes**	**[Percent]**
Samuel Sewall	(Federalist)	692	[70.33%]
Loammi Baldwin	(Federalist)	202	[20.53%]
Benjamin Pickman, Jr.	(Federalist)	67	[6.81%]
Samuel Holten	(Republican)	18	[1.83%]

Map A20.

United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 4th Middle District
Sixth Congress
1798

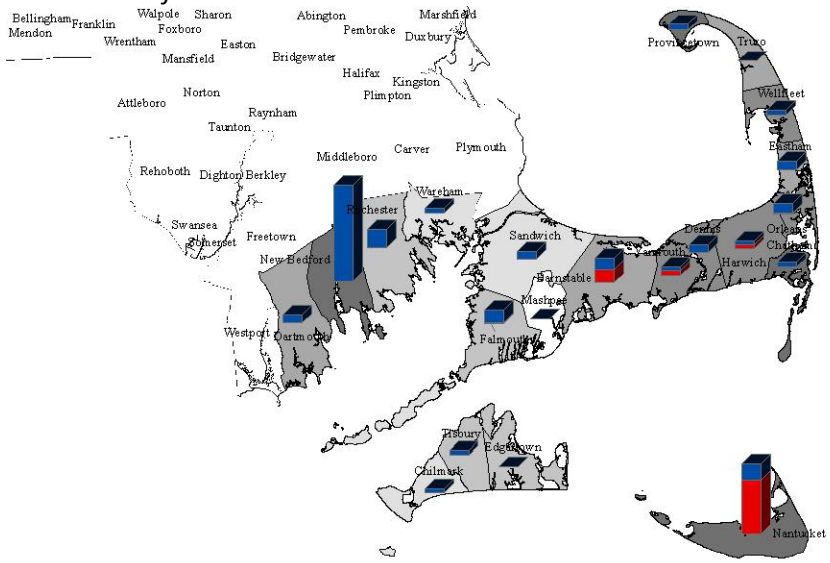


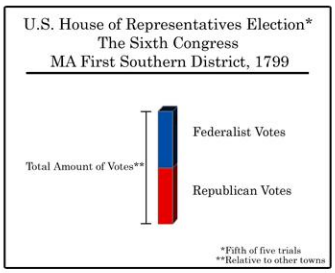
Candidate	(Party)	Votes	[Percent]
Bailey Bartlett	(Federalist)	588	[89.23%]

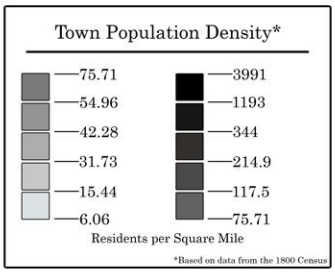
Scattering Candidates

Map A21.

United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 1st Southern District
Sixth Congress
1799
Final Round of 5



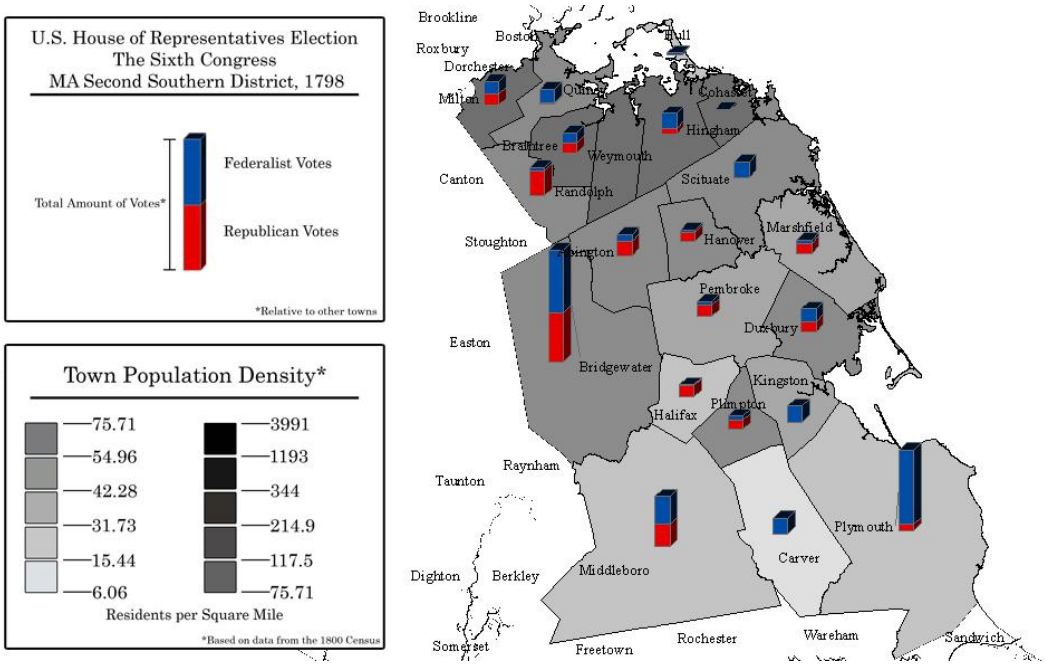




Candidate	**(Party)**	**Votes**	**[Percent]**
Lemuel Williams	(Federalist)	636	[72.44%]
Macajah Coffin	(Republican)	214	[24.37%]

Map A22.

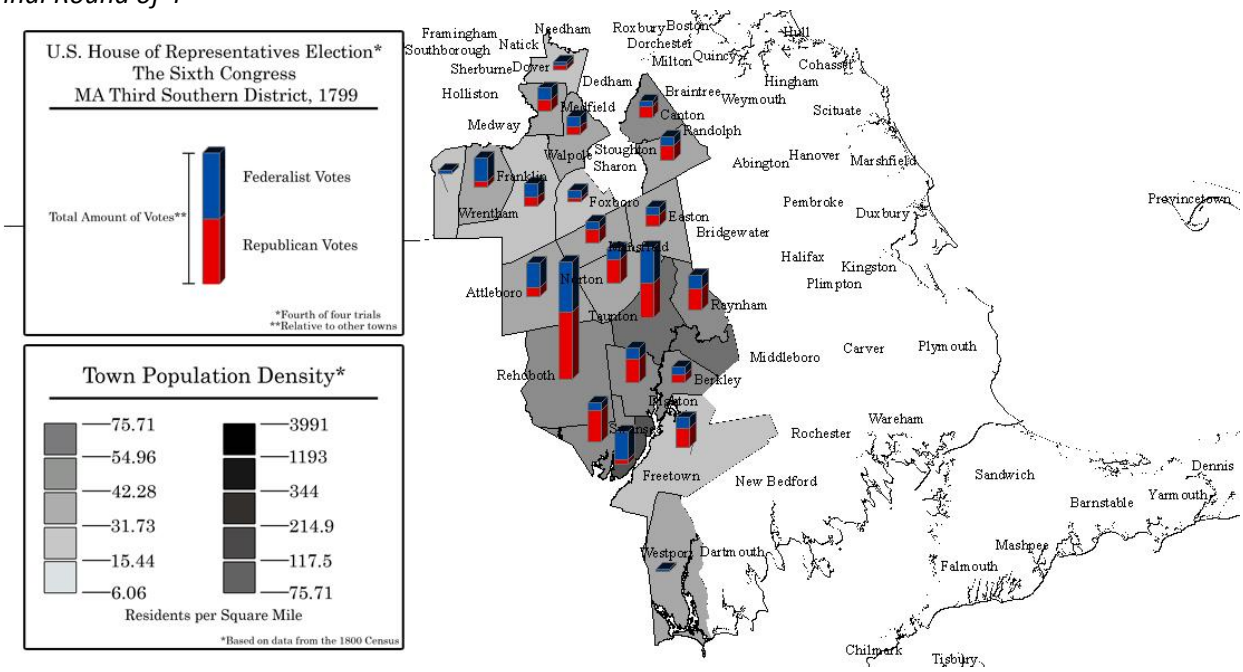
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 2nd Southern District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
John Reed	(Federalist)	1255	[52.51%]
John Dwight	(Republican)	583	[24.39%]
Daniel Snow	(Republican)	327	[13.68%]

Map A23.

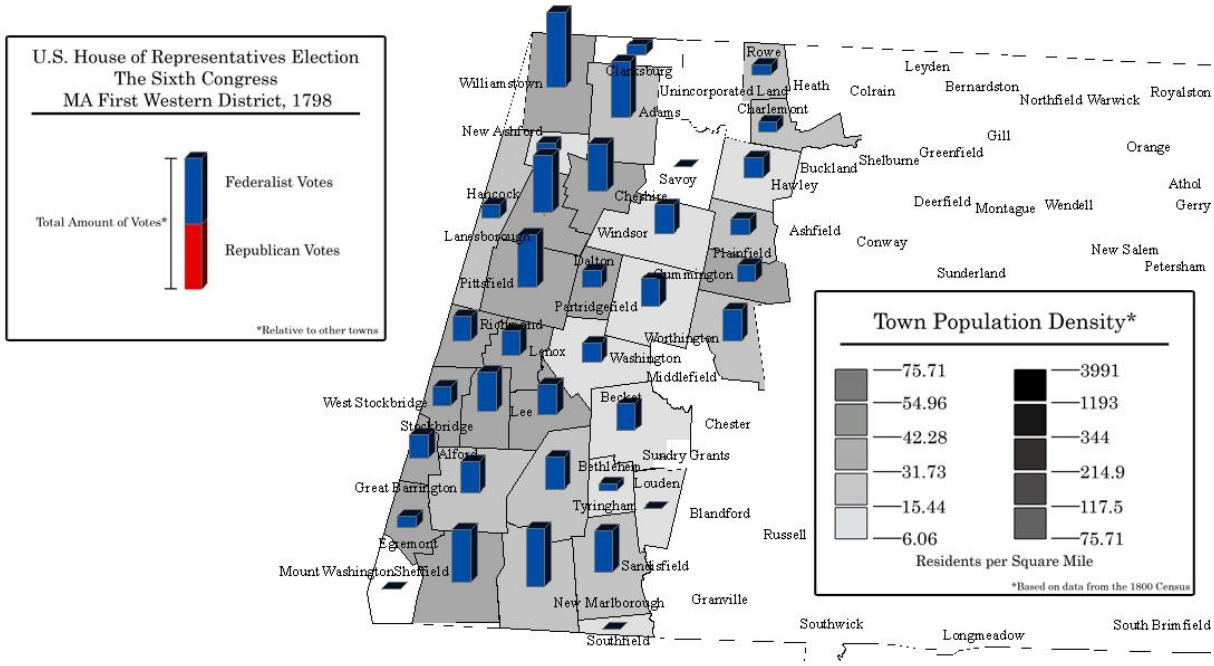
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 3rd Southern District
Sixth Congress
1799
Final Round of 4



Candidate	**(Party)**	**Votes**	**[Percent]**
Phanuel Bishop	(Republican)	1583	[52.04%]
Stephen Bullock	(Federalist)	1454	[47.80%]

Map A24.

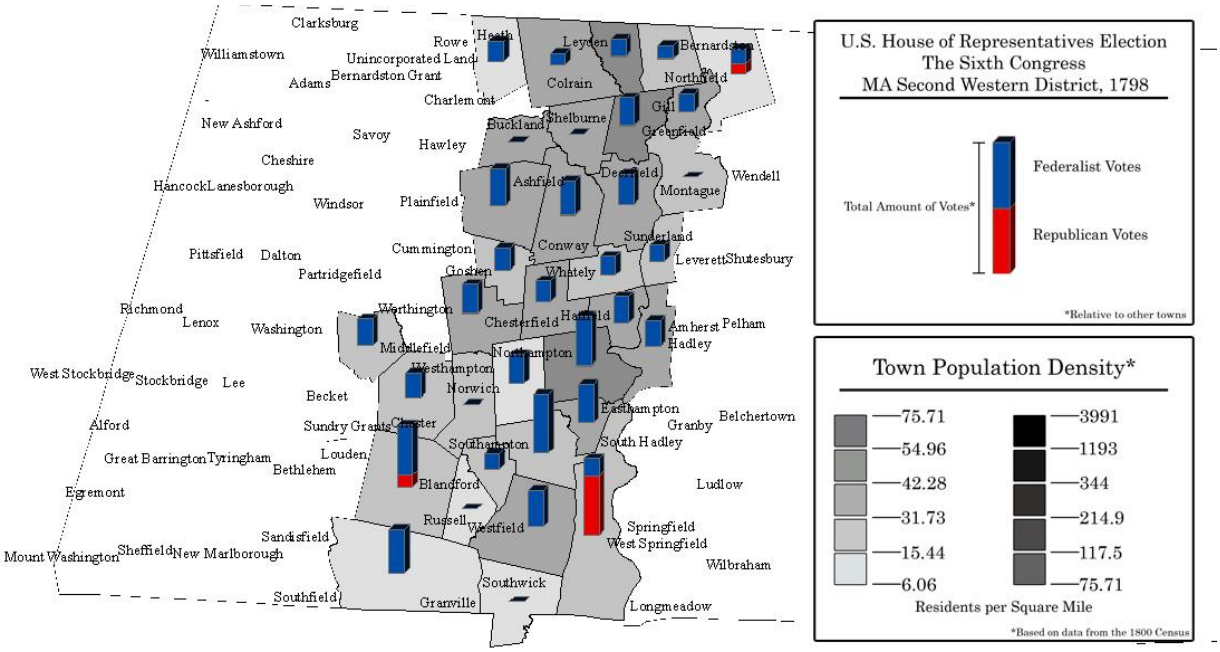
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 1st Western District
Sixth Congress
1798



Candidate	**(Party)**	**Votes**	**[Percent]**
Theodore Sedgwick	(Federalist)	1765	[75.95%]
Thomas Ives	(Federalist)	437	[18.80%]

Map A25.

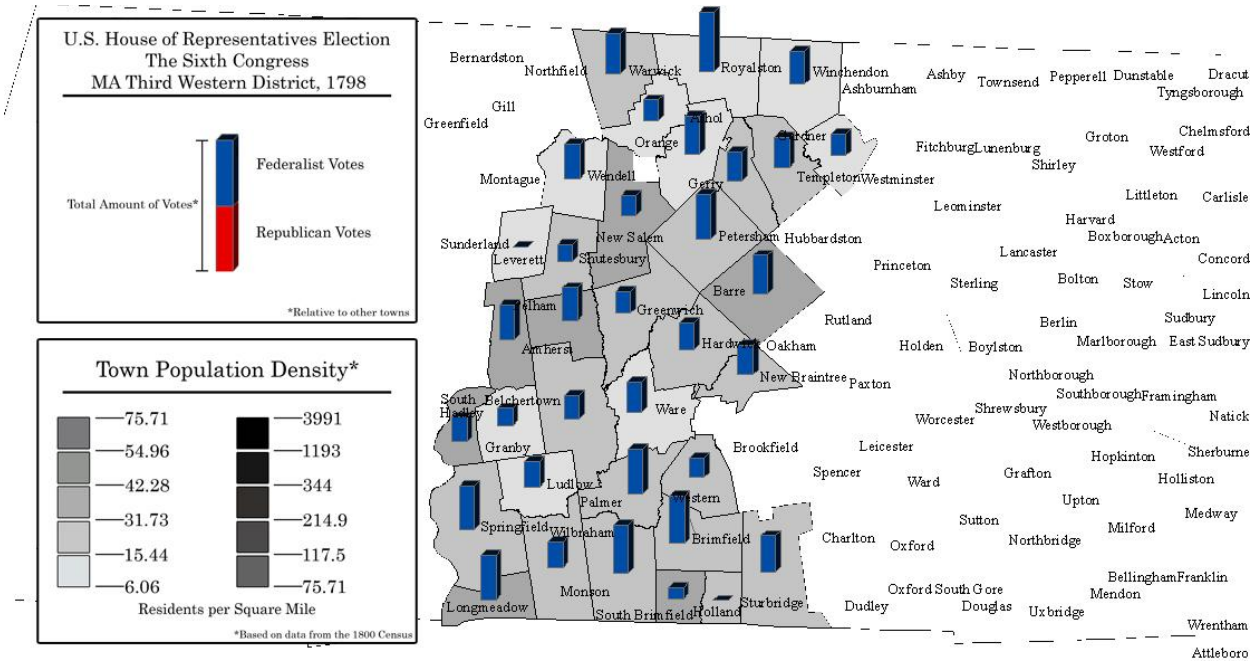
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 2nd Western District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
William Shepard	(Federalist)	1008	[87.12%]
William Lyman	(Republican)	113	[9.77%]

Map A26.

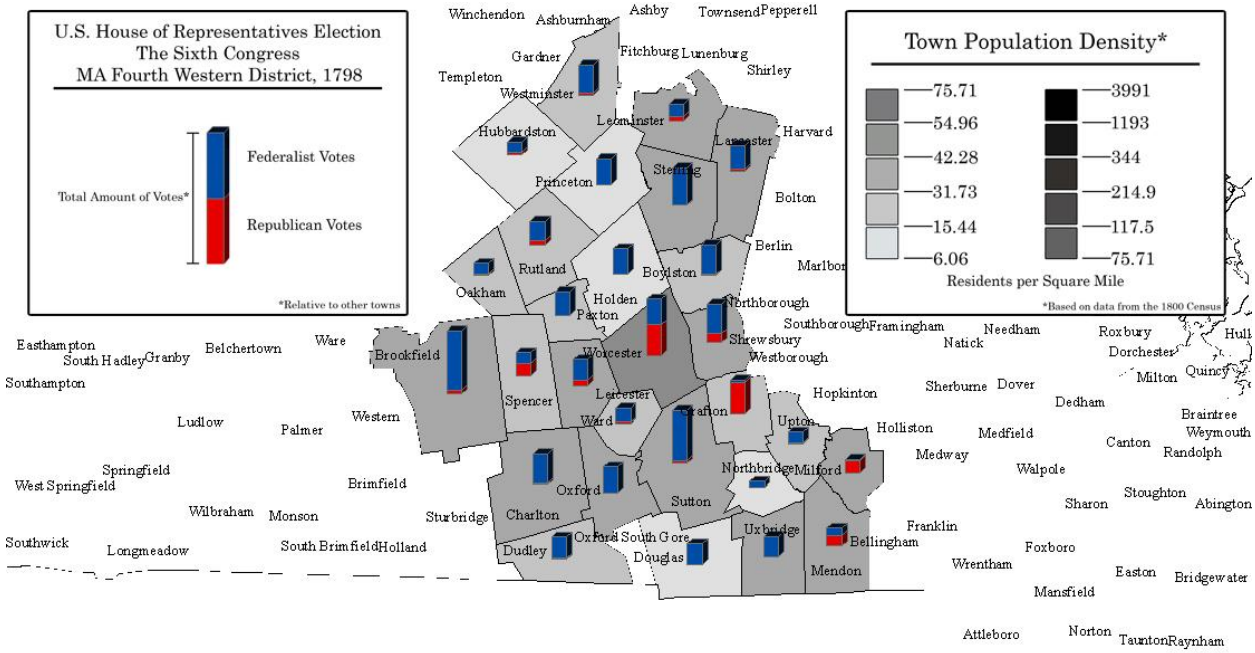
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 3rd Western District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
Samuel Lyman	(Federalist)	1195	[89.39%]
Daniel Bigelow	(Federalist)	86	[6.36%]

Map A27.

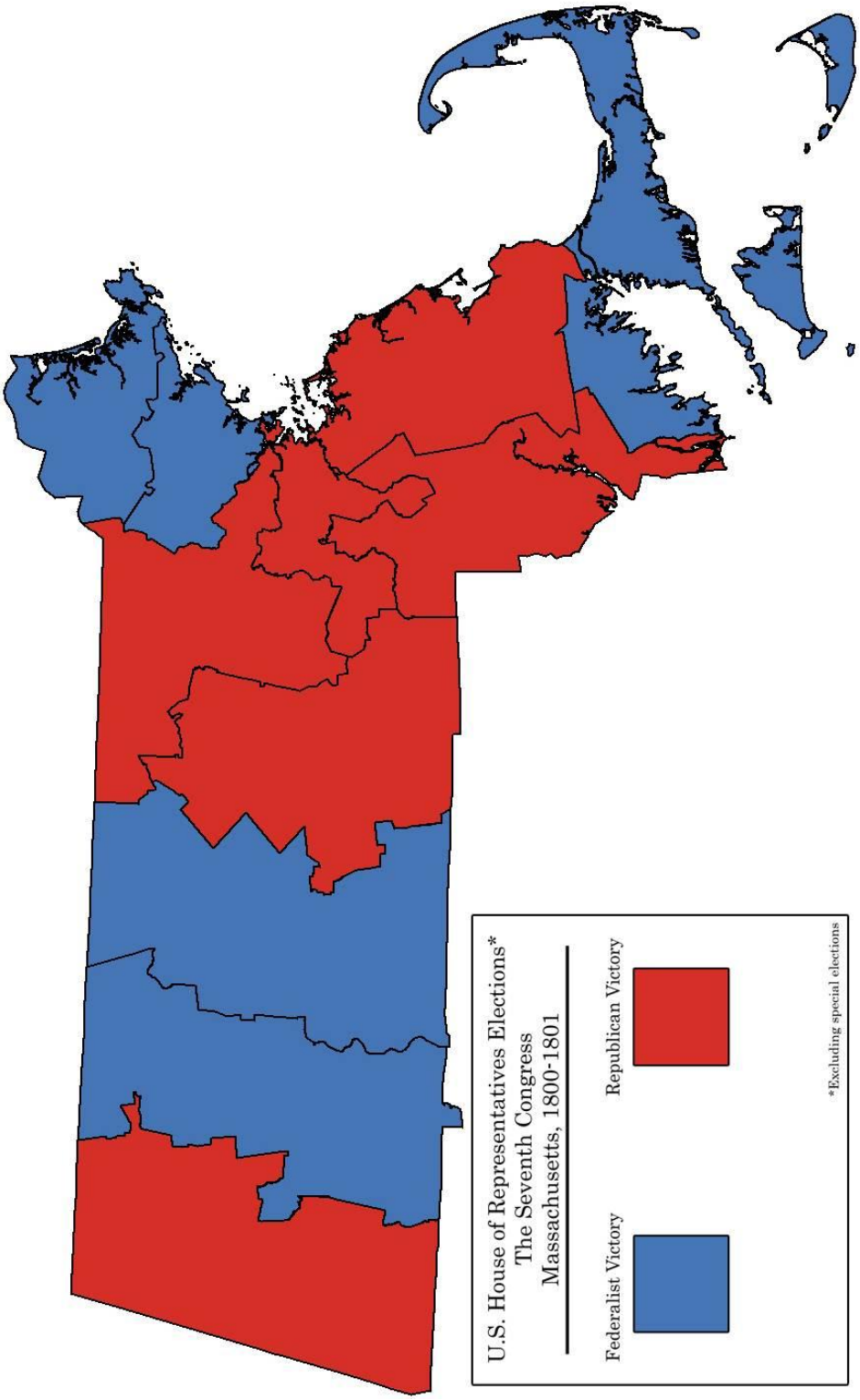
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 4th Western District
Sixth Congress
1798



Candidate	(Party)	Votes	[Percent]
Dwight Foster	(Federalist)	1358	[80.55%]
Levi Lincoln, Sr.	(Republican)	323	[19.16%]

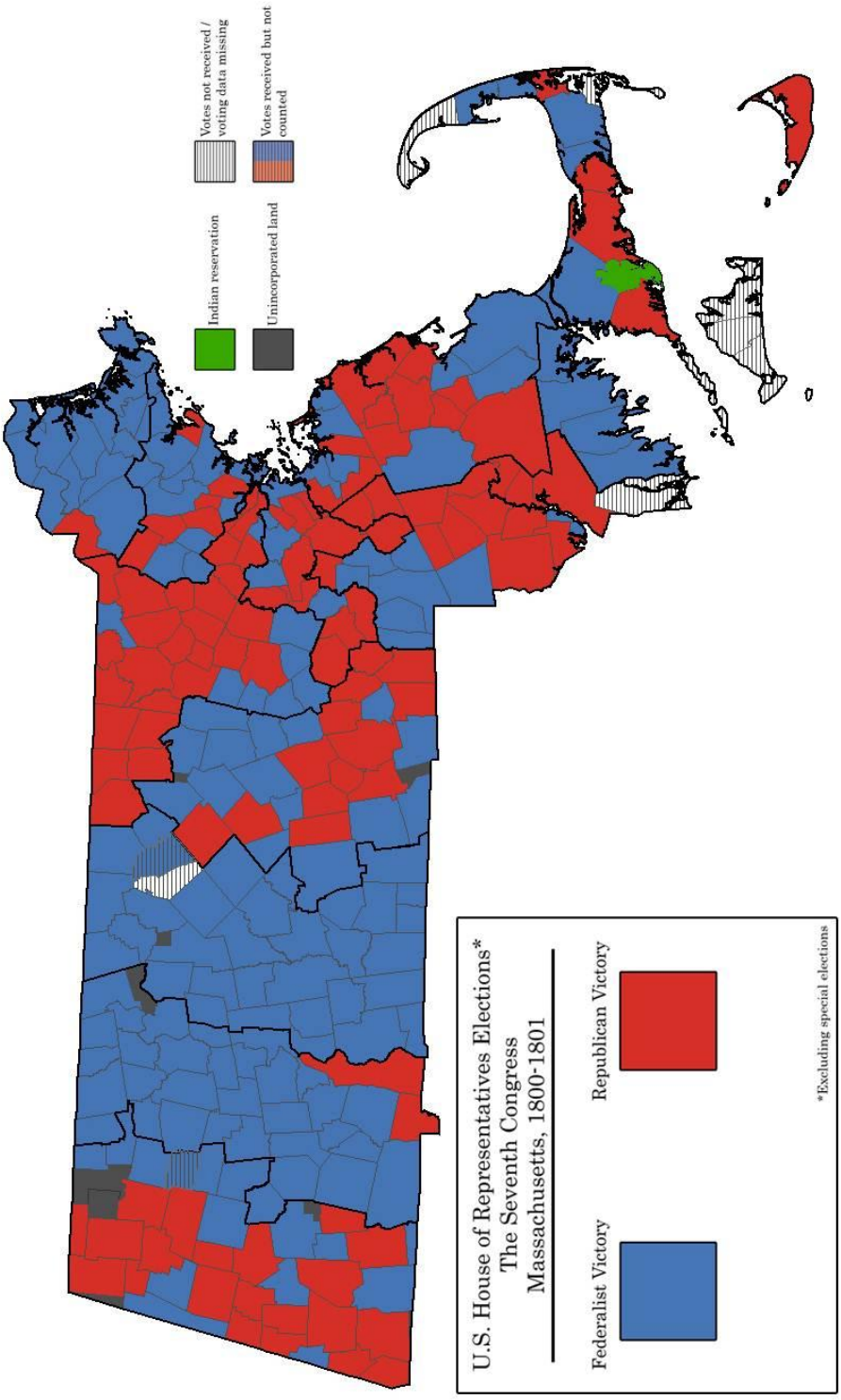
Map B1.

United States House of Representatives Elections – Winner by District
Massachusetts
Seventh Congress
1800-1801



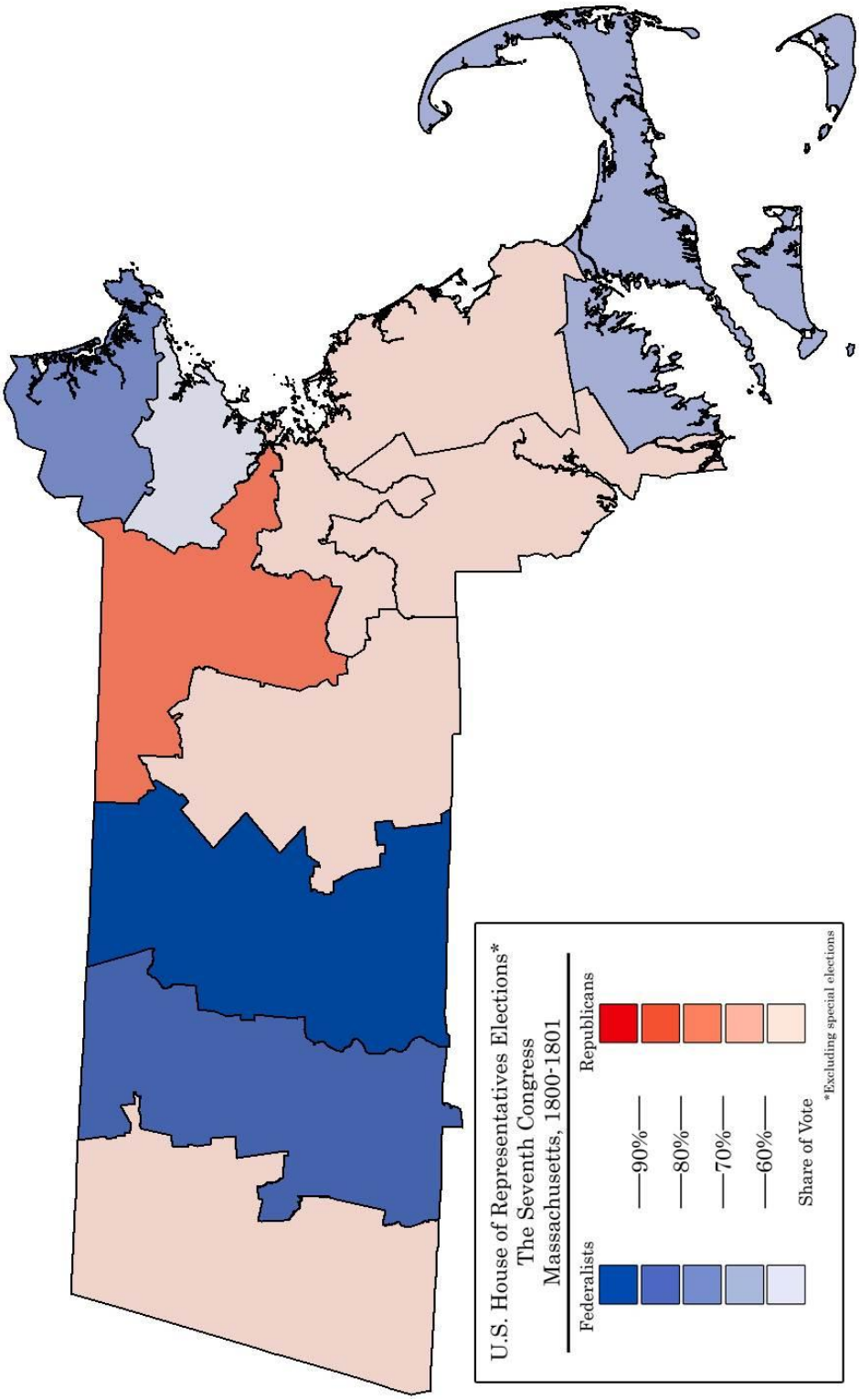
Map B2.

United States House of Representatives Elections – Majority of Vote by Town
Seventh Congress
Massachusetts
1800-1801



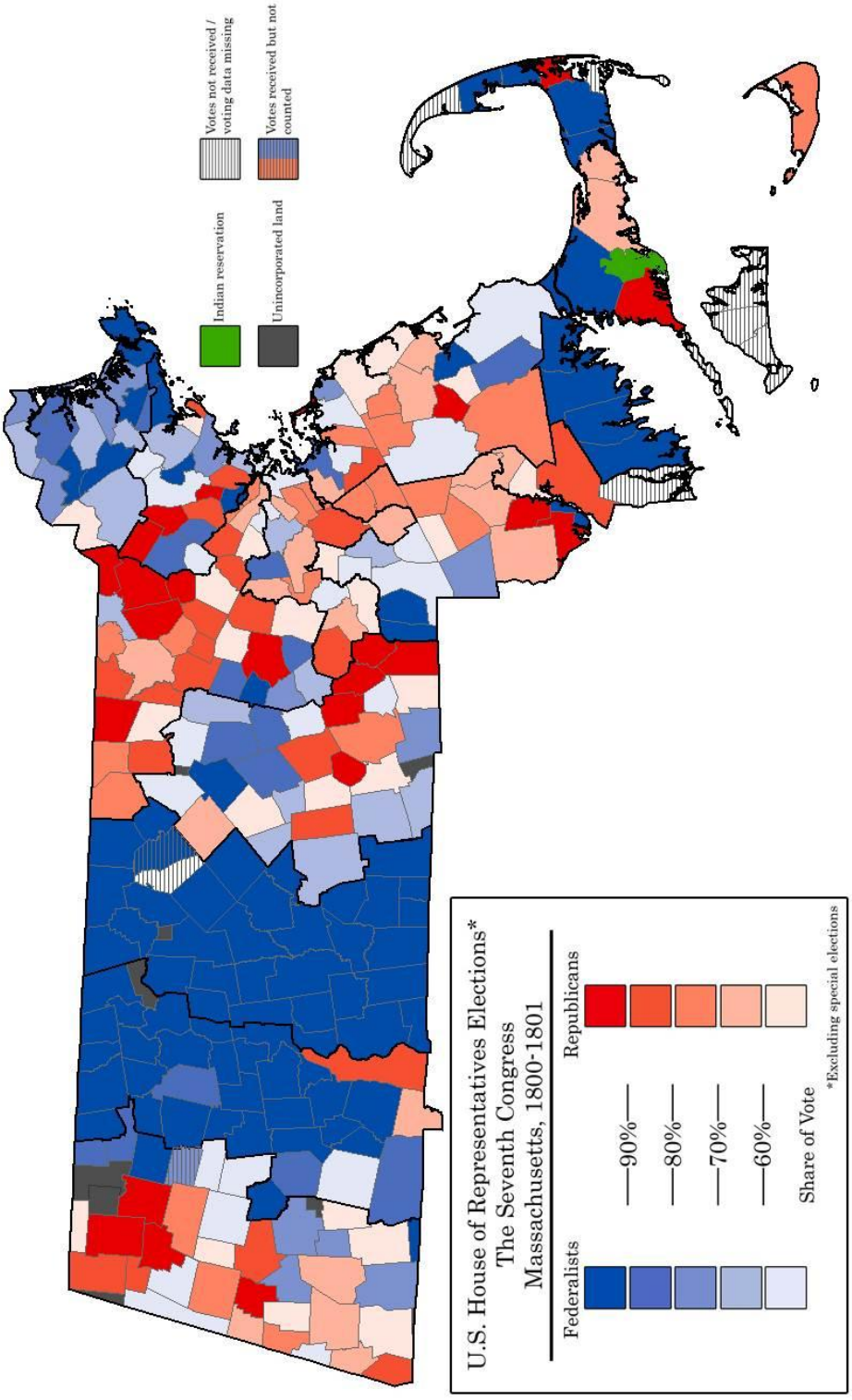
Map B3.

United States House of Representatives Elections – Share of Vote by District
Massachusetts
Seventh Congress
1800-1801



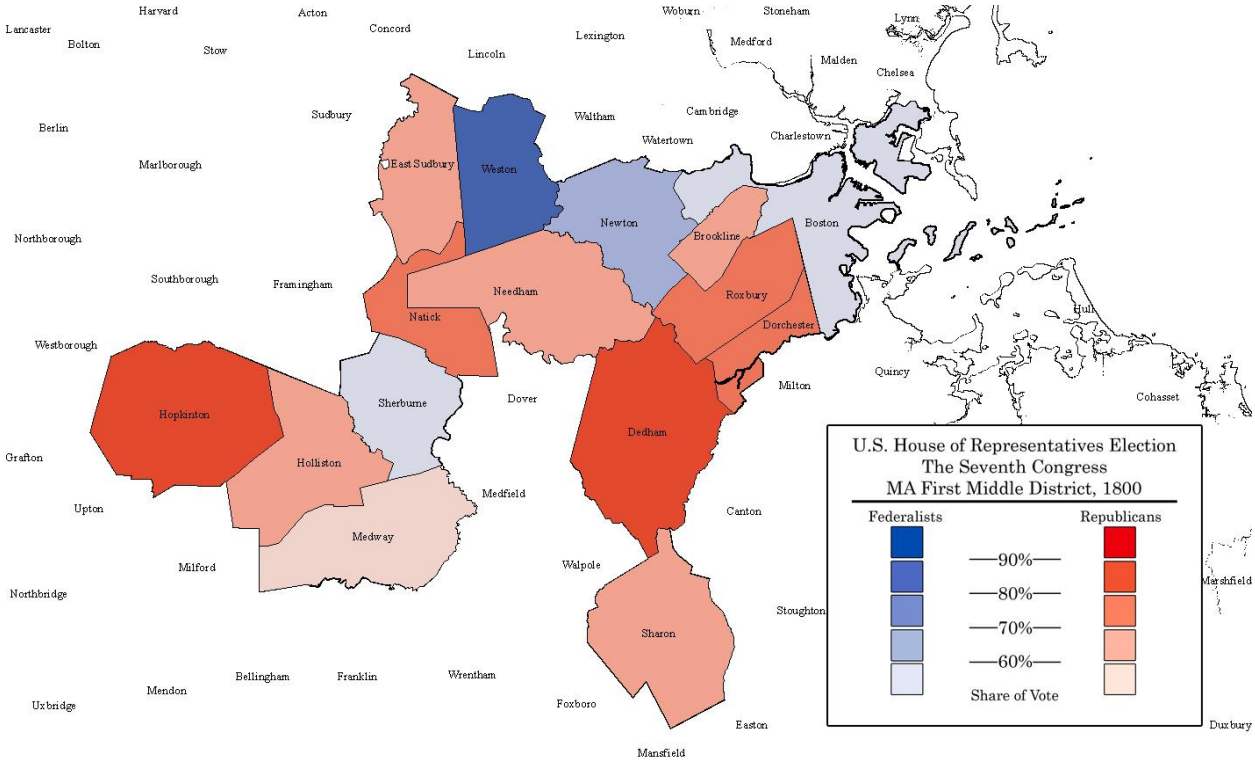
Map B4.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts
Seventh Congress
1800-1801



Map B5.

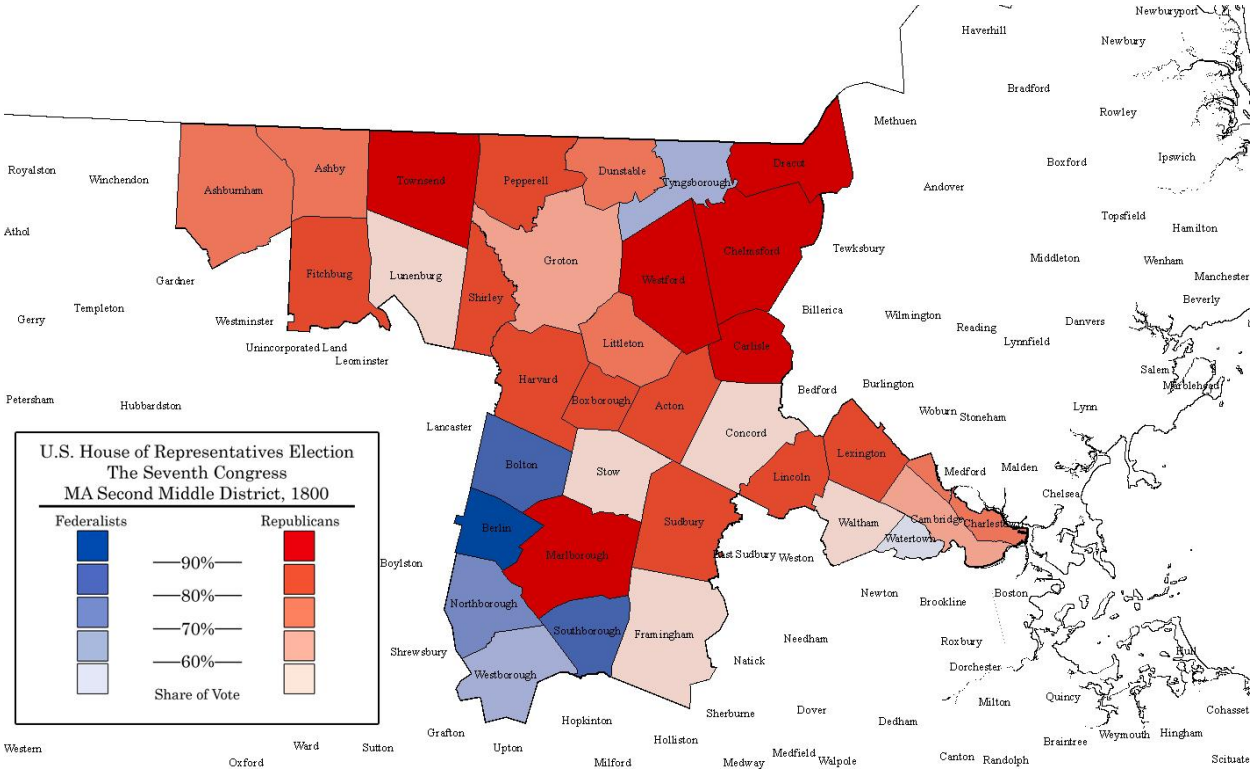
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 1st Middle District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
William Eustis	(Republican)	2790	[52.85%]
Josiah Quincy	(Federalist)	2486	[47.09%]

Map B6.

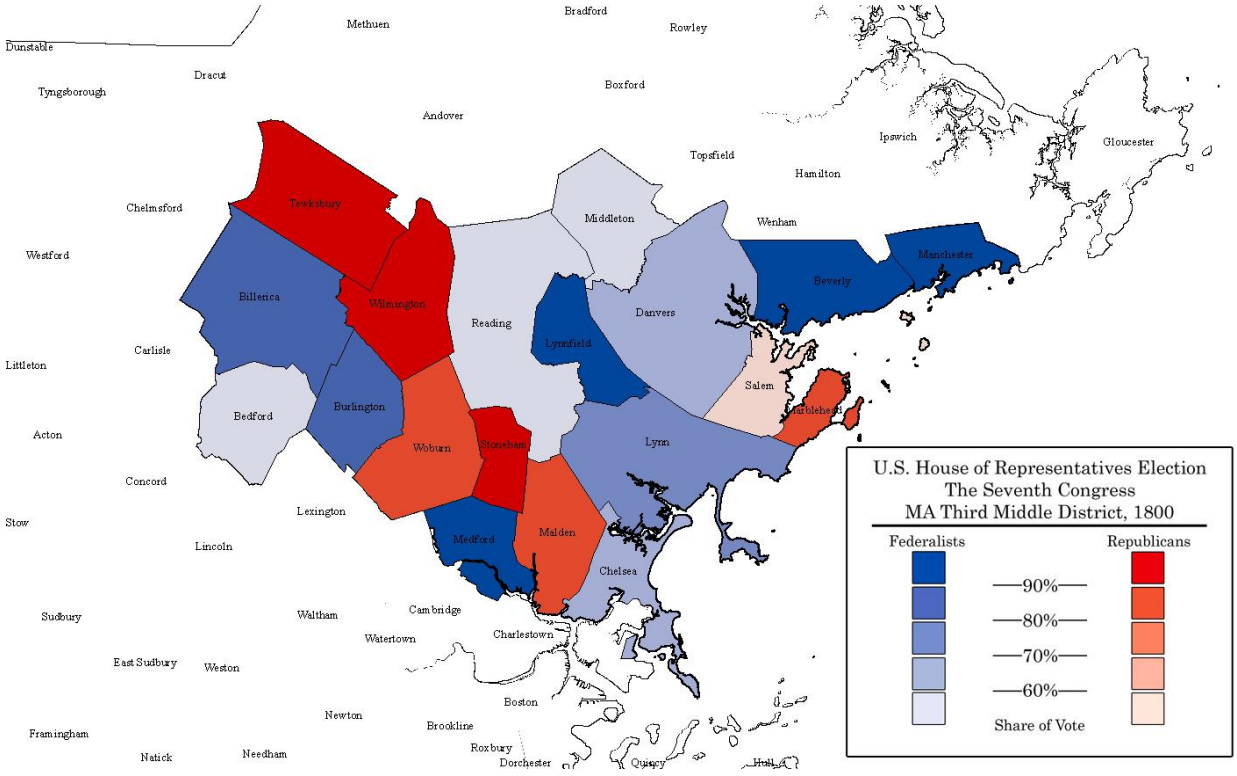
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 2nd Middle District
Seventh Congress
1800



Candidate	**(Party)**	**Votes**	**[Percent]**
Joseph B. Varnum	(Republican)	1930	[71.80%]
Timothy Bigelow	(Federalist)	730	[27.16%]

Map B7.

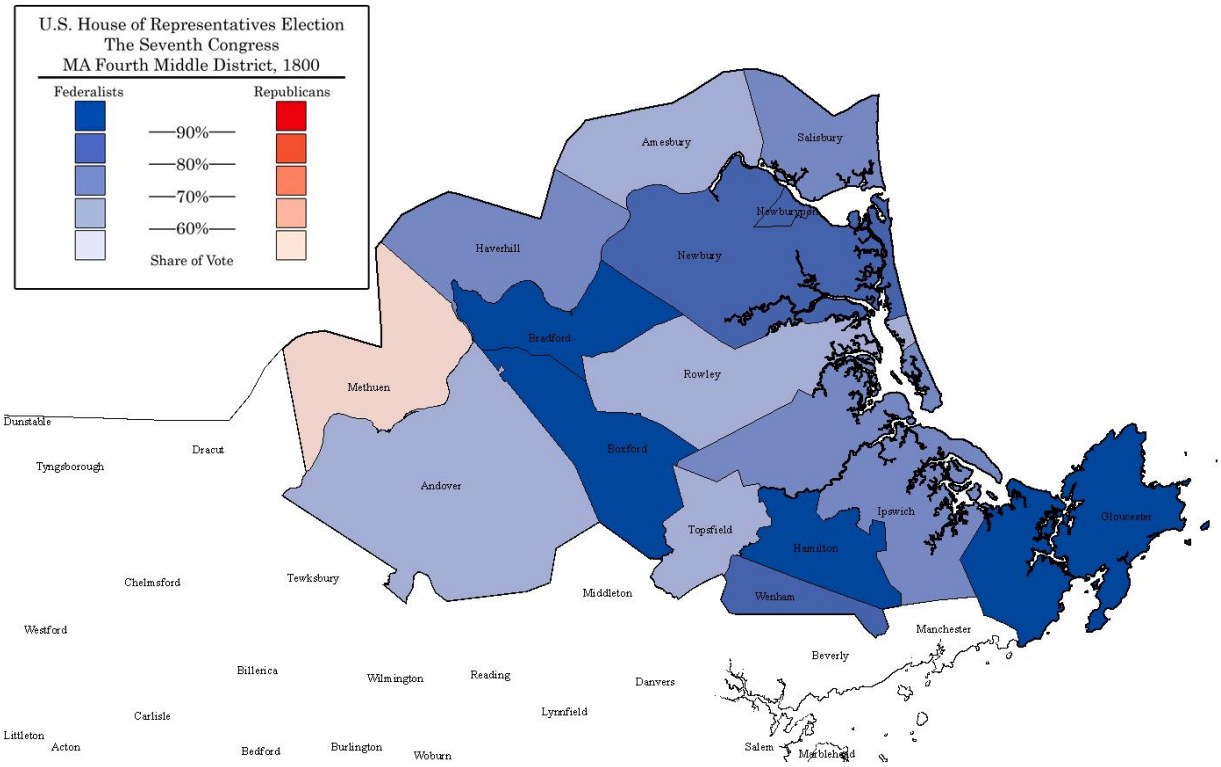
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 3rd Middle District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Nathan Read	(Federalist)	2144	[54.96%]
Jacob Crowninshield	(Republican)	1756	[45.01%]

Map B8.

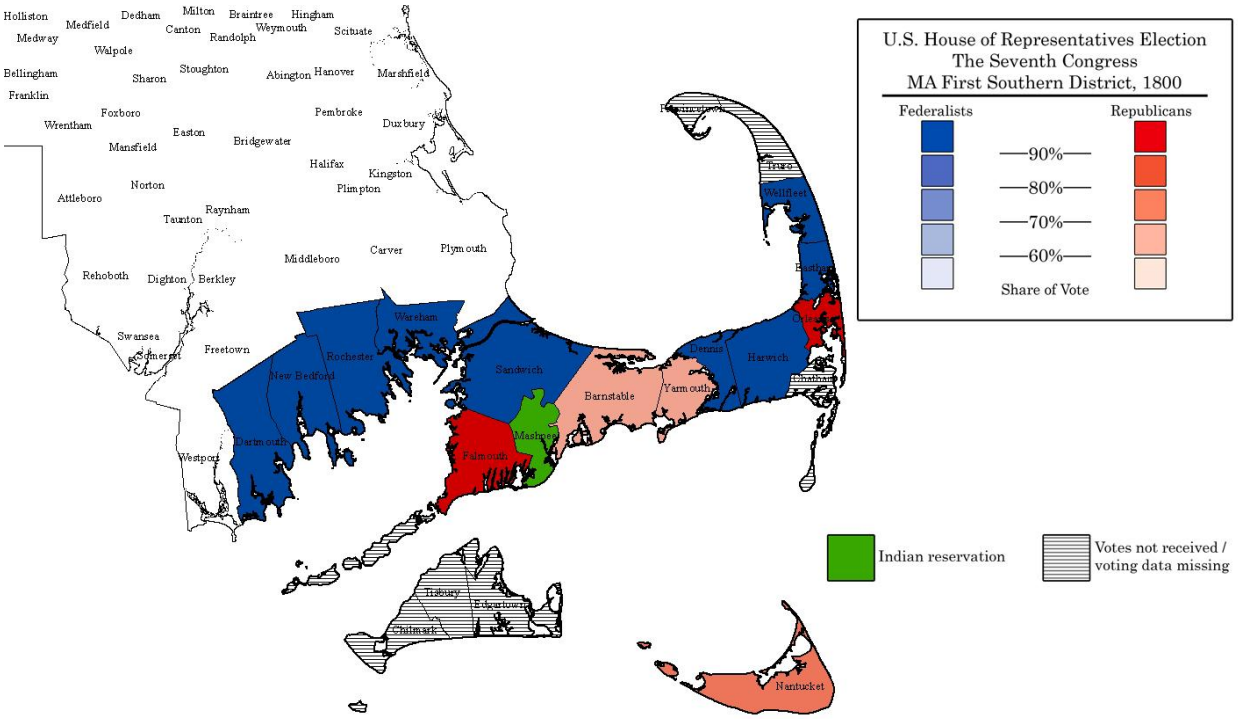
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 4th Middle District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Manasseh Cutler	(Federalist)	1430	[75.50%]
Thomas Kitteridge	(Republican)	406	[21.44%]

Map B9.

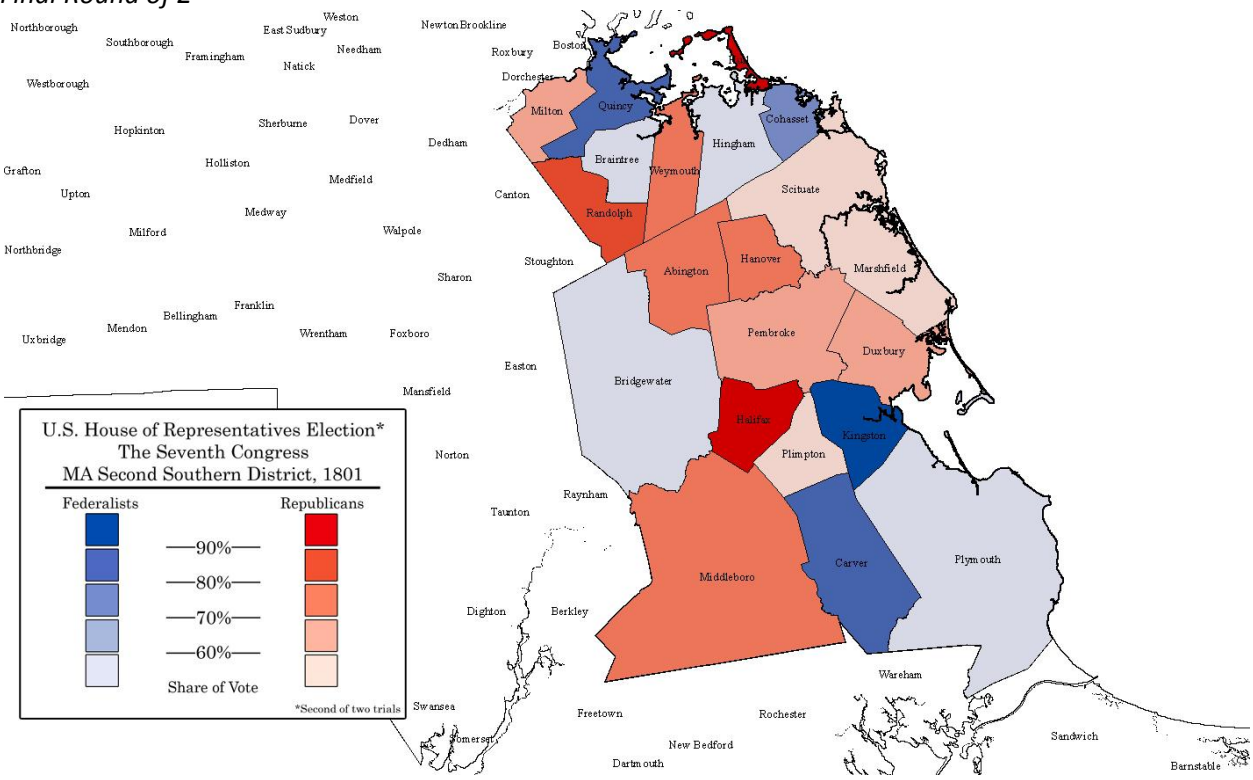
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 1st Southern District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Lemuel Williams	(Federalist)	421	[59.80%]
Isaiah Green	(Republican)	181	[25.71%]
Isaac Coffin	(Republican)	78	[11.08%]

Map B10.

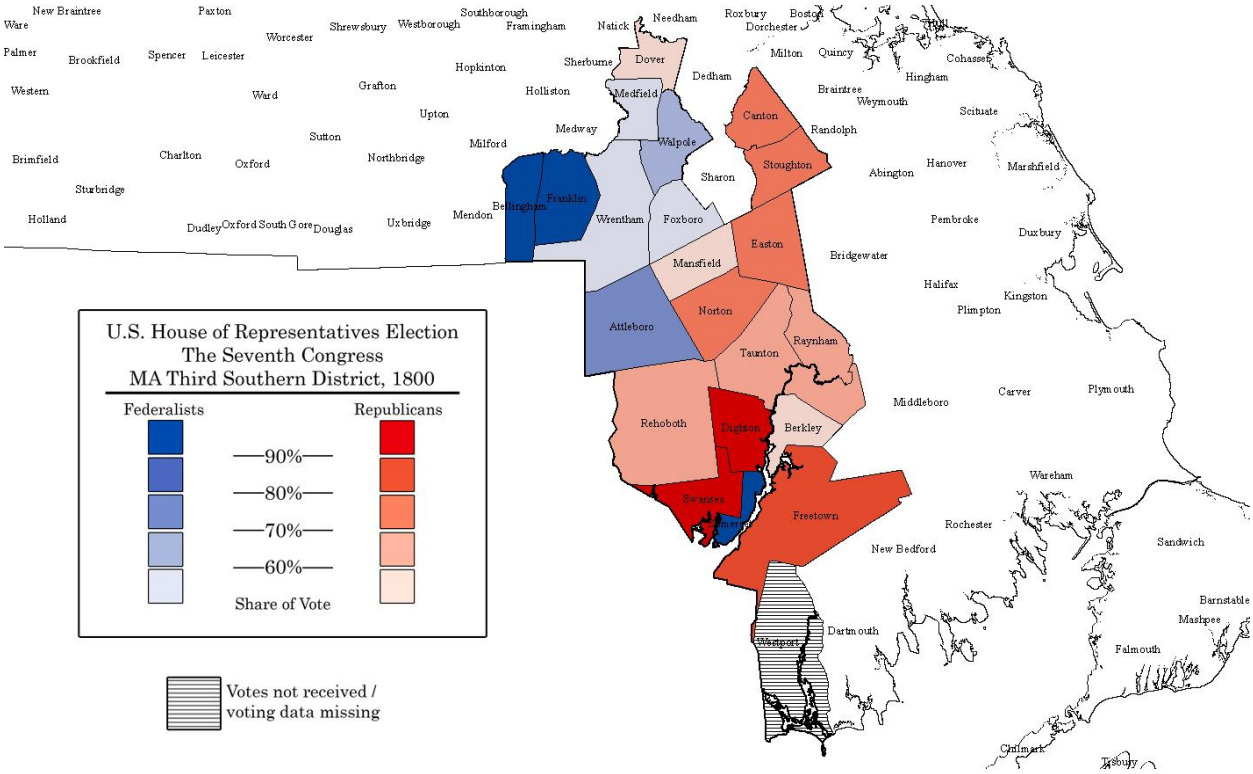
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 2nd Southern District
Seventh Congress
1801
Final Round of 2



Candidate	**(Party)**	**Votes**	**[Percent]**
Josiah Smith	(Republican)	1580	[51.08%]
Nahum Mitchell	(Federalist)	1370	[44.29%]
Samuel Niles	(Republican)	118	[3.82%]

Map B11.

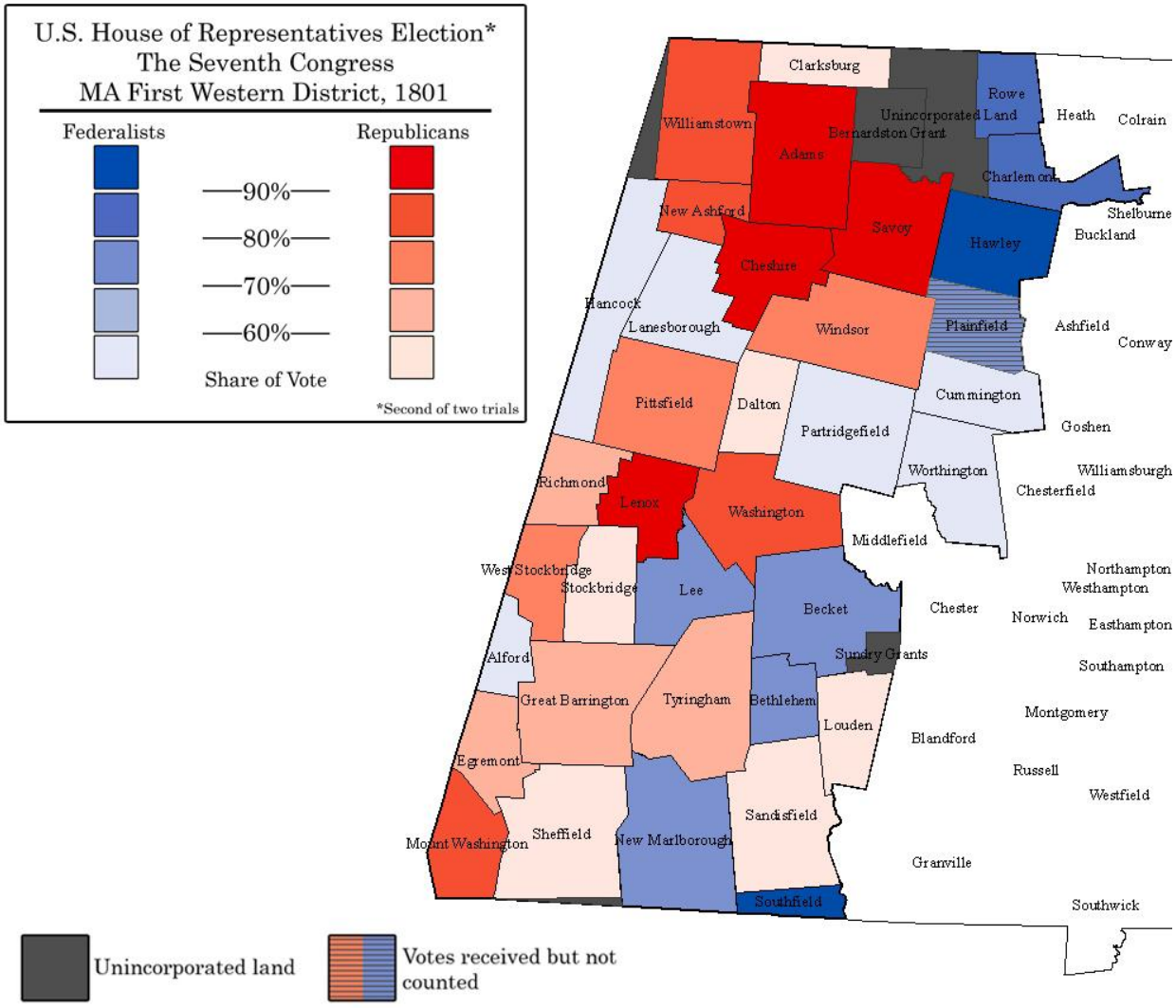
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 3rd Southern District
Seventh Congress
1800



Candidate	**(Party)**	**Votes**	**[Percent]**
Phanuel Bishop	(Republican)	1284	[56.86%]
Elisha May	(Federalist)	573	[25.38%]
Stephen Bullock	(Federalist)	220	[9.74%]
Laban Wheaton	(Federalist)	154	[6.82%]

Map B12.

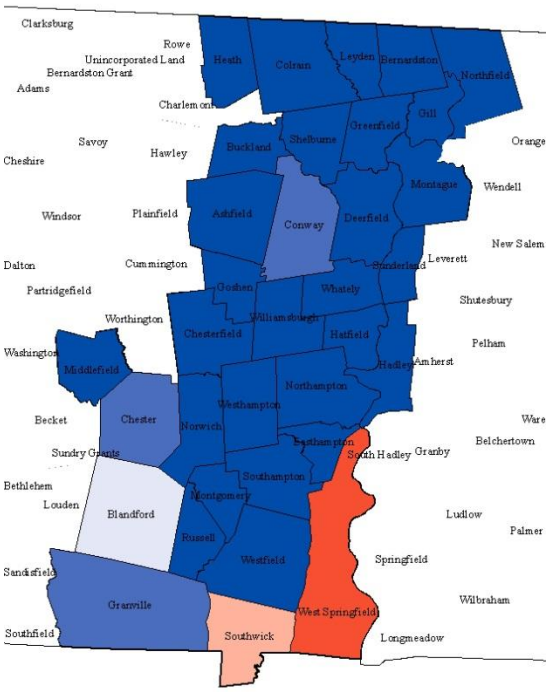
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 1st Western District
Seventh Congress
1801
Errors were committed in the initial voting process; these results are from the re-do

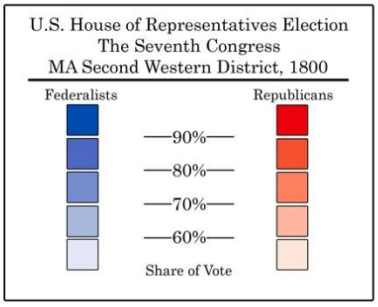


Candidate	(Party)	Votes	[Percent]
John Bacon	(Republican)	2384	[58.05%]
Ephraim Williams	(Federalist)	1679	[40.88%]

Map B13.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts 2nd Western District
Seventh Congress
1800

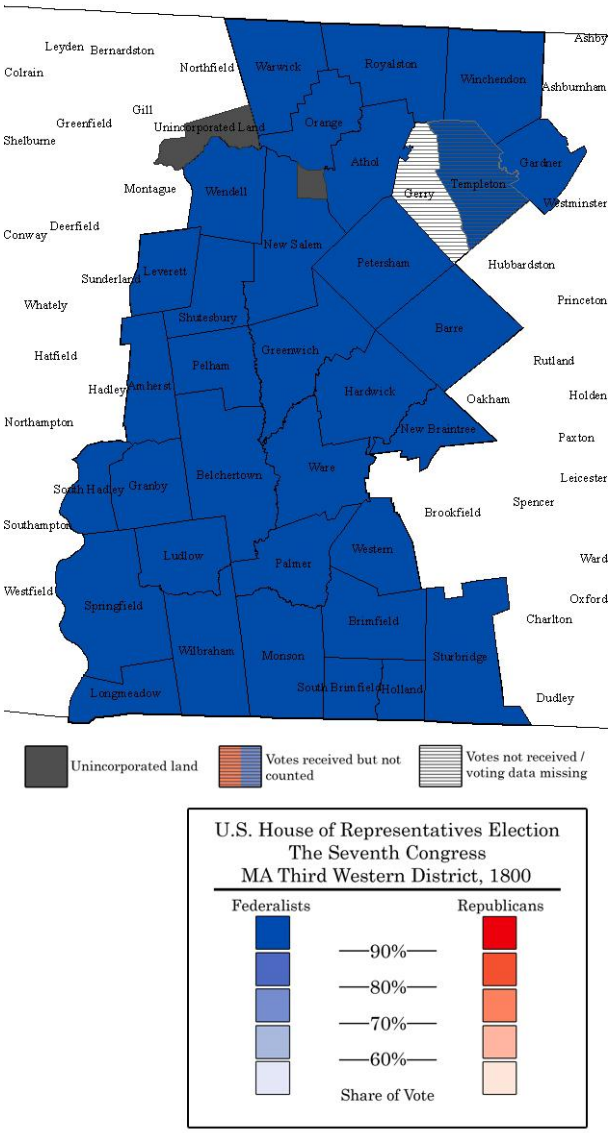




Candidate	(Party)	Votes	[Percent]
William Shepard	(Federalist)	1142	[73.35%]
William Lyman	(Republican)	200	[12.85%]
Samuel Taggart	(Federalist)	58	[3.73%]
Warham Parks	(Federalist)	51	[3.28%]
Ebenezer Hunt	(Federalist)	30	[1.93%]
Samuel Fowler	(Federalist)	22	[1.41%]

Map B14.

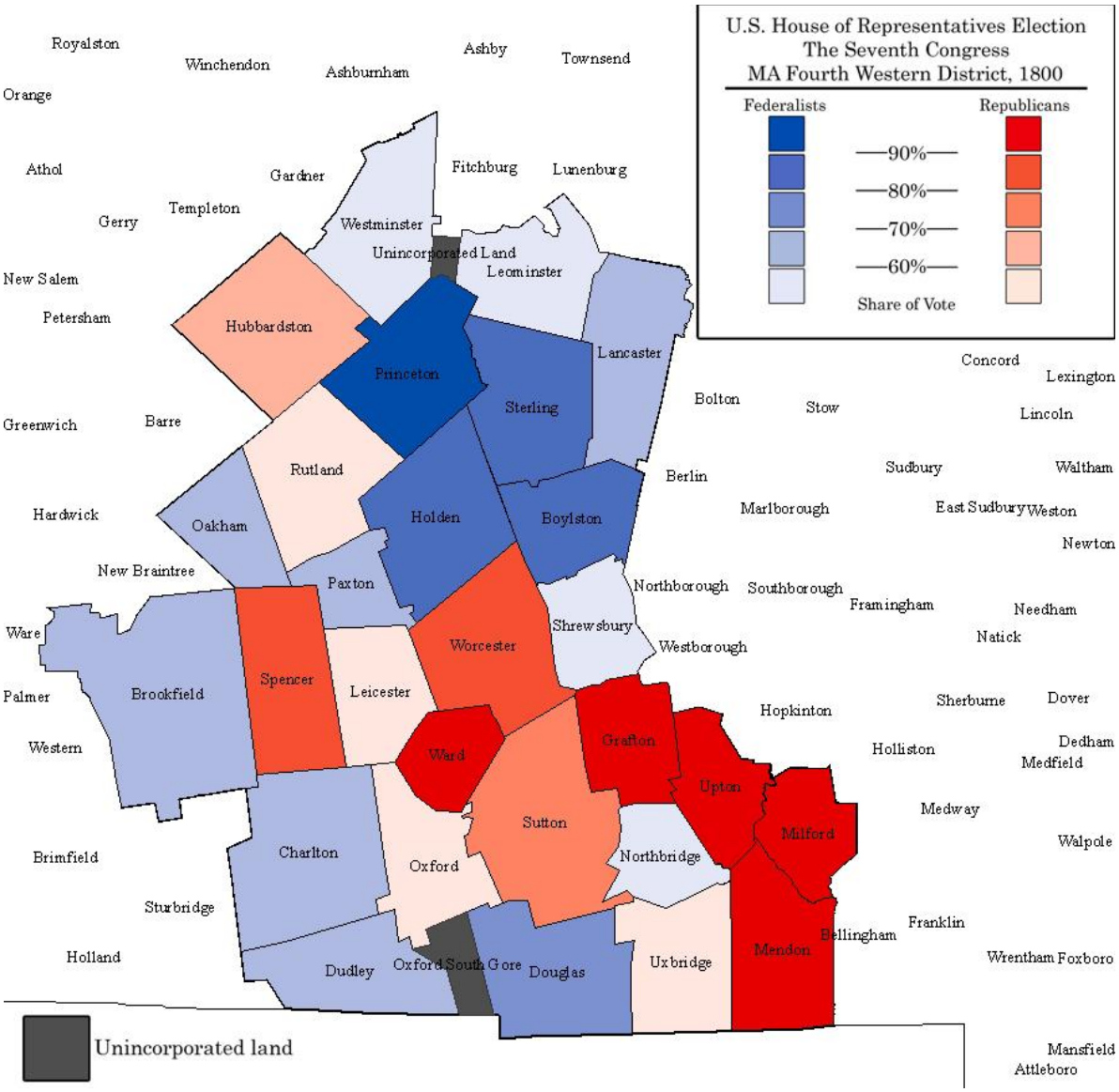
United States House of Representatives Elections – Share of Vote by Town
Massachusetts 3rd Western District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Ebenezer Mattoon	(Federalist)	1261	[76.61%]
Thomas Dwight	(Federalist)	233	[14.16%]
Daniel Bigelow	(Federalist)	78	[4.74%]
Thomas Holt	(Federalist)	19	[1.15%]

Map B15.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts 4th Western District
Seventh Congress
1800

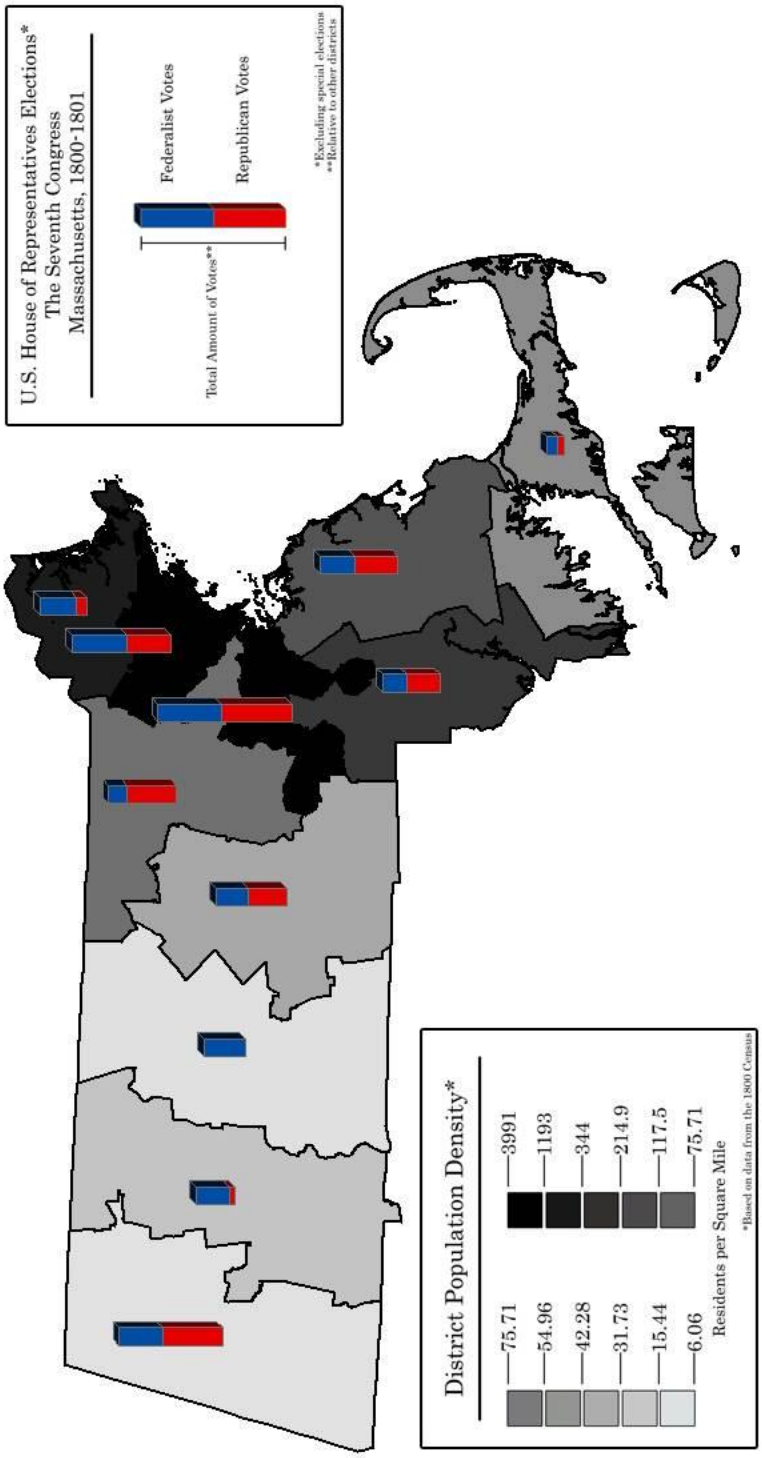


Candidate	**(Party)**	**Votes**	**[Percent]**
Levi Lincoln, Sr.**	(Republican)	1496	[52.60%]
Jabez Upham	(Federalist)	1175	[41.32%]
Salem Towne	(Federalist)	107	[3.76%]

** Resigned before the 7th Congress convened, to become Attorney General under President Jefferson.

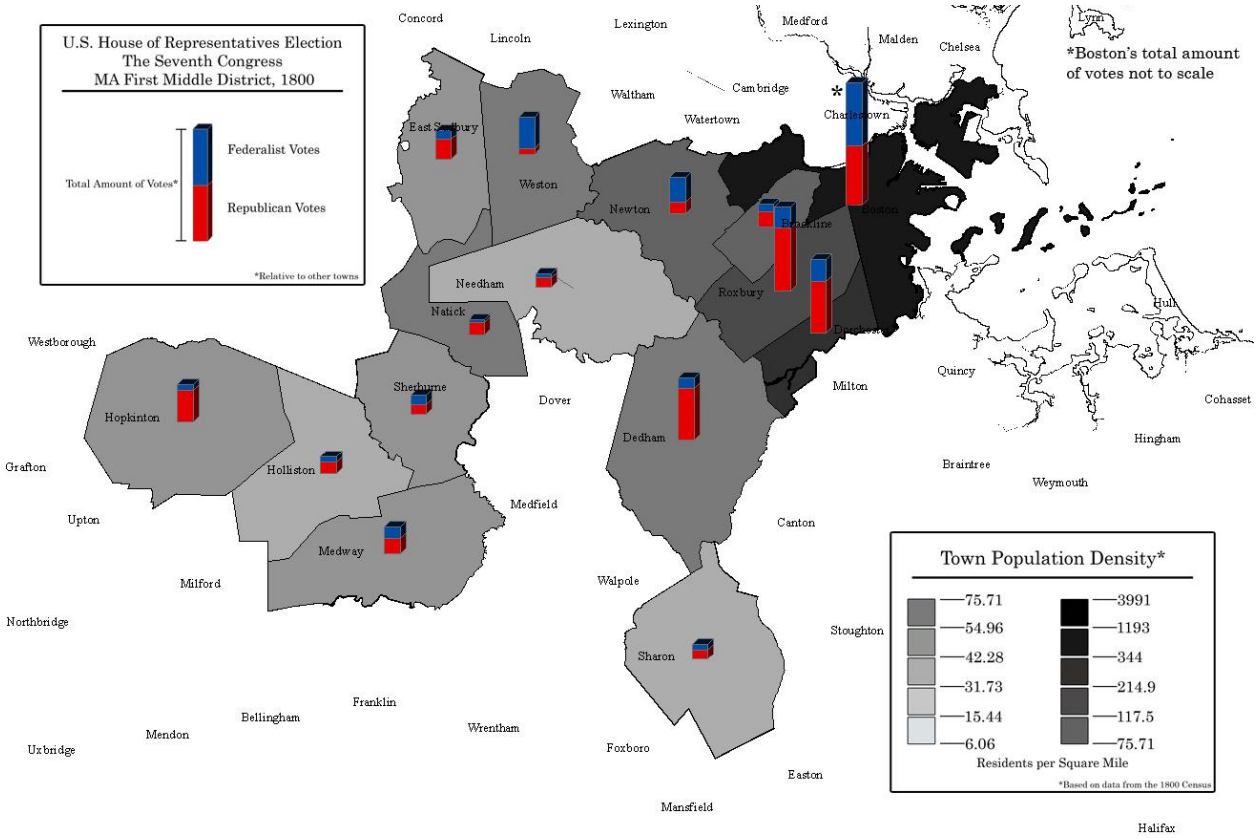
Map B16.

United States House of Representatives Elections – Vote Breakdown over Population Density by District
Massachusetts
Seventh Congress
1800-1801



Map B17.

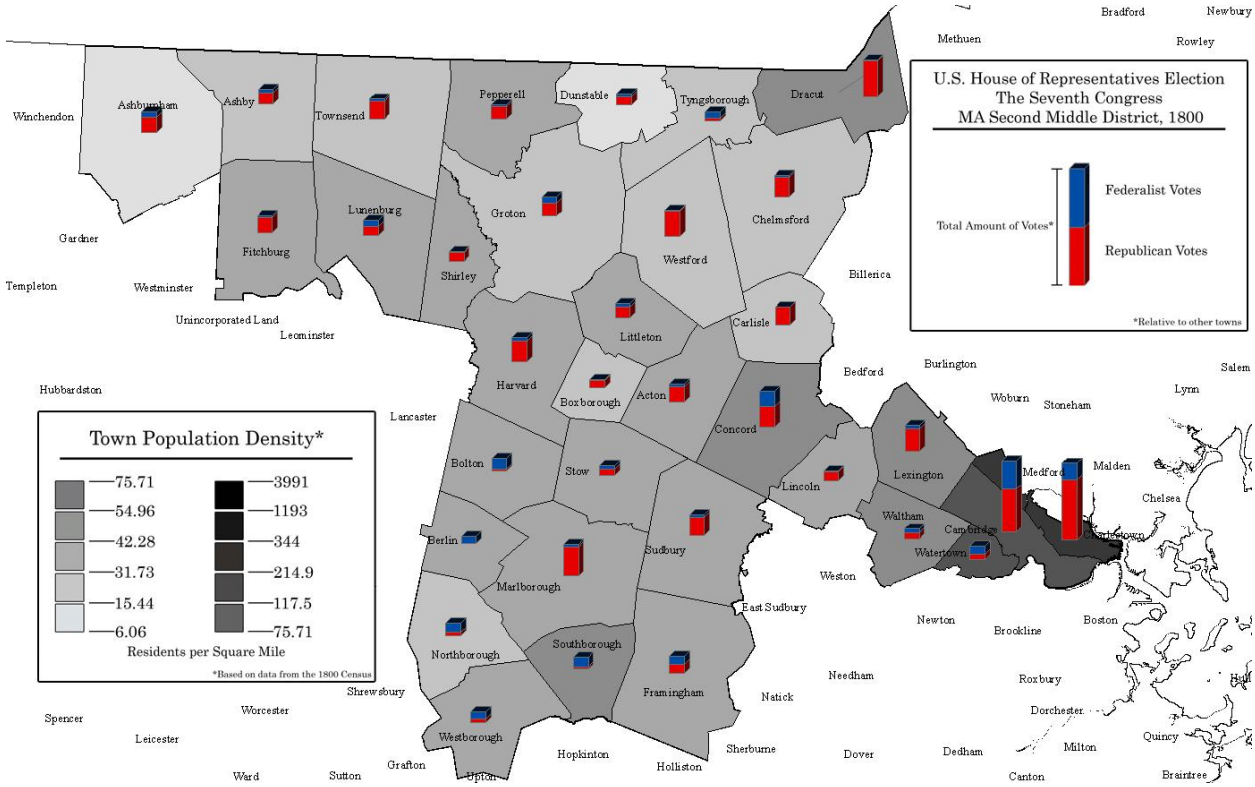
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 1st Middle District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
William Eustis	(Republican)	2790	[52.85%]
Josiah Quincy	(Federalist)	2486	[47.09%]

Map B18.

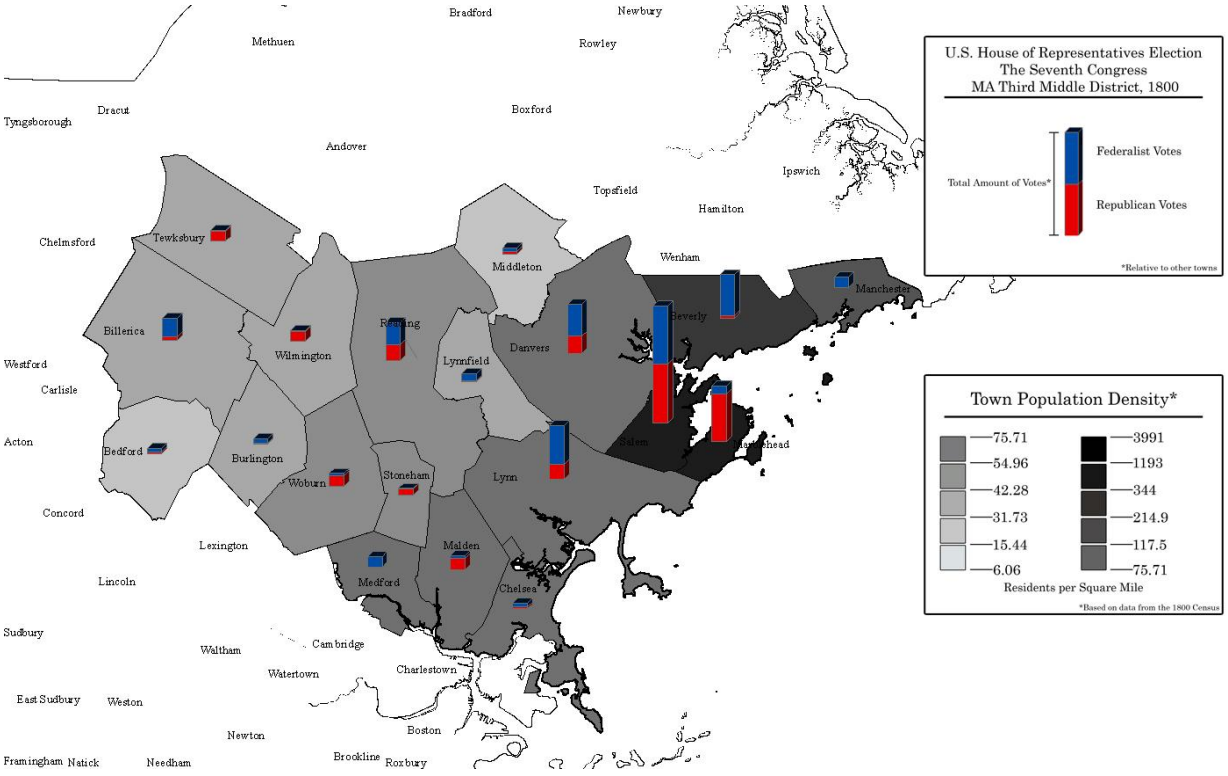
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 2nd Middle District
Seventh Congress
1800



Candidate	**(Party)**	**Votes**	**[Percent]**
Joseph B. Varnum	(Republican)	1930	[71.80%]
Timothy Bigelow	(Federalist)	730	[27.16%]

Map B19.

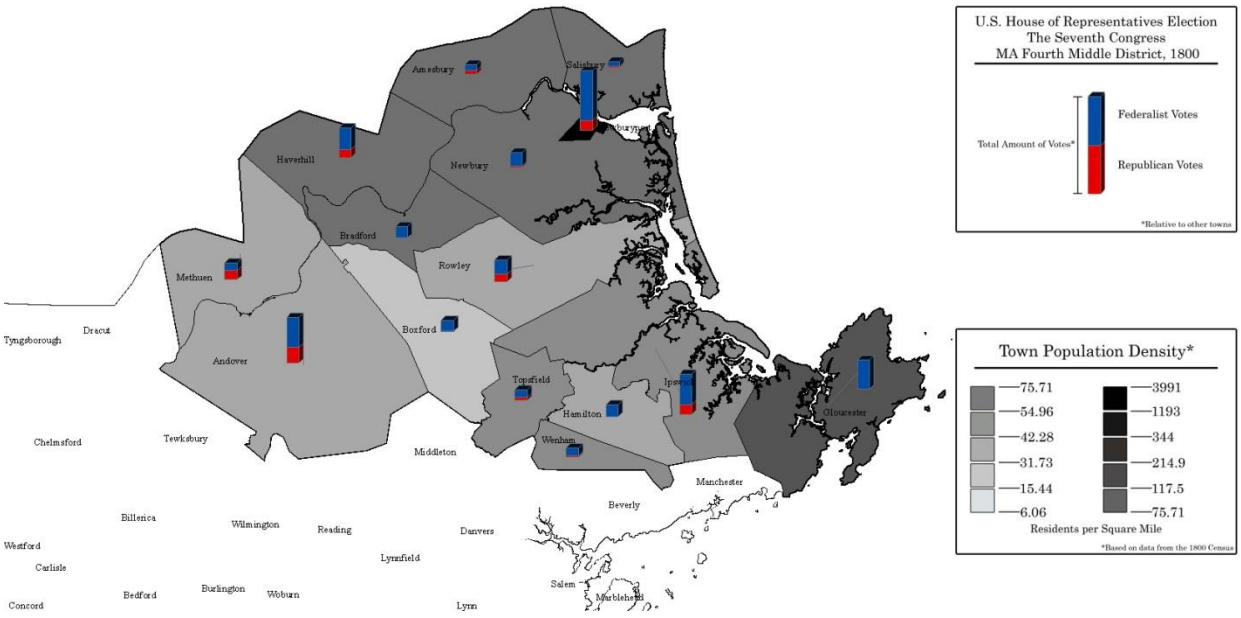
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 3rd Middle District
Seventh Congress
1800



Candidate	**(Party)**	**Votes**	**[Percent]**
Nathan Read	(Federalist)	2144	[54.96%]
Jacob Crowninshield	(Republican)	1756	[45.01%]

Map B20.

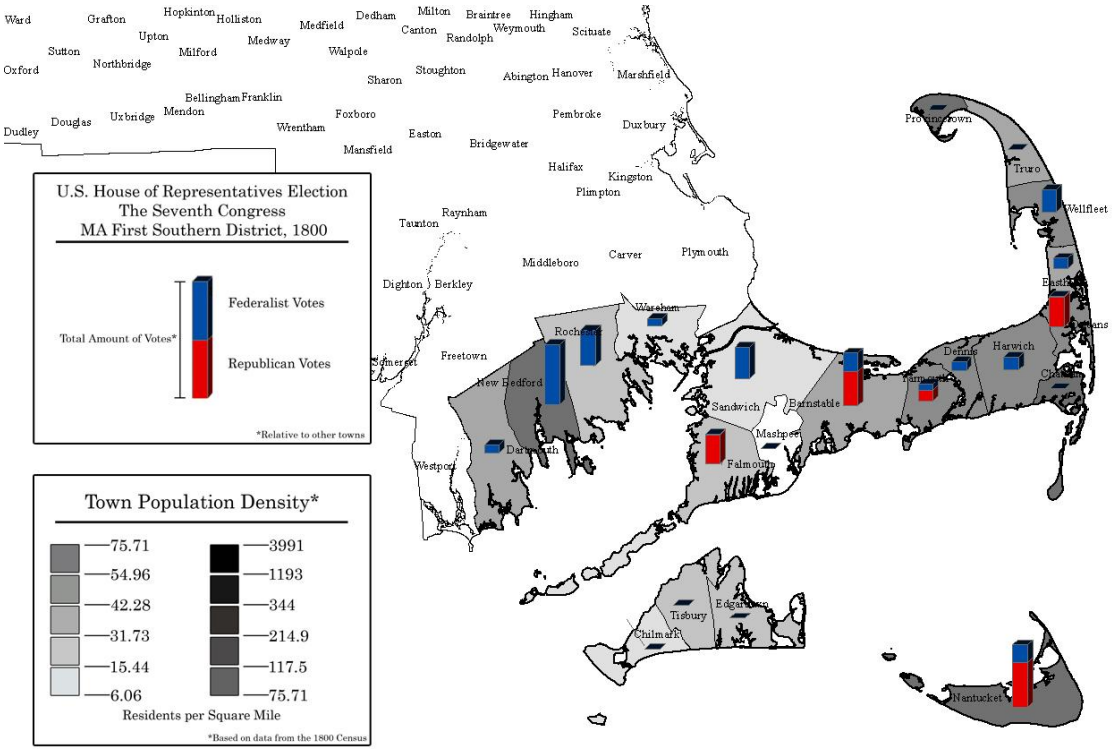
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 4th Middle District
Seventh Congress
1800



Candidate	**(Party)**	**Votes**	**[Percent]**
Manasseh Cutler	(Federalist)	1430	[75.50%]
Thomas Kitteridge	(Republican)	406	[21.44%]

Map B21.

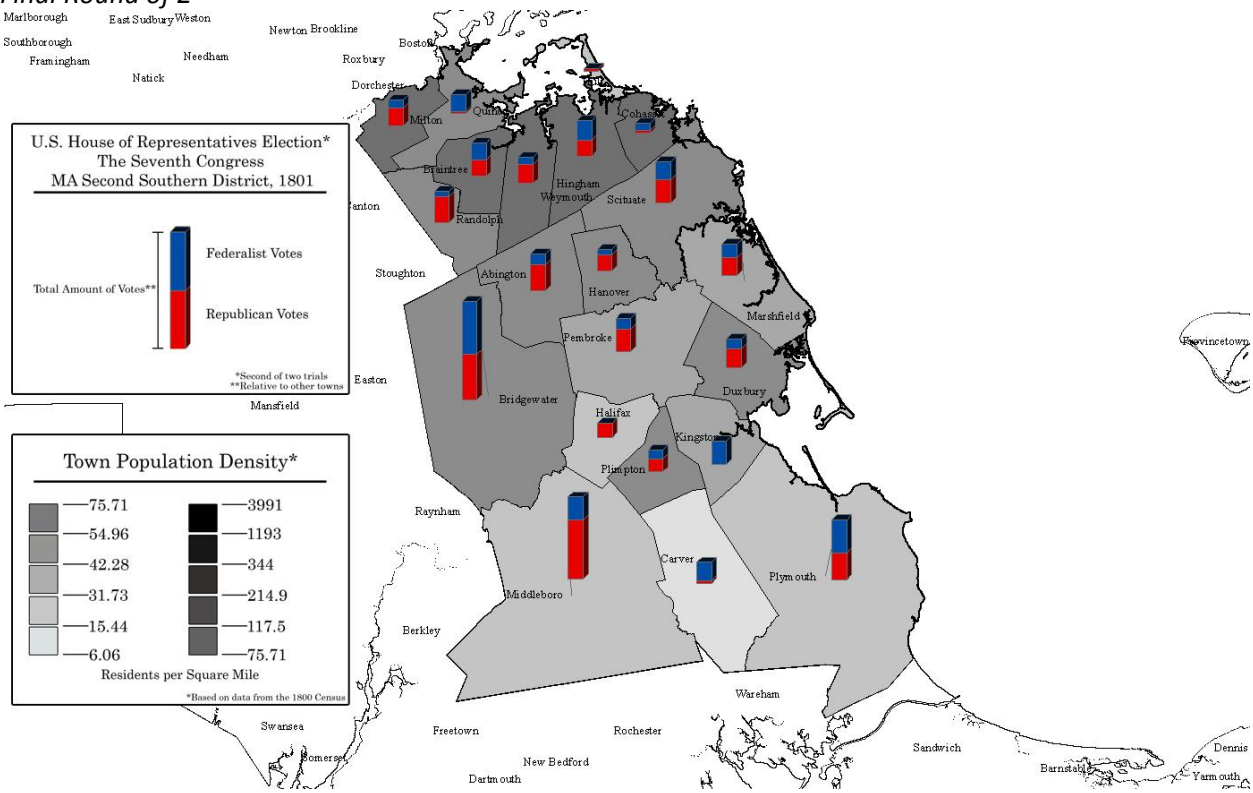
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 1st Southern District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Lemuel Williams	(Federalist)	421	[59.80%]
Isaiah Green	(Republican)	181	[25.71%]
Isaac Coffin	(Republican)	78	[11.08%]

Map B22.

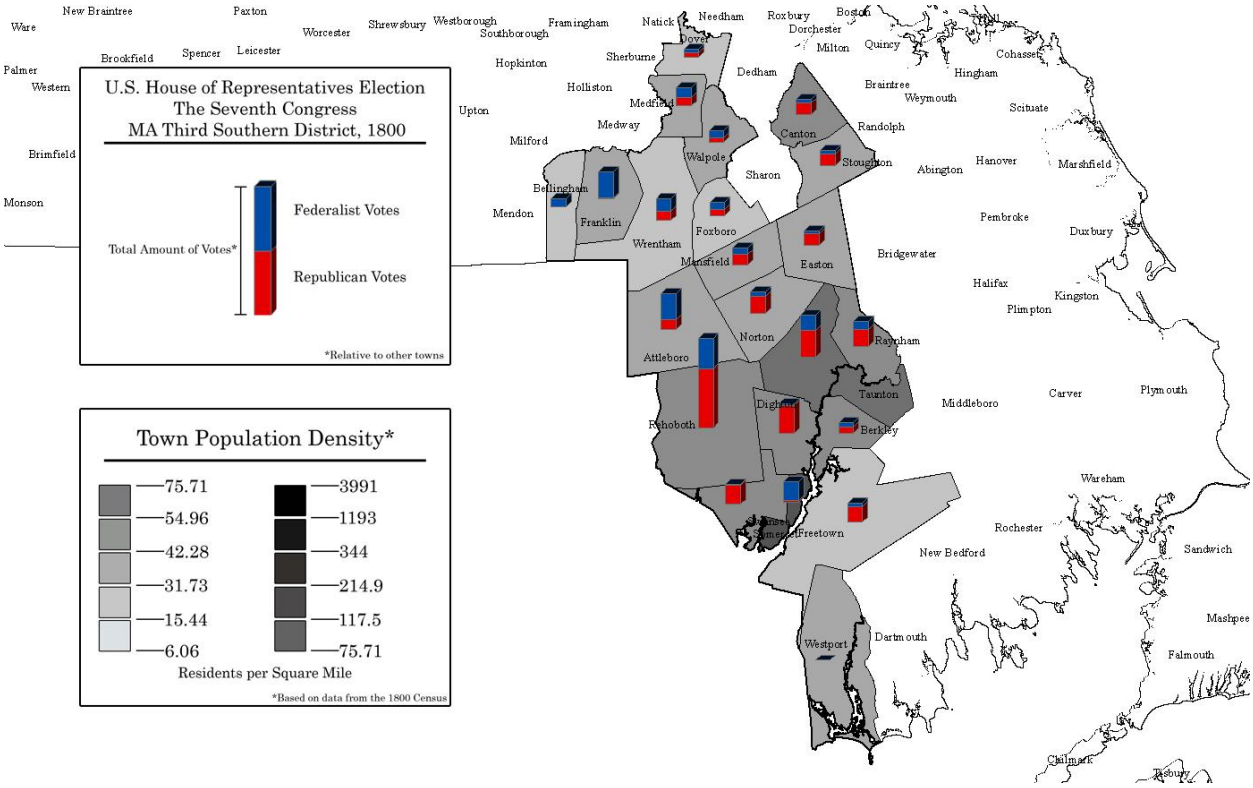
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 2nd Southern District
Seventh Congress
1801
Final Round of 2



Candidate	**(Party)**	**Votes**	**[Percent]**
Josiah Smith	(Republican)	1580	[51.08%]
Nahum Mitchell	(Federalist)	1370	[44.29%]
Samuel Niles	(Republican)	118	[3.82%]

Map B23.

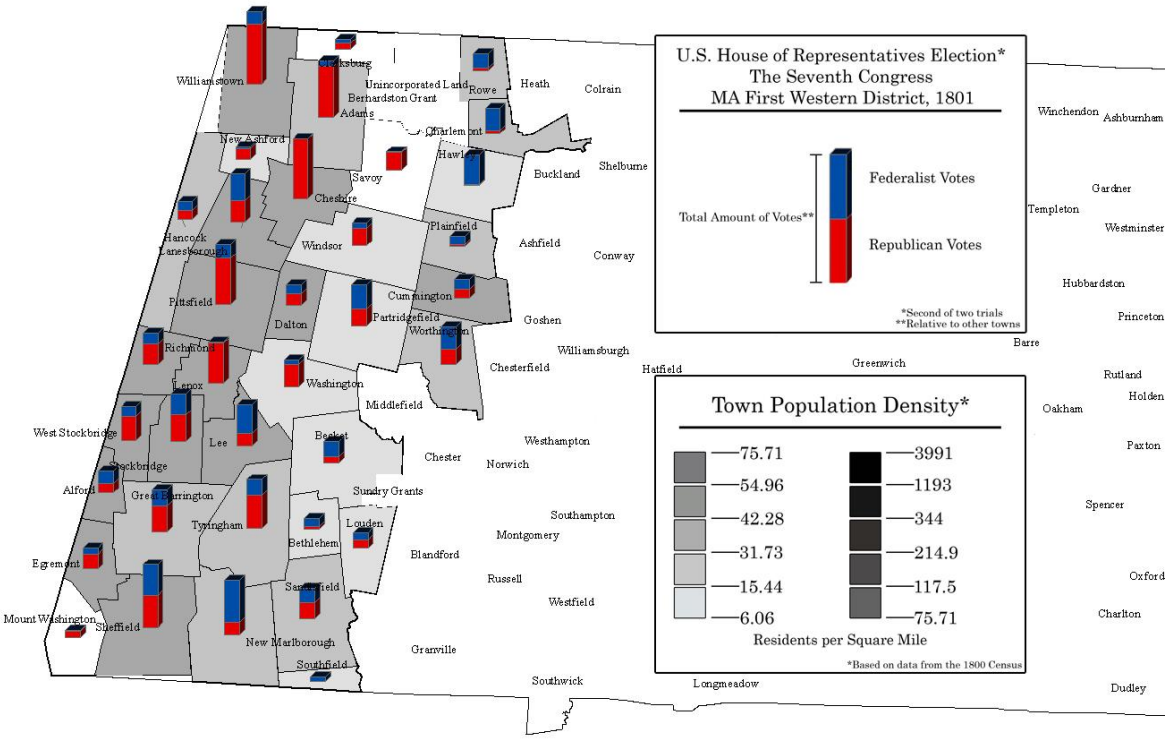
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 3rd Southern District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Phanuel Bishop	(Republican)	1284	[56.86%]
Elisha May	(Federalist)	573	[25.38%]
Stephen Bullock	(Federalist)	220	[9.74%]
Laban Wheaton	(Federalist)	154	[6.82%]

Map B24.

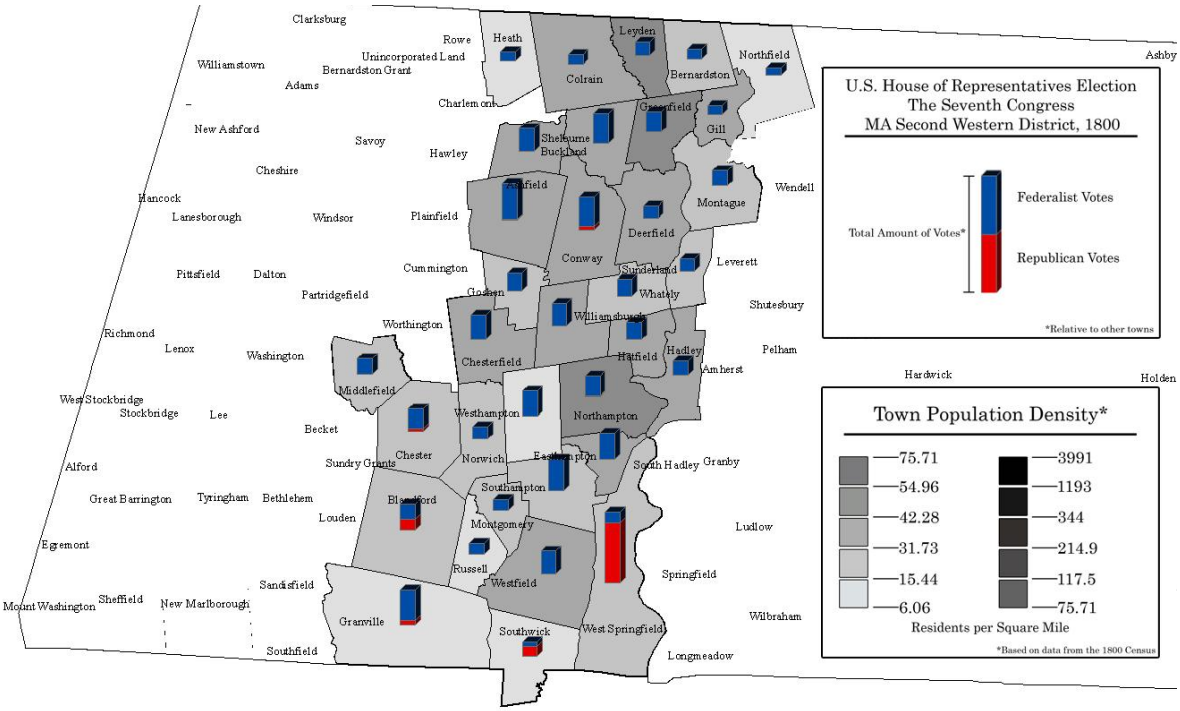
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 1st Western District
Seventh Congress
1801
Errors were committed in the initial voting process; these results are from the re-do



Candidate	(Party)	Votes	[Percent]
John Bacon	(Republican)	2384	[58.05%]
Ephraim Williams	(Federalist)	1679	[40.88%]

Map B25.

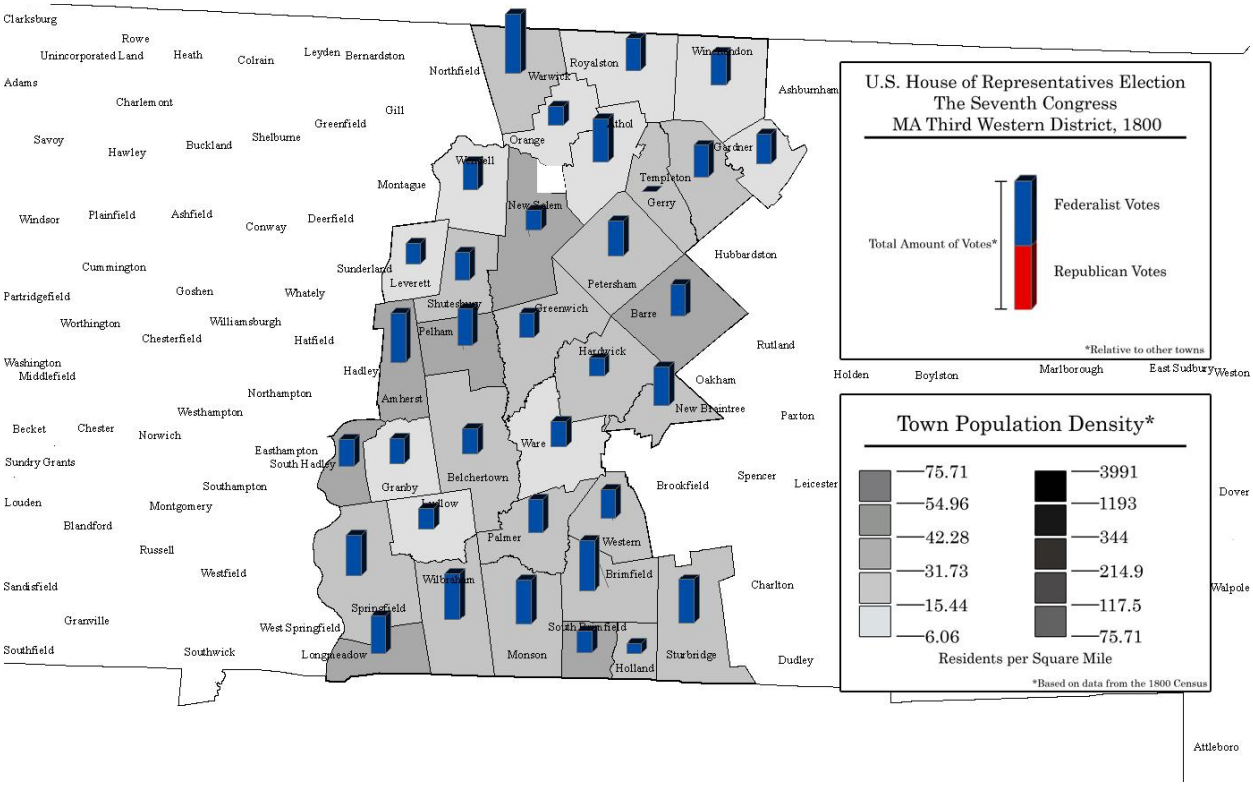
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 2nd Western District
Seventh Congress
1800



Candidate	**(Party)**	**Votes**	**[Percent]**
William Shepard	(Federalist)	1142	[73.35%]
William Lyman	(Republican)	200	[12.85%]
Samuel Taggart	(Federalist)	58	[3.73%]
Warham Parks	(Federalist)	51	[3.28%]
Ebenezer Hunt	(Federalist)	30	[1.93%]
Samuel Fowler	(Federalist)	22	[1.41%]

Map B26.

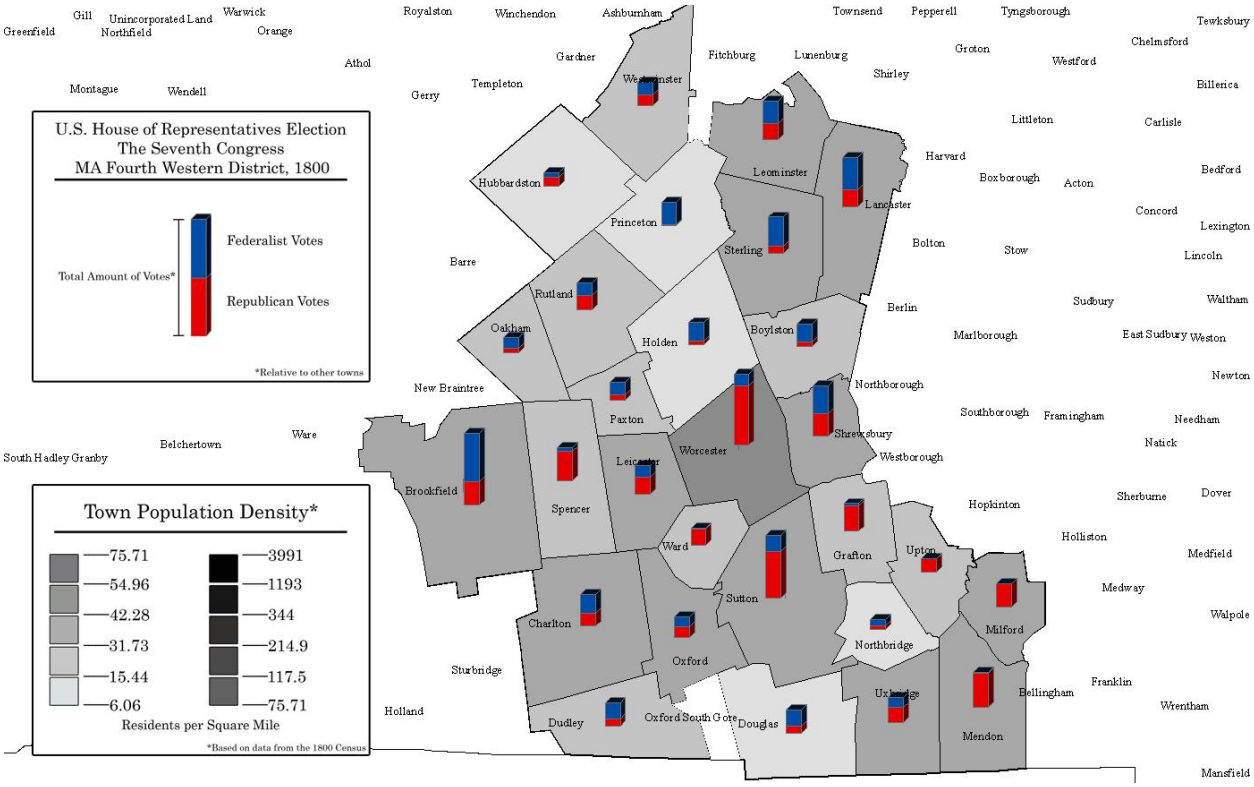
United States House of Representatives Elections – Voting Breakdown over Population Density by Town
Massachusetts 3rd Western District
Seventh Congress
1800



Candidate	(Party)	Votes	[Percent]
Ebenezer Mattoon	(Federalist)	1261	[76.61%]
Thomas Dwight	(Federalist)	233	[14.16%]
Daniel Bigelow	(Federalist)	78	[4.74%]
Thomas Holt	(Federalist)	19	[1.15%]

Map B27.

United States House of Representatives Elections – Share of Vote by Town
Massachusetts 4th Western District
Seventh Congress
1800

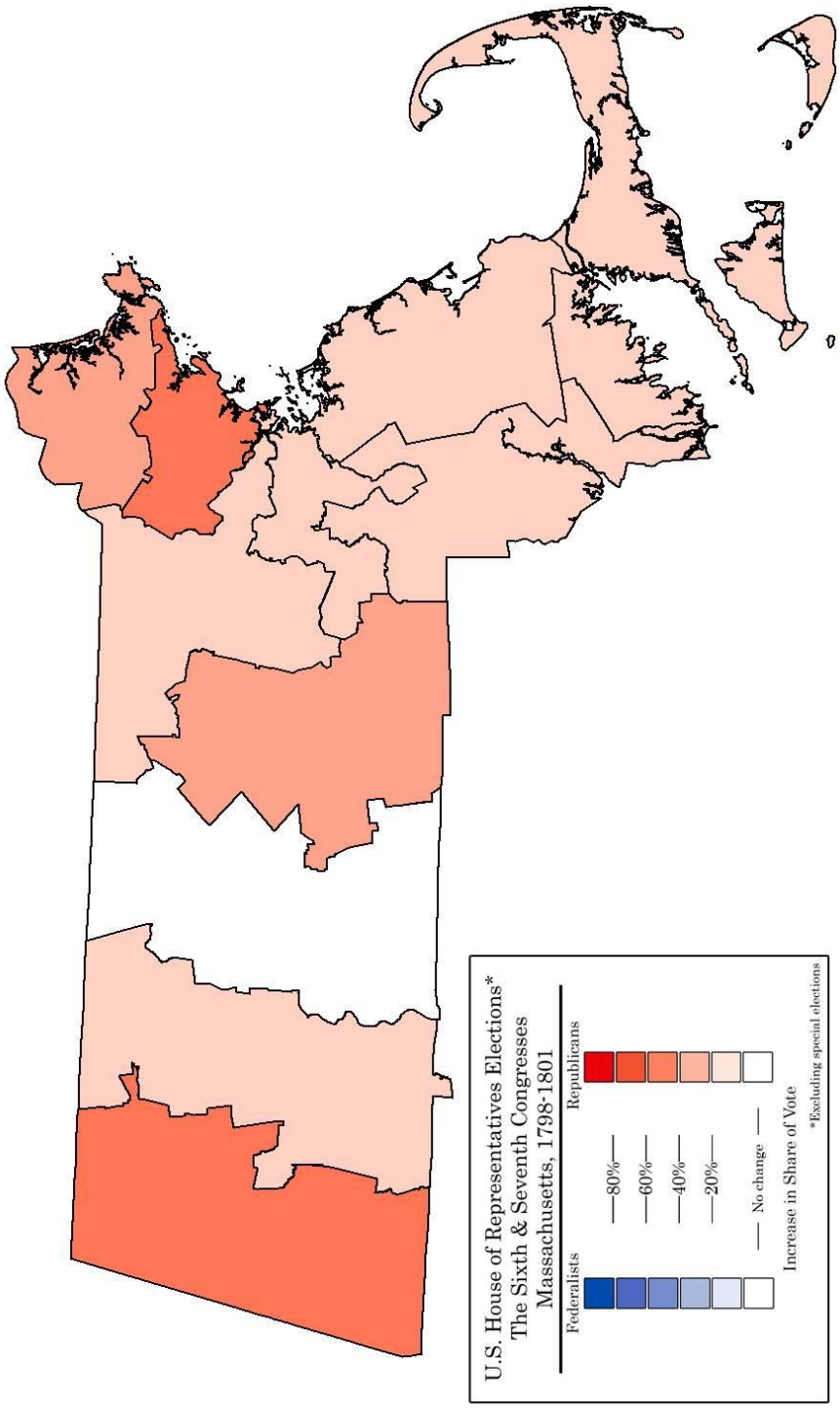


Candidate	(Party)	Votes	[Percent]
Levi Lincoln, Sr.**	(Republican)	1496	[52.60%]
Jabez Upham	(Federalist)	1175	[41.32%]
Salem Towne	(Federalist)	107	[3.76%]

** Resigned before the 7th Congress convened, to become Attorney General under President Jefferson.

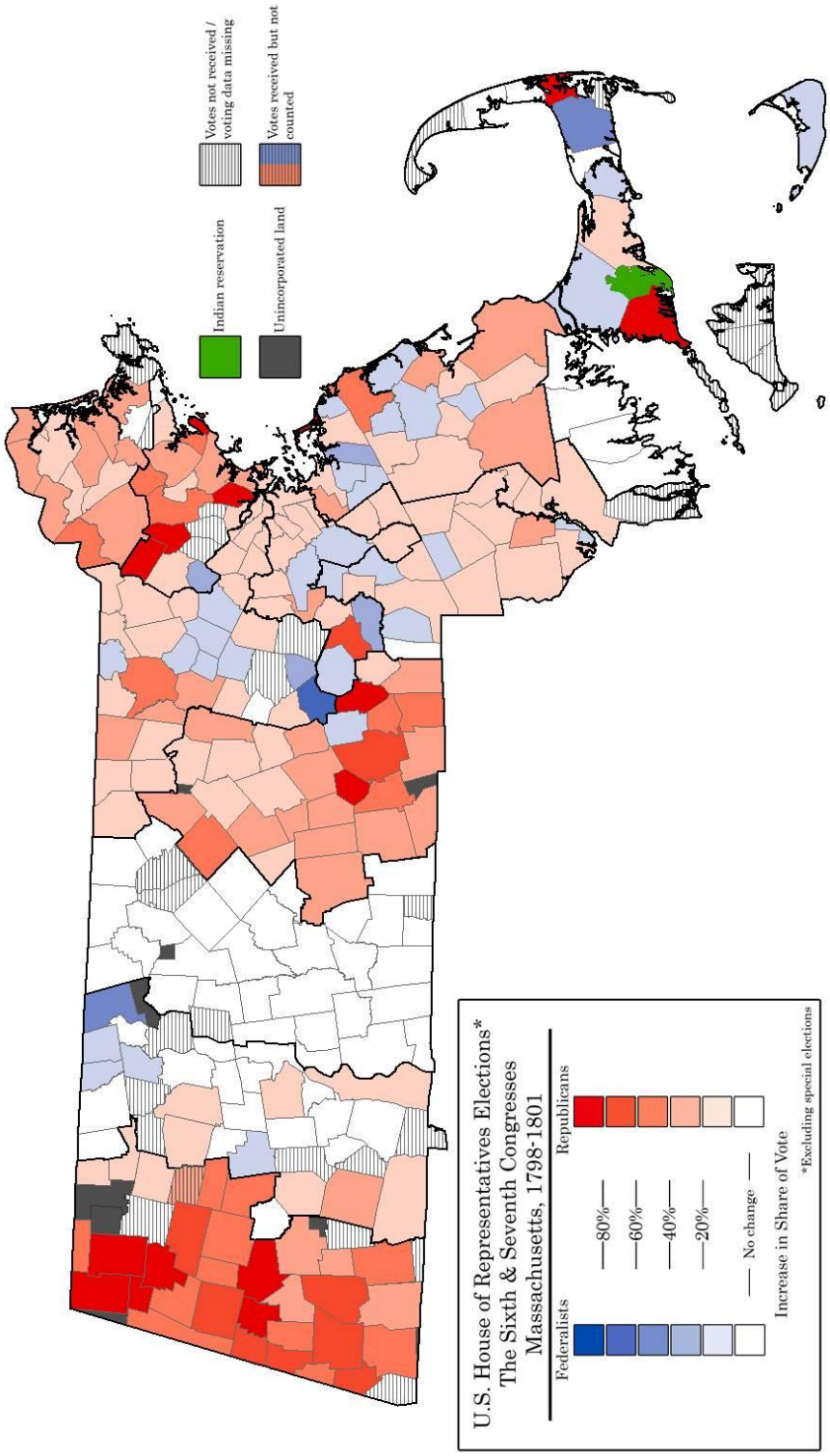
Map C1.

United States House of Representatives Elections – Change in Share of Vote by District
Massachusetts
The Sixth and Seventh Congress
1798-1801



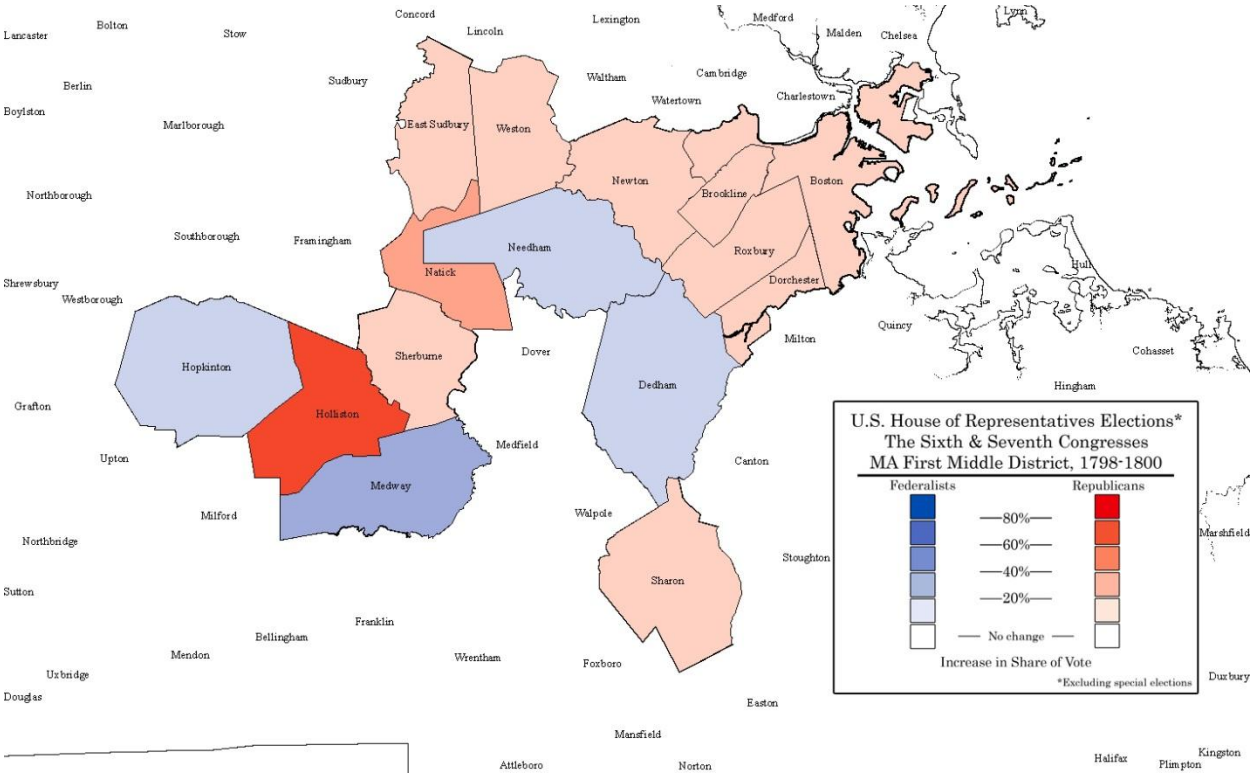
Map C2.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts
The Sixth and Seventh Congresses
1798-1801



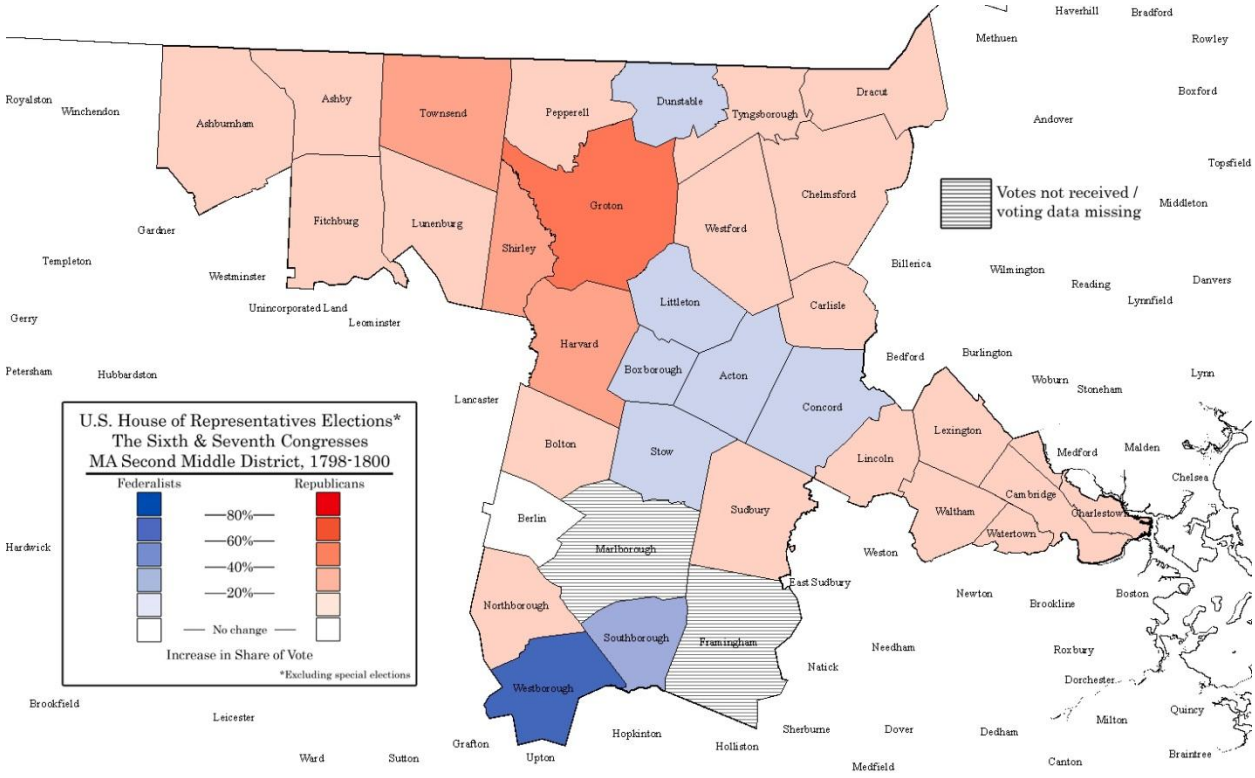
Map C3.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 1st Middle District
The Sixth and Seventh Congresses
1798-1801



Map C4.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 2nd Middle District
The Sixth and Seventh Congresses
1798-1801



Map C5.

United States House of Representatives Elections – Change in Share of Vote by Town
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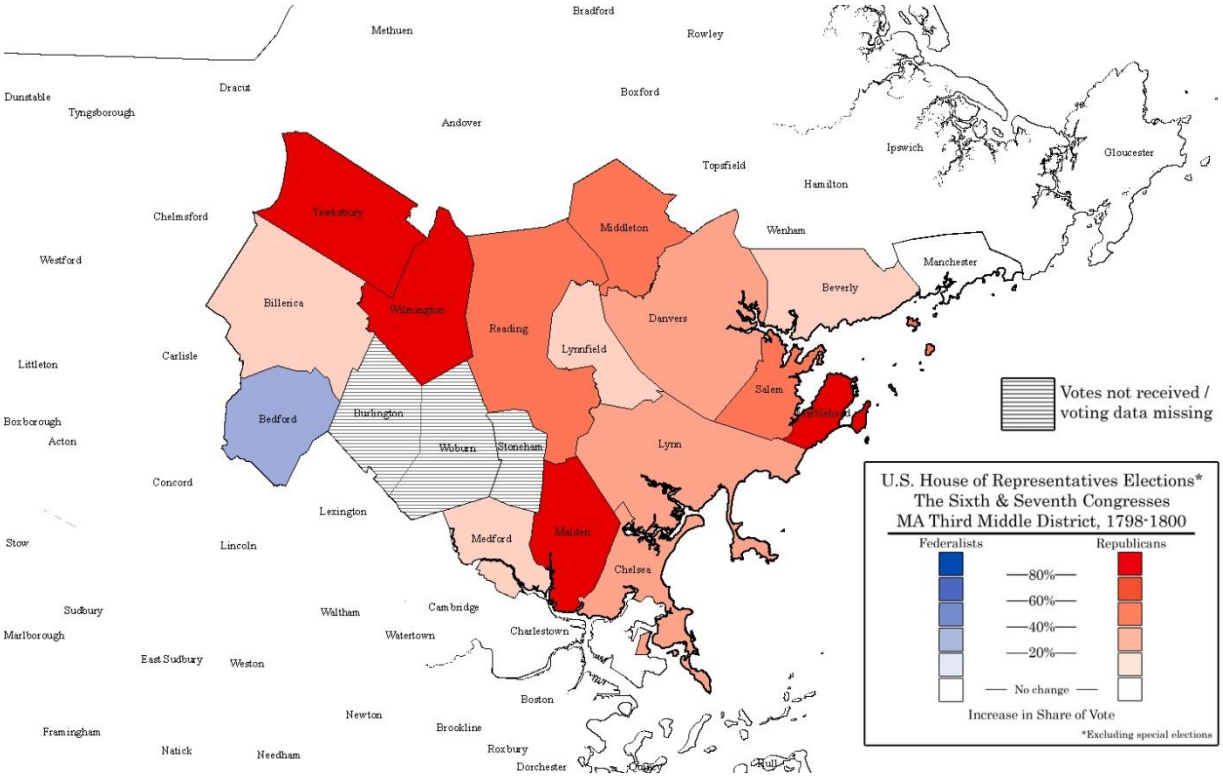
1798-1801



Map C6.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 4th Middle District
The Sixth and Seventh Congresses
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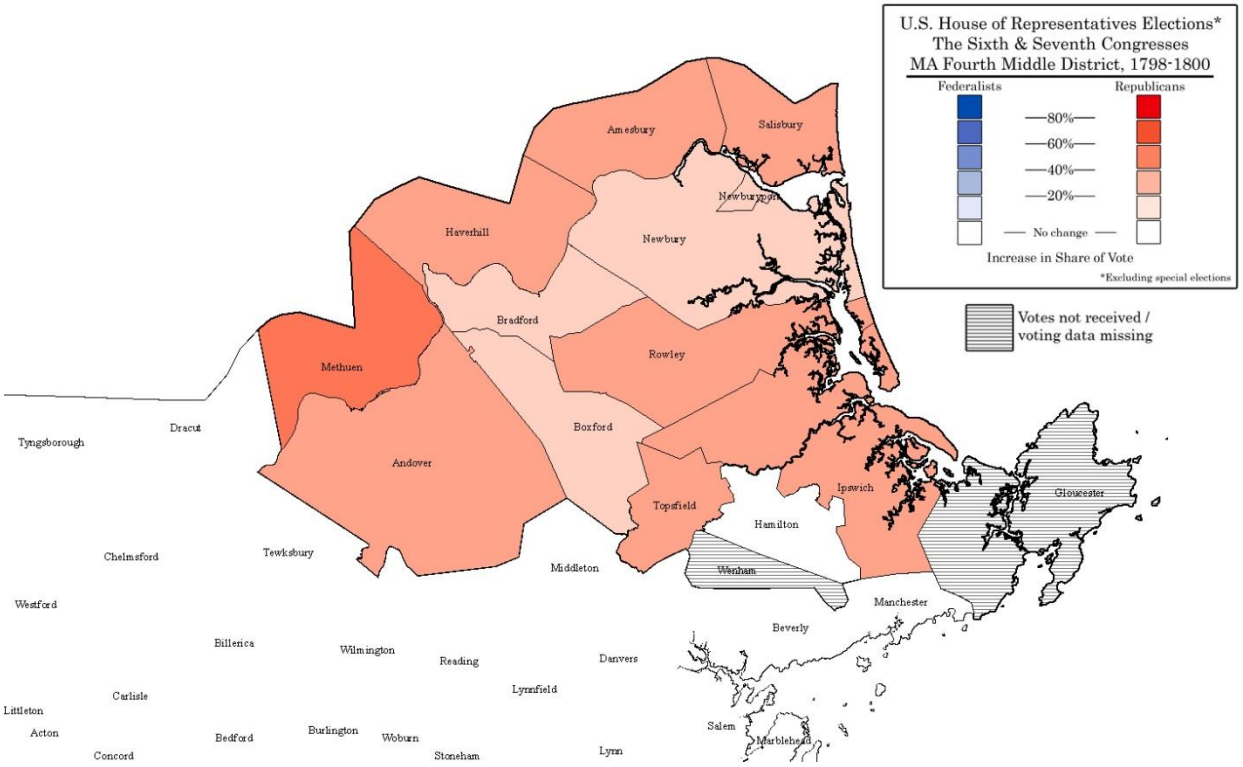

Map C7.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 1st Southern District
The Sixth and Seventh Congresses
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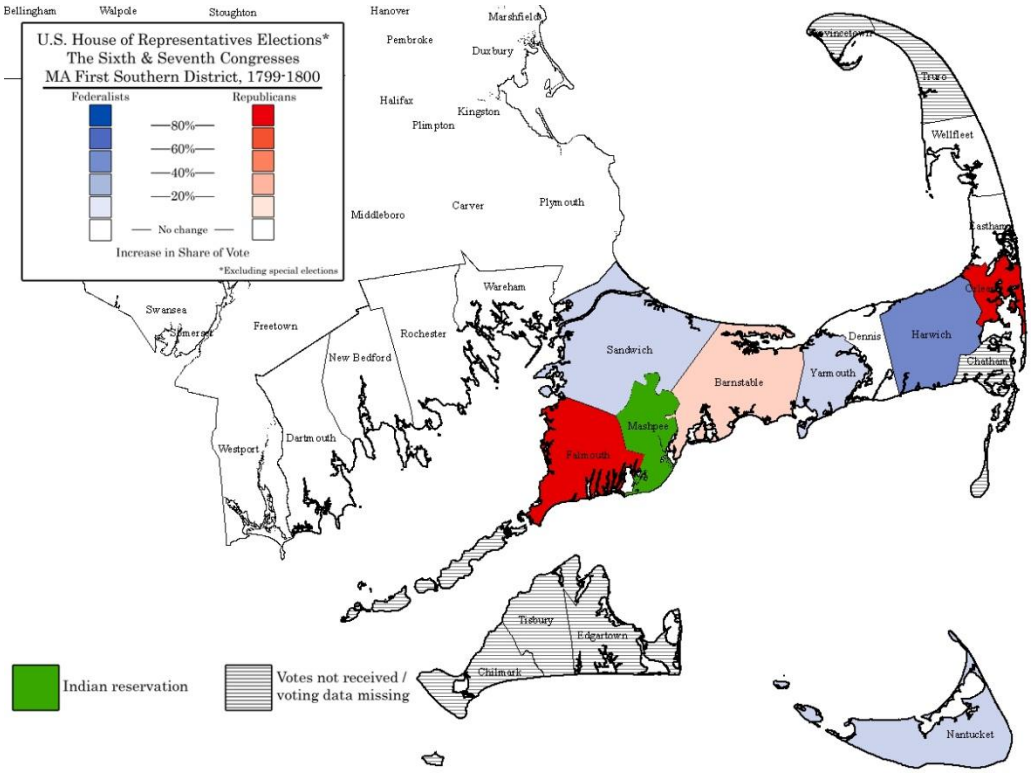
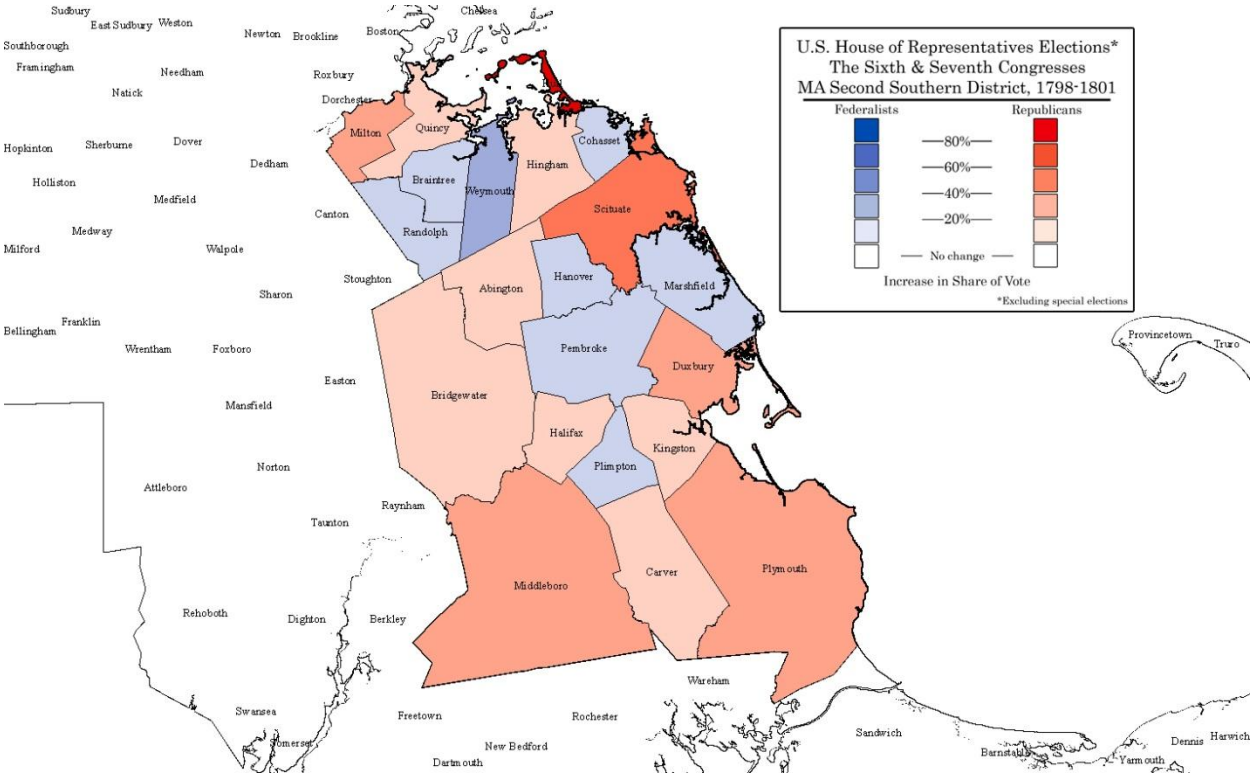


Map C8.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 2nd Southern District
The Sixth and Seventh Congresses
1798-1801



Map C9.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 3rd Southern District
The Sixth and Seventh Congresses
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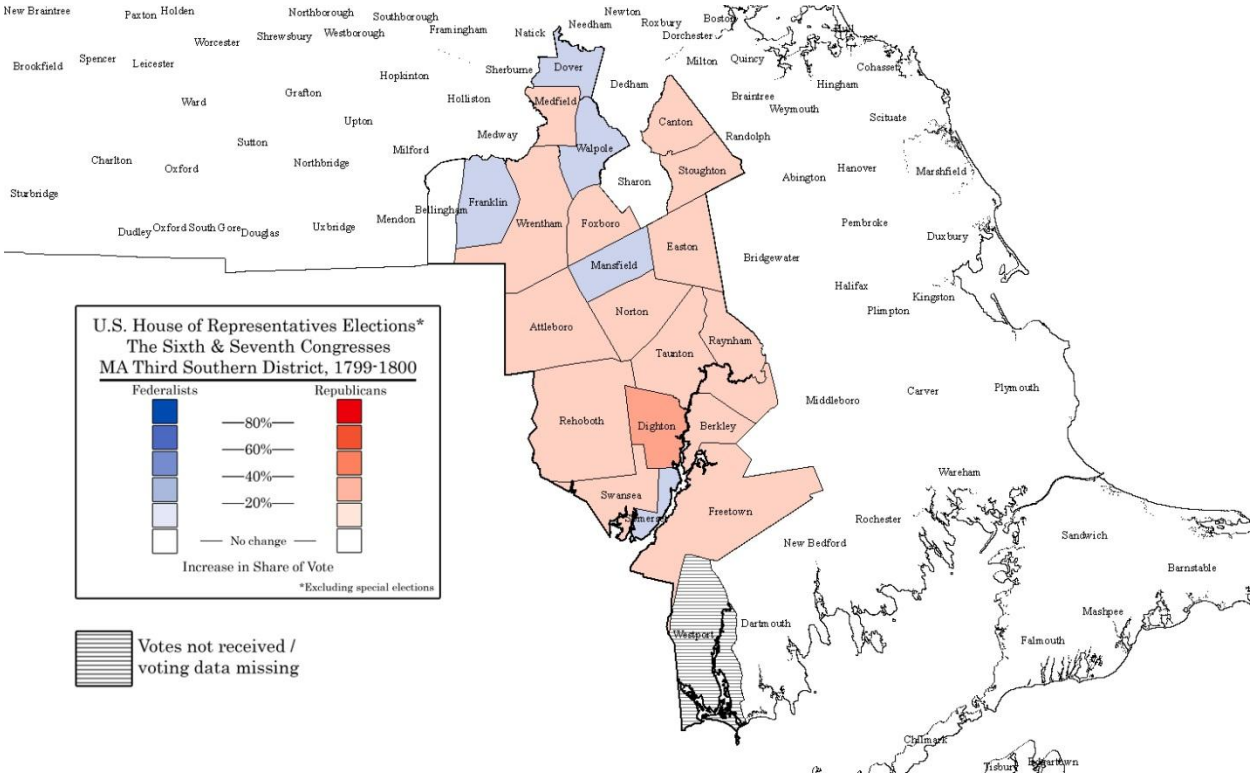

Map C10.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 1st Western District
The Sixth and Seventh Congresses
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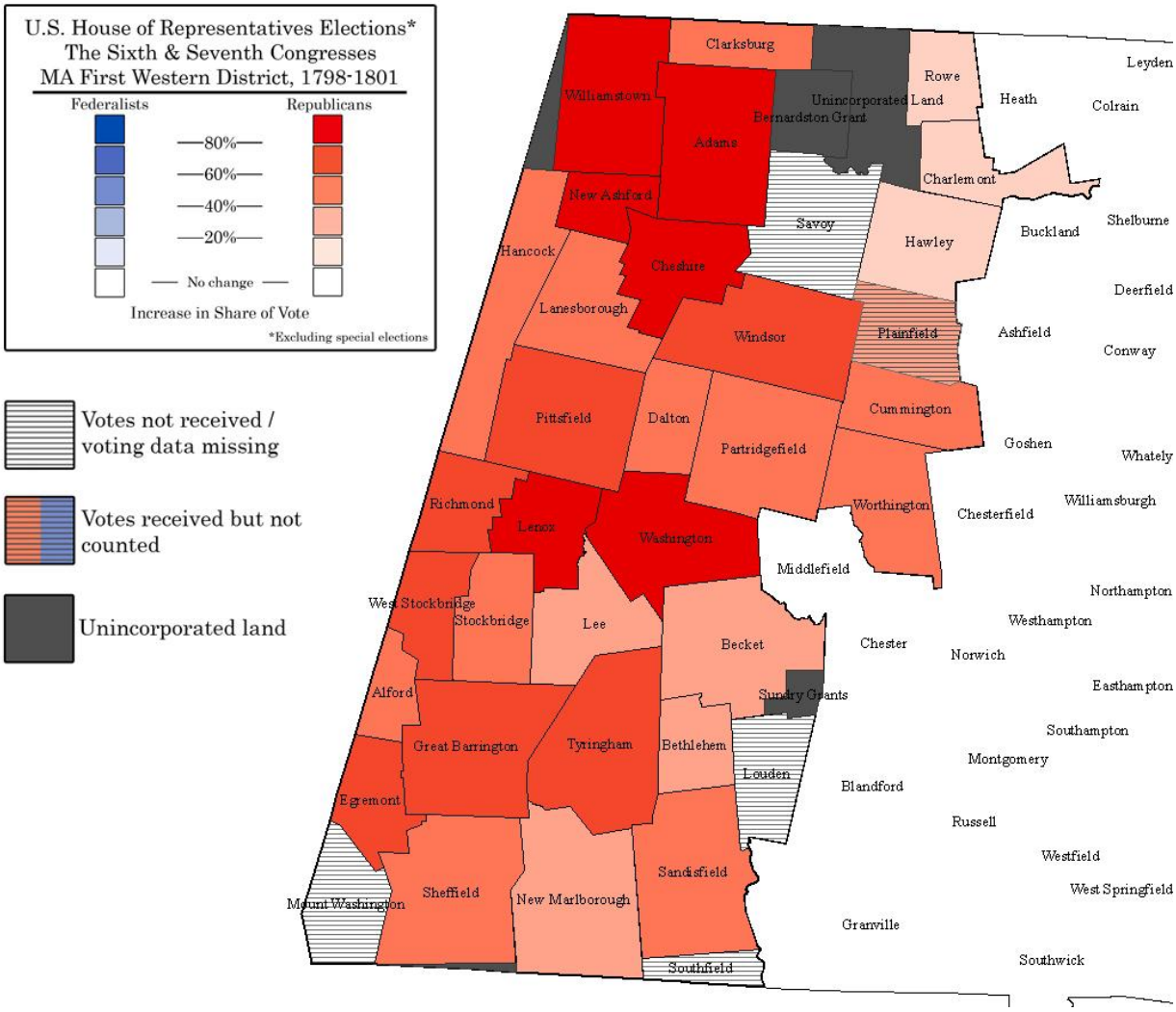
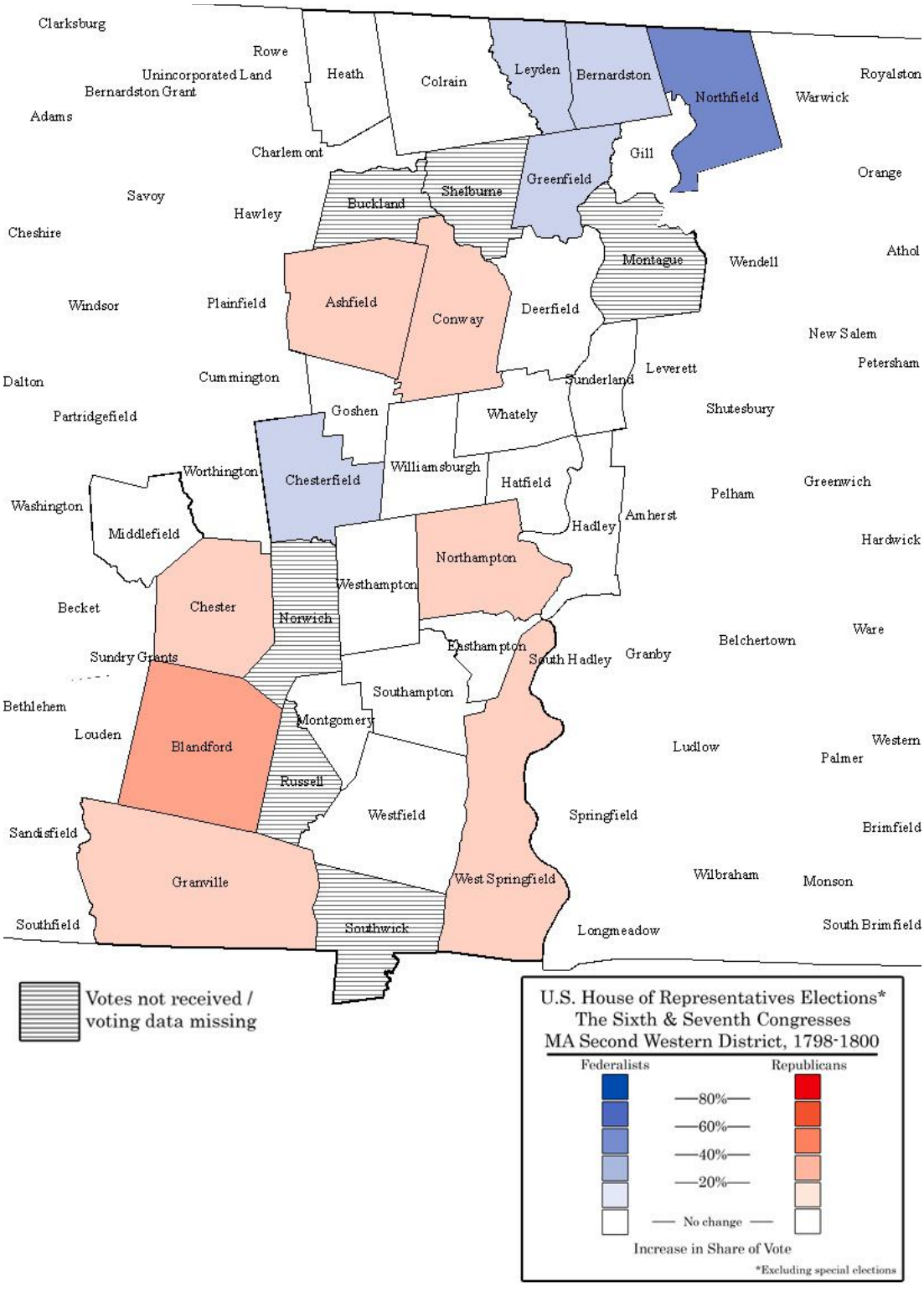


Map C11.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 2nd Western District
The Sixth and Seventh Congresses
1798-1801



Map C12.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 3rd Western District
The Sixth and Seventh Congresses
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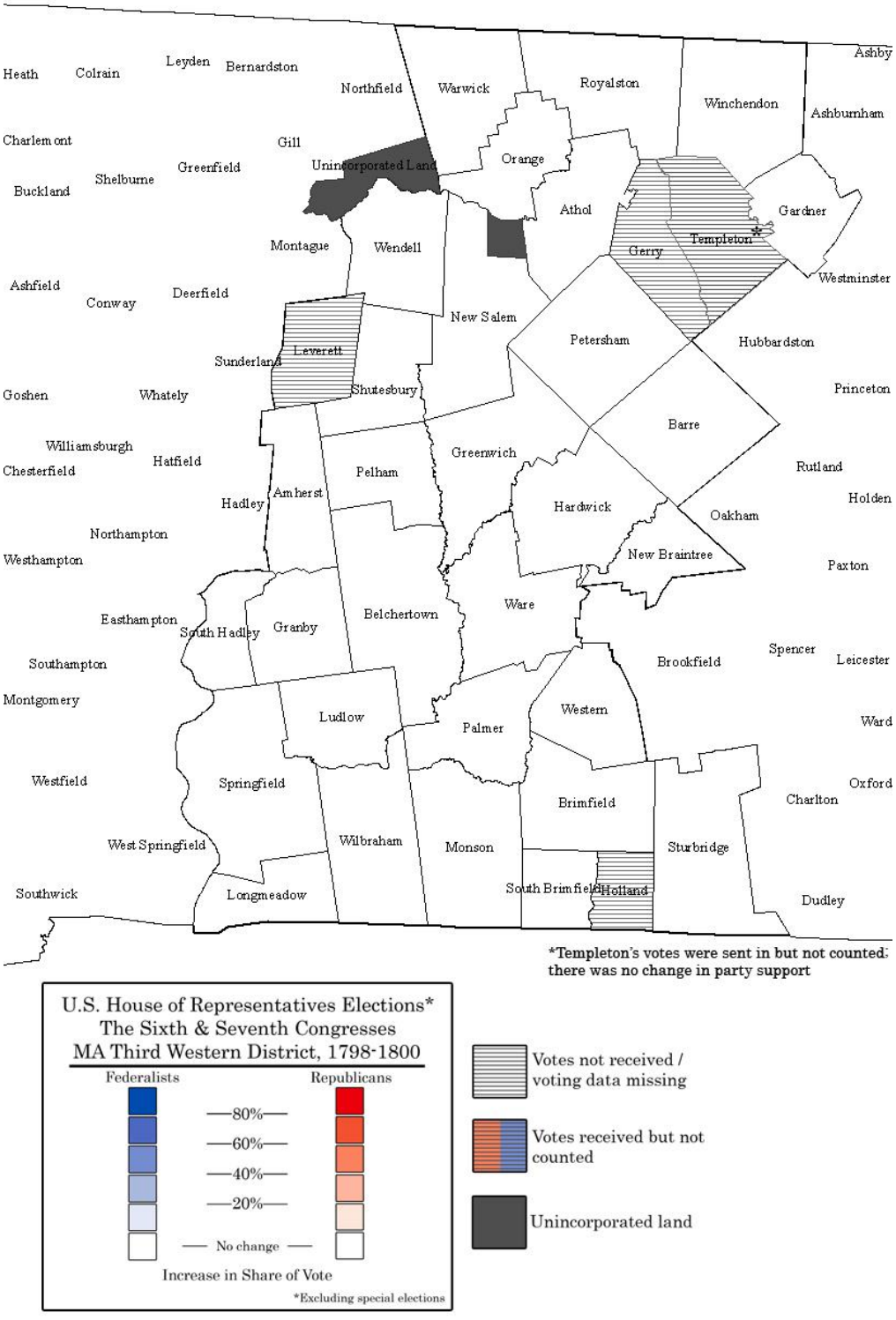

Map C13.

United States House of Representatives Elections – Change in Share of Vote by Town
Massachusetts 4th Western District
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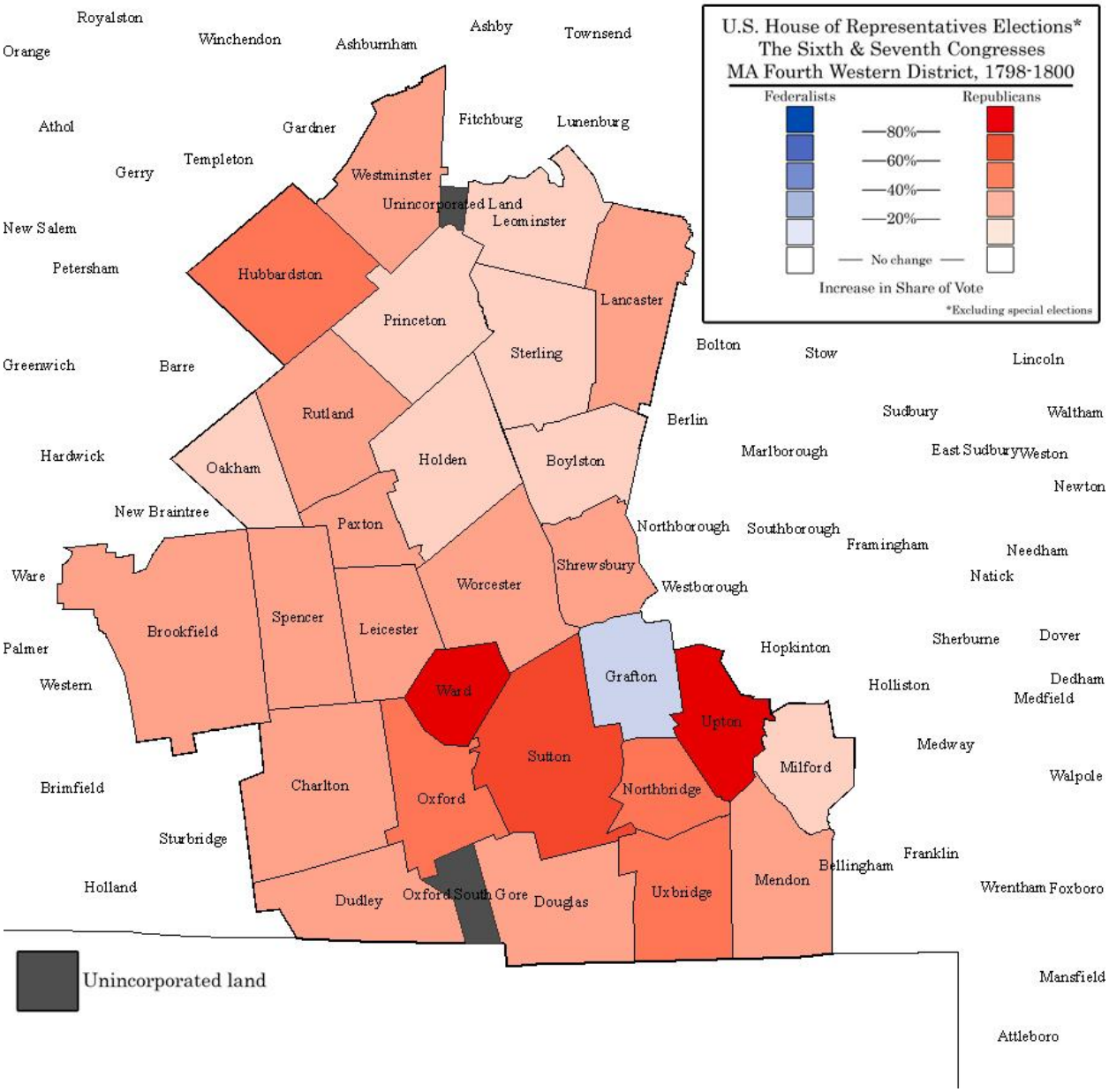
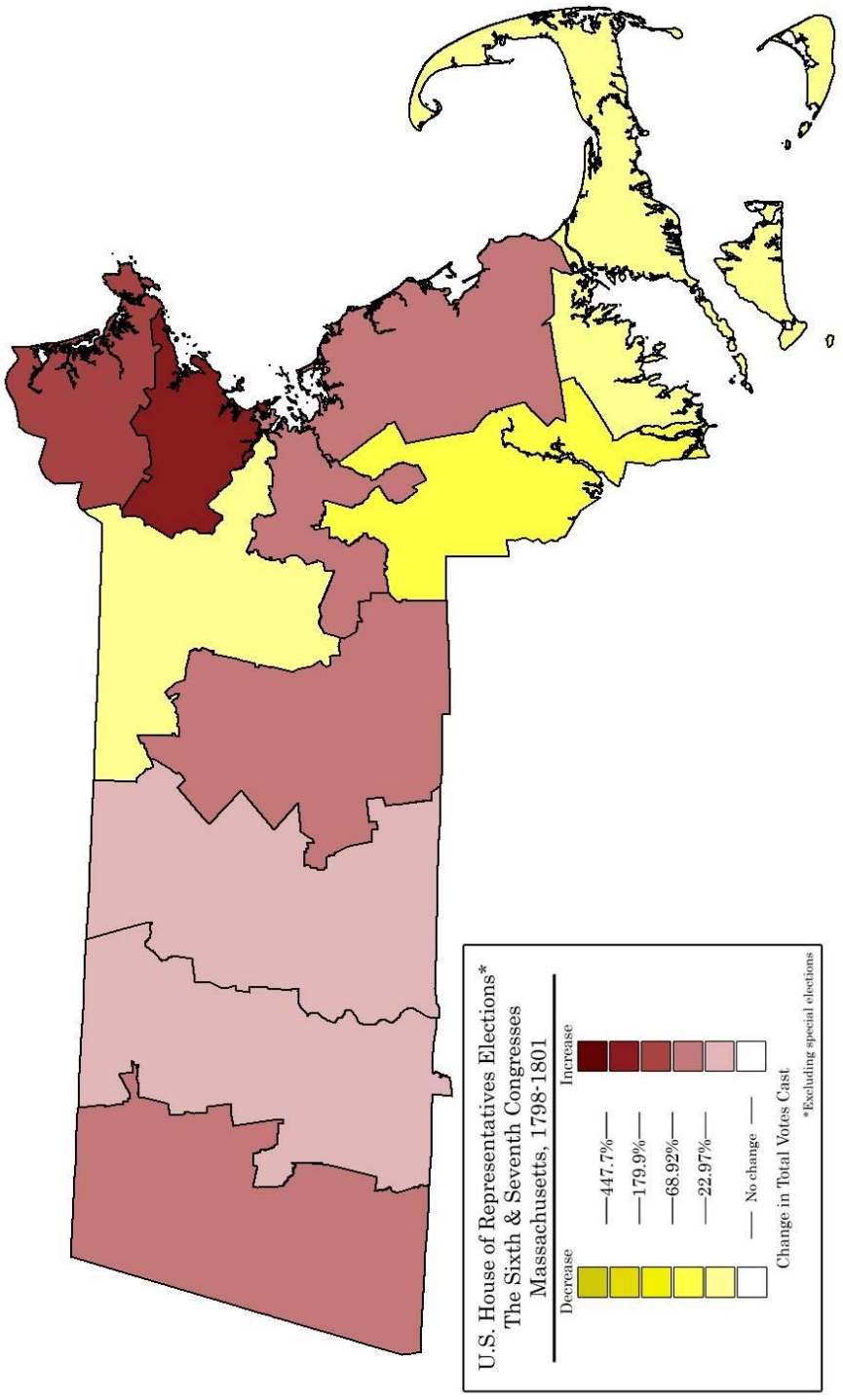


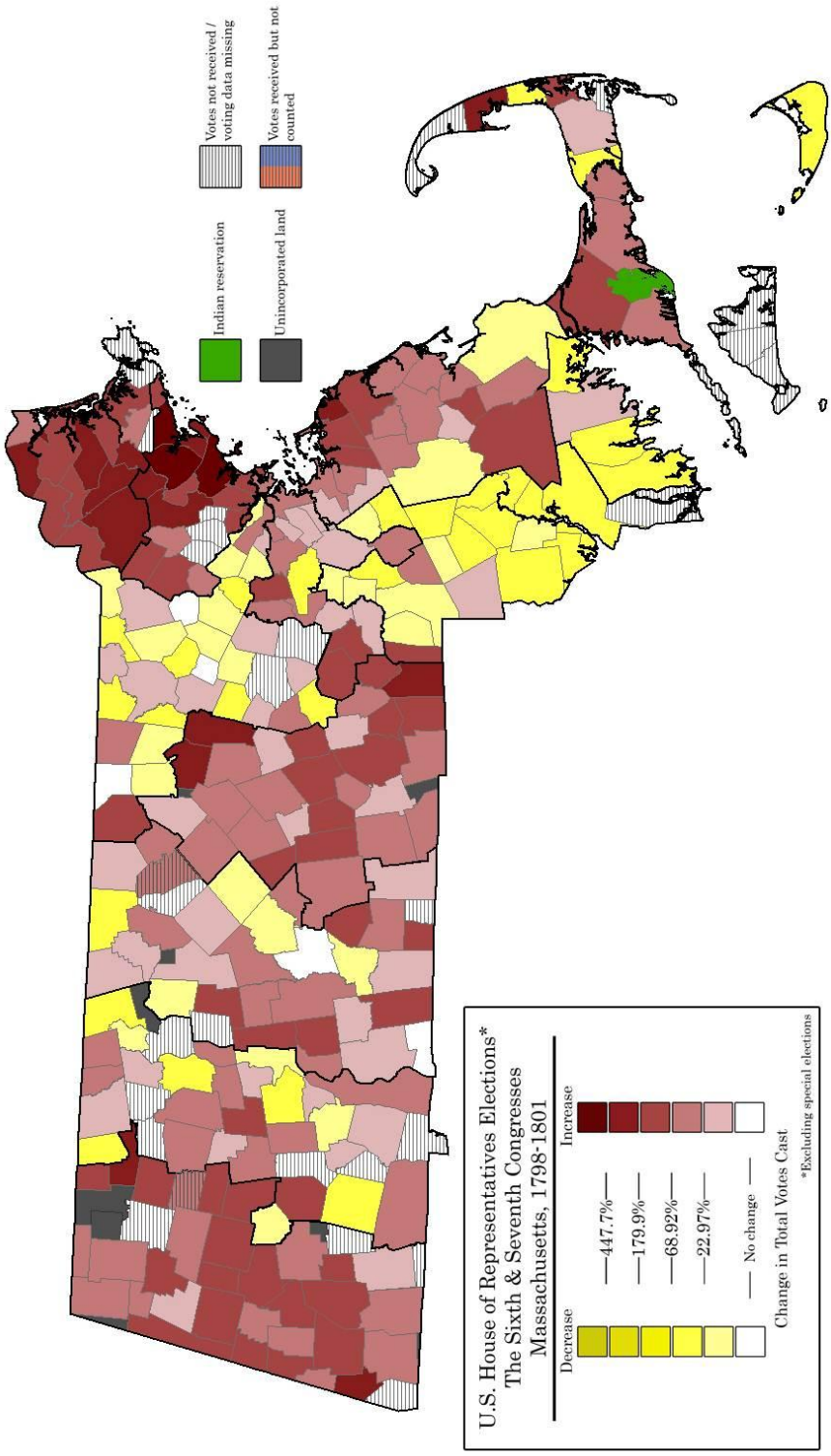
Map D1.

United States House of Representatives Elections – Change in Voter Turnout by District
Massachusetts
The Sixth and Seventh Congress
1798-1801



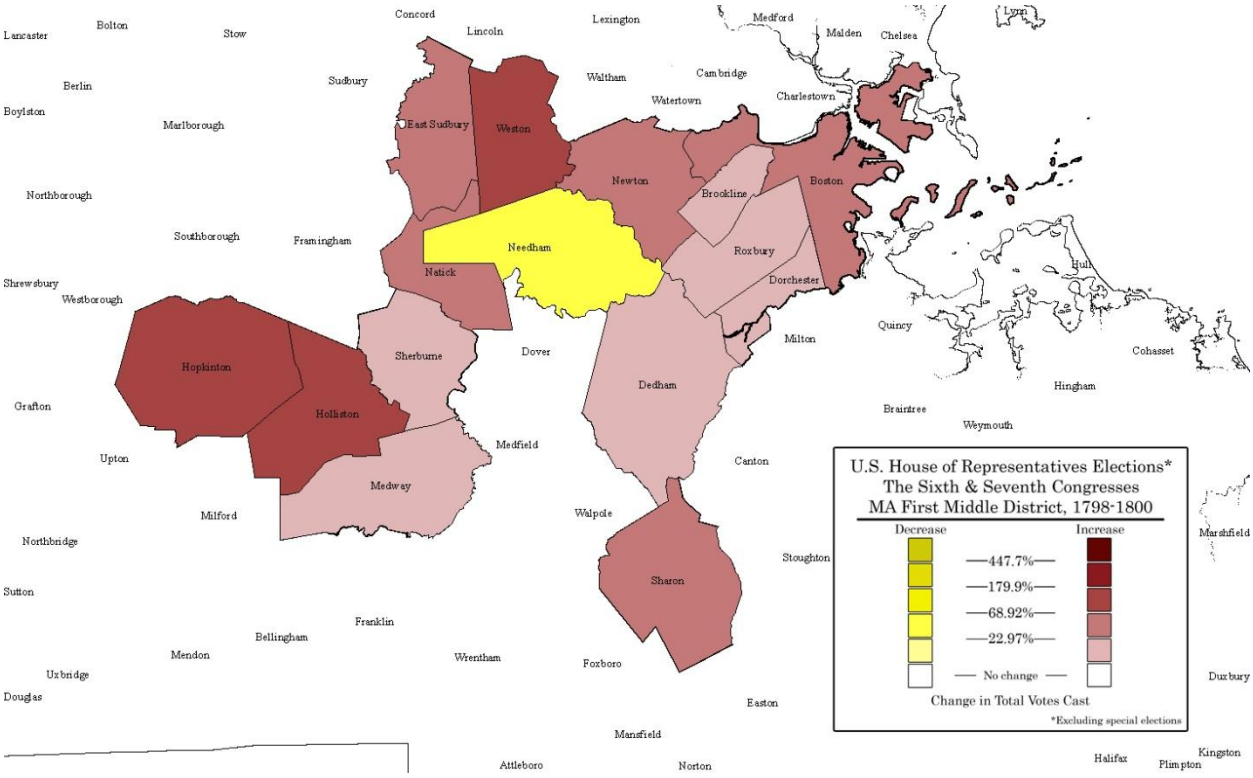
Map D2.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts
The Sixth and Seventh Congresses
1798-1801



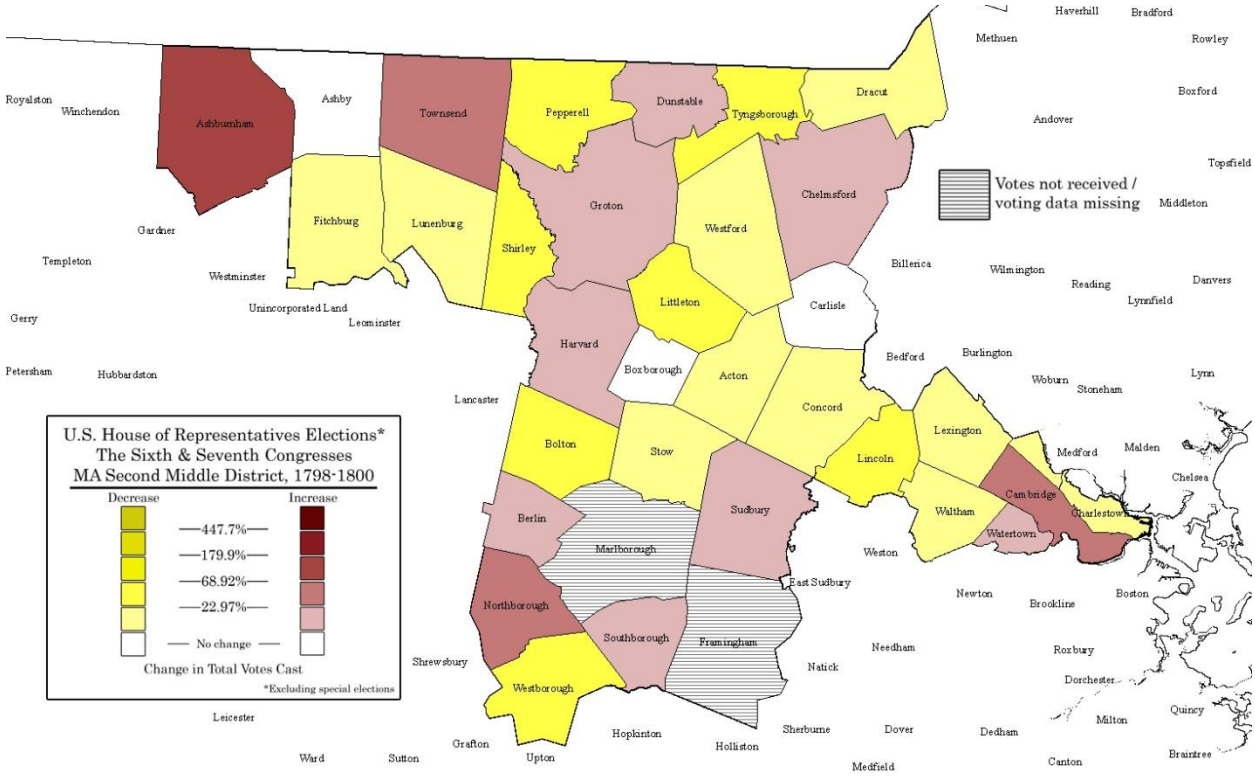
Map D3.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 1st Middle District
The Sixth and Seventh Congresses
1798-1801



Map D4.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 2nd Middle District
The Sixth and Seventh Congresses
1798-1801



Map D5.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 3rd Middle District
The Sixth and Seventh Congresses
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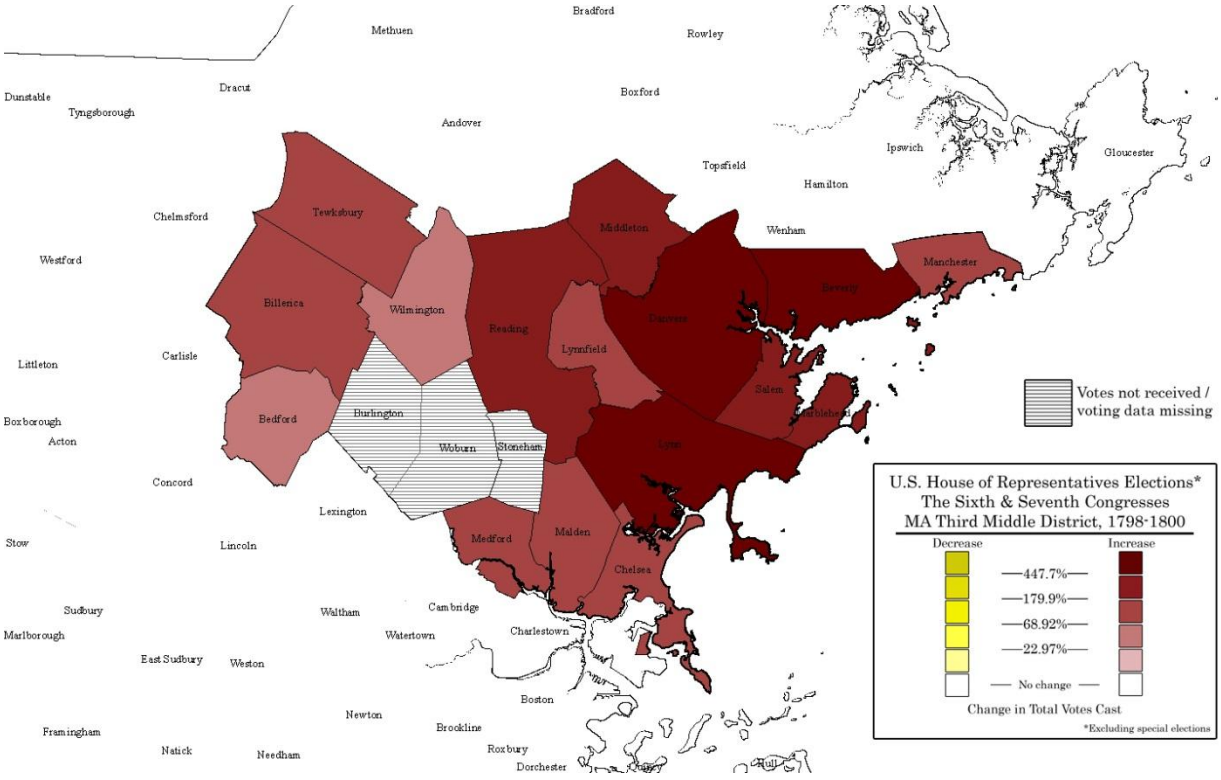

Map D6.

United States House of Representatives Elections – Change in Voter Turnout by Town
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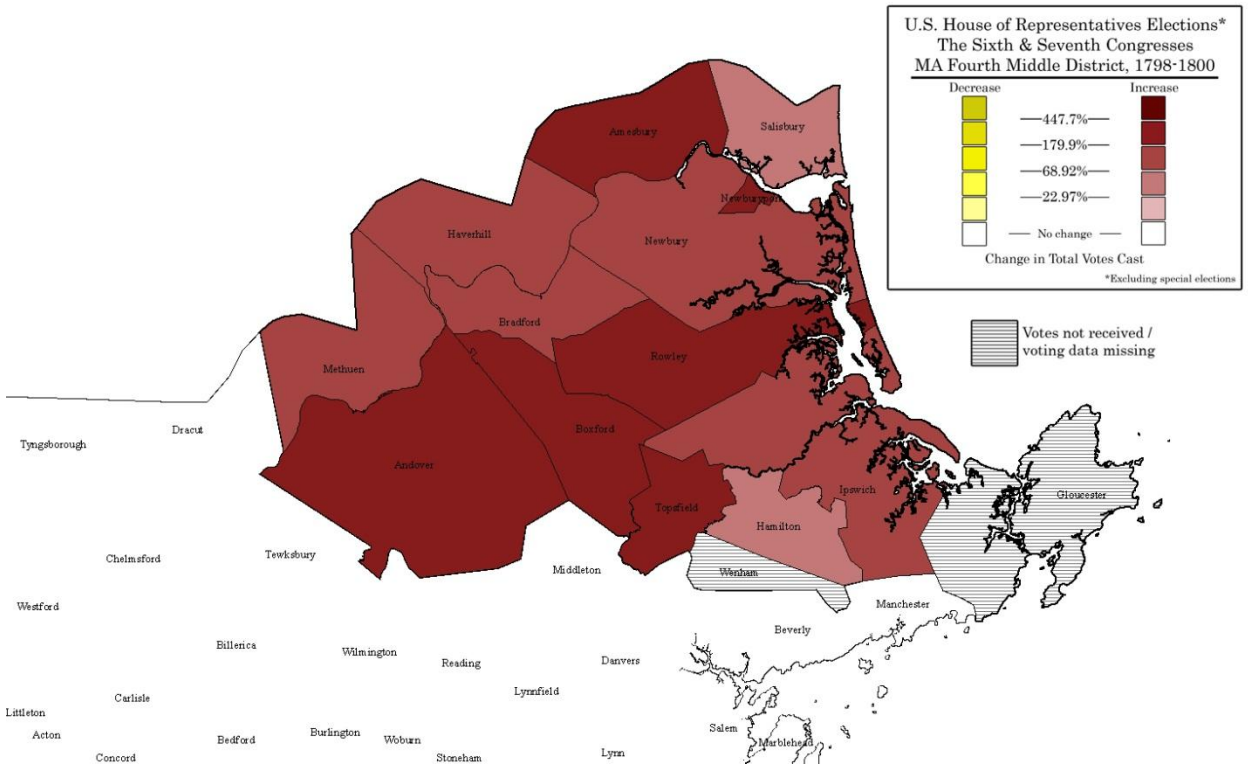

Map D7.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 1st Southern District
The Sixth and Seventh Congresses
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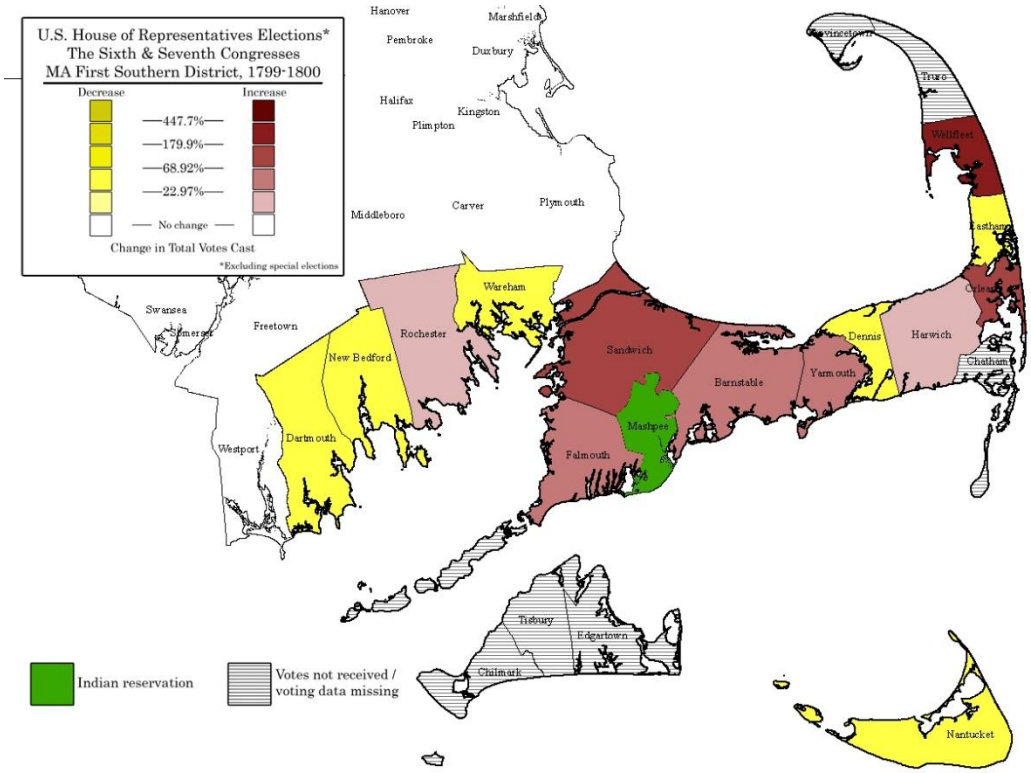
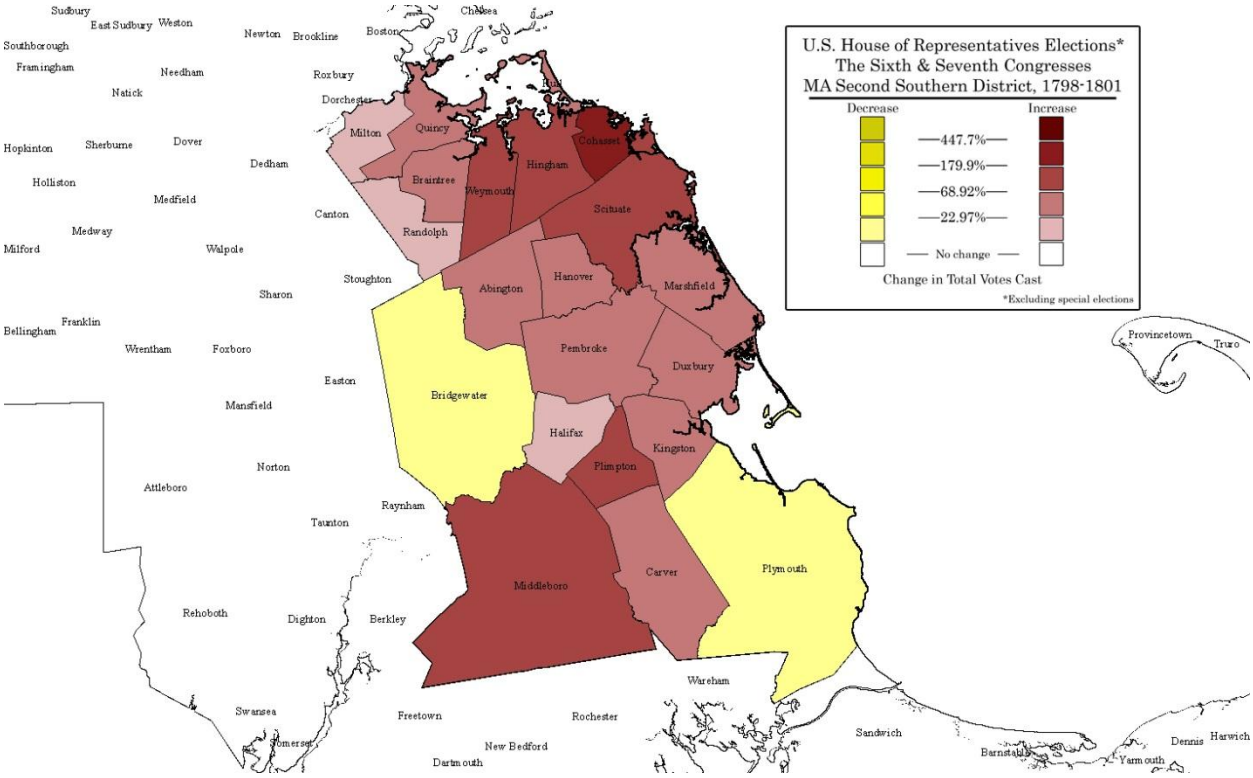


Map D8.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 2nd Southern District
The Sixth and Seventh Congresses
1798-1801



Map D9.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 3rd Southern District
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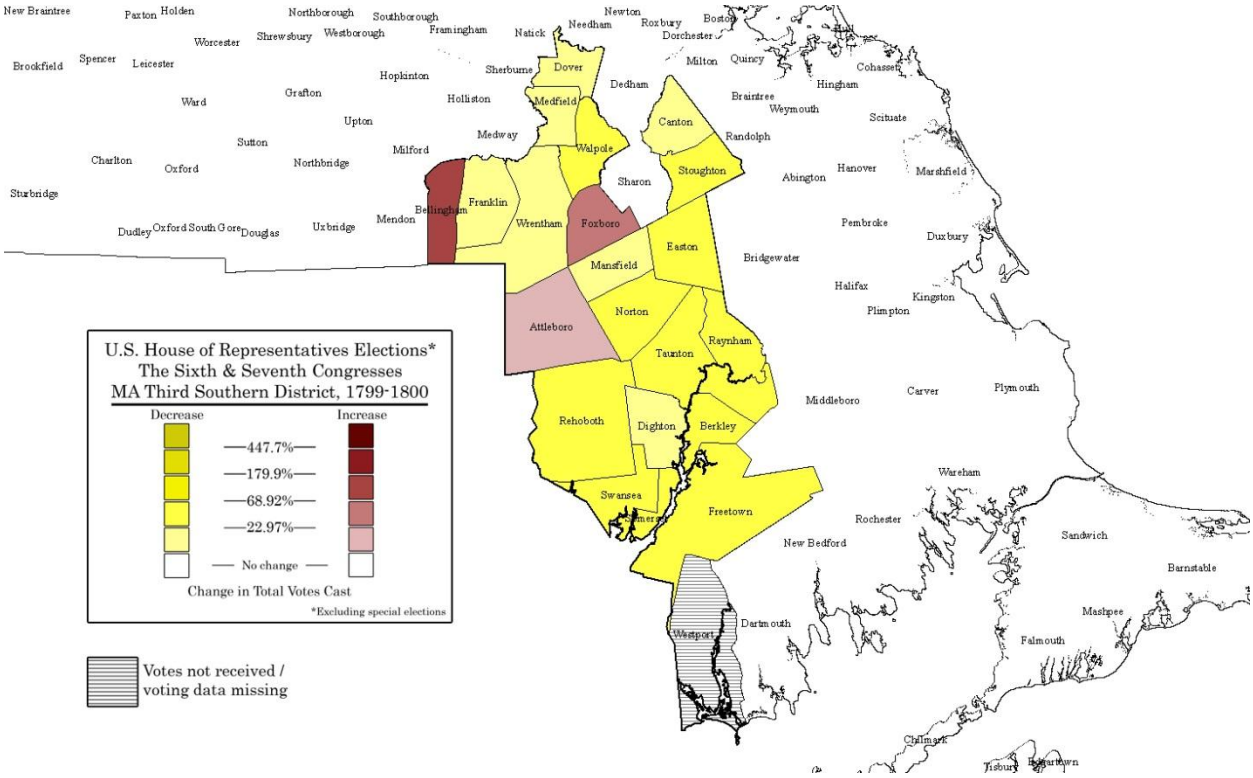
1798-1801



Map D10.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 1st Western District
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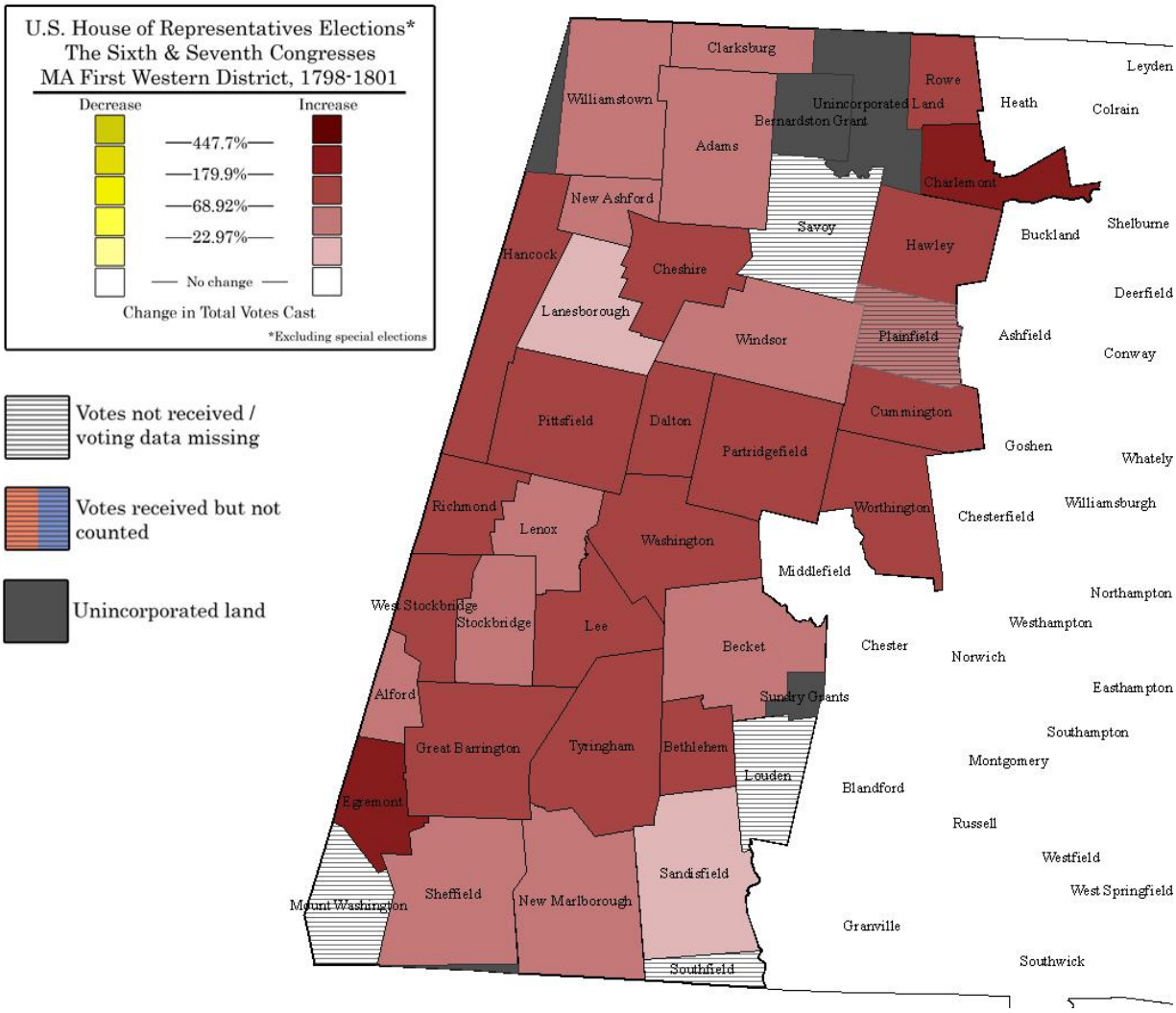
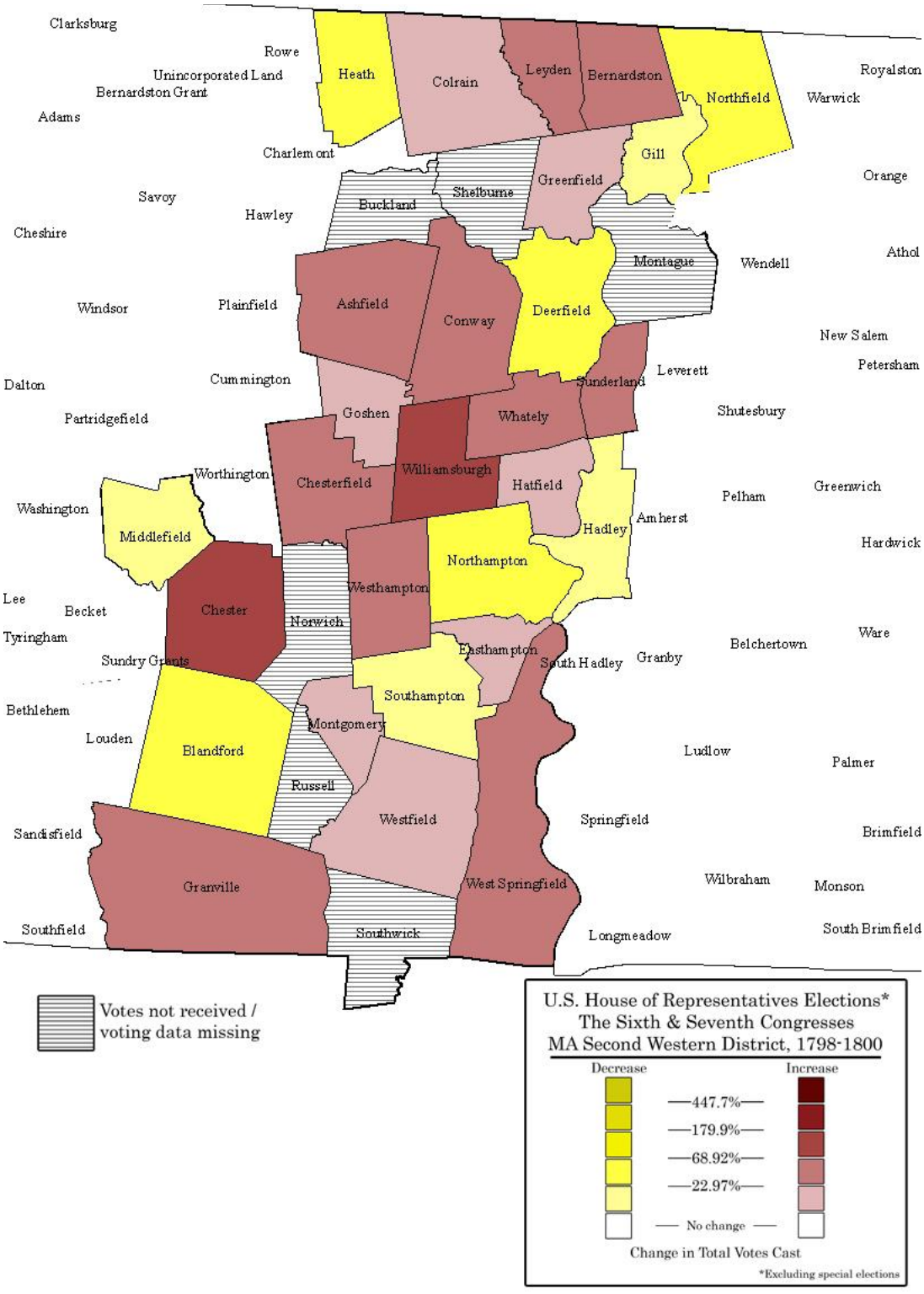


Map D11.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 2nd Western District
The Sixth and Seventh Congresses
1798-1801



Map D12.

United States House of Representatives Elections – Change in Voter Turnout by Town
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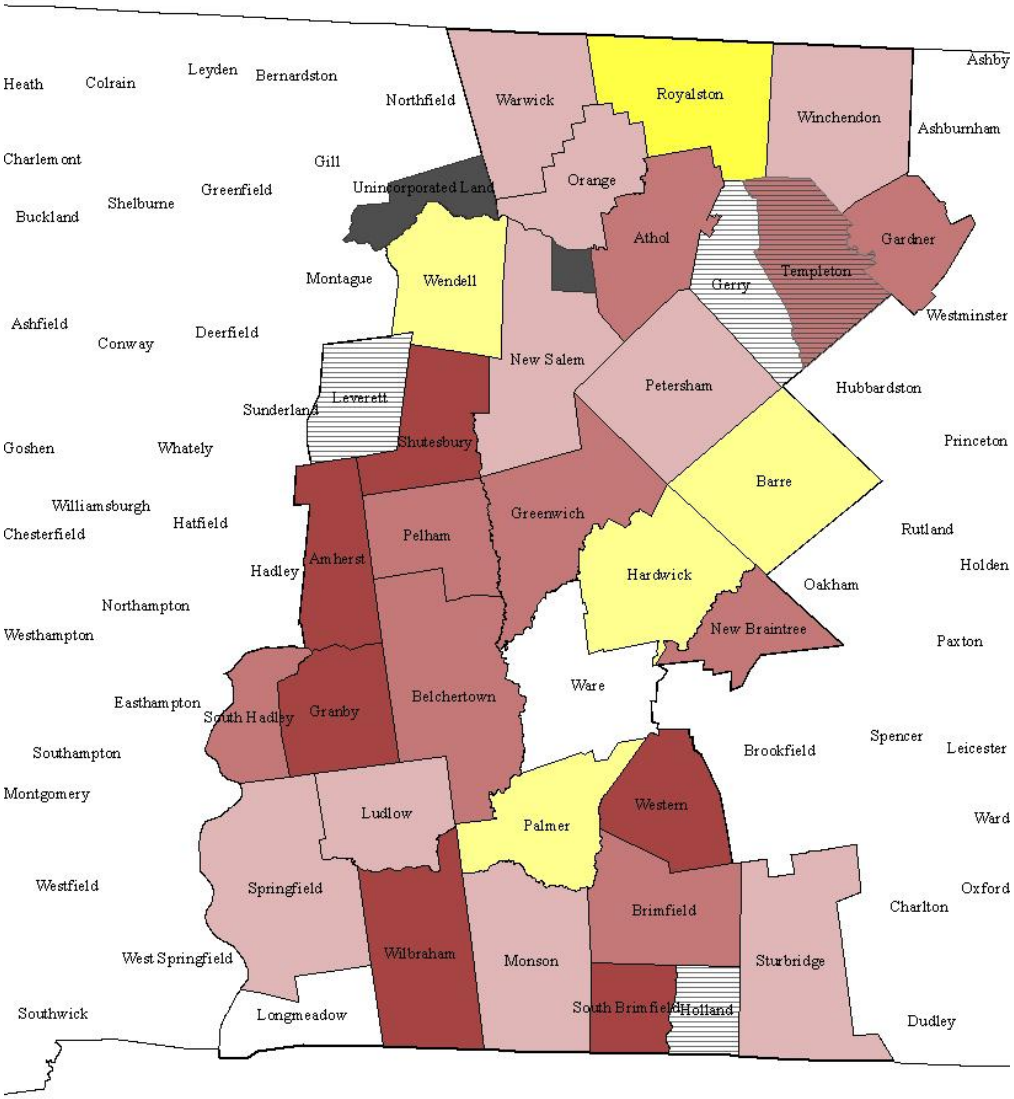

Map D13.

United States House of Representatives Elections – Change in Voter Turnout by Town
Massachusetts 4th Western District
The Sixth and Seventh Congresses
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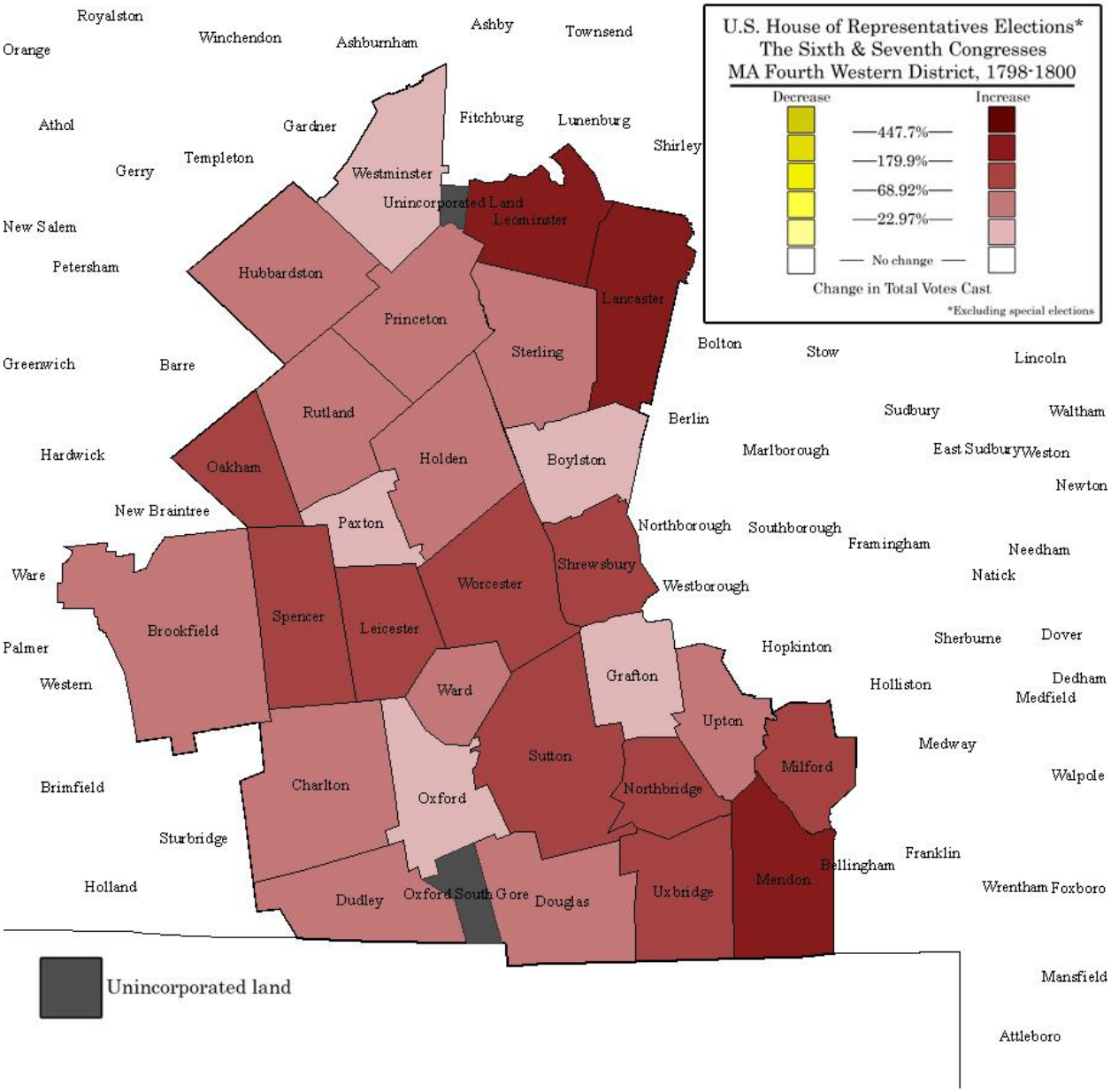

Appendix 2 – Candidate Roster

Candidates: 1798 Elections for the 6th Congress

1st Middle: Harrison Gray Otis (F) [55.86%] vs. William Heath (R) [43.57%]

2nd Middle: Joseph B. Varnum (R) [61.96%] vs. Timothy Bigelow (F) [31.66%] vs. Elbridge Gerry (R)* [3.72%] vs. Ebenezer Bridge (F) [2.09%]

3rd Middle: Samuel Sewall (F) [70.33%] vs. Loammi Baldwin (F) [20.53%] vs. Benjamin Pickman, Jr. (F) [6.81%] vs Samuel Holten (R) [1.83%]

3rd Middle Special: Nathan Read (F) [53.5%] vs. Jacob Crowninshield (R) [46.4%] *Final round of 2; Aug. 1800*

4th Middle: Bailey Bartlett (F) [89.23%] vs. *scattering*

1st Southern: Lemuel Williams (F) [72.44%] vs. Macajah Coffin (R) [24.37%] vs. Samuel Savage (?)* [2.39%] *Final round of 5*

2nd Southern: John Reed (F) [52.51%] vs. John Dwight (R) [24.39%] vs. Daniel Snow (R) [13.68%]

3rd Southern: Phanuel Bishop (R) [52.04%] vs. Stephen Bullock (F) [47.80%] *Final round of 4*

1st Western: Theodore Sedgwick (F) [75.95%] vs. Thomas Ives (F) [18.80%]

2nd Western: William Shepard (F) [87.12%] vs. William Lyman (R) [9.77%]

3rd Western: Samuel Lyman (F) [89.39%] vs. Daniel Bigelow (F) [6.36%]

3rd Western Special: Ebenezer Mattoon (F) [97.94%] vs. *scattering (essentially unopposed) Dec. 1800*

4th Western: Dwight Foster (F) [80.55%] vs. Levi Lincoln, Sr. (R) 19.16%

4th Western Special: Levi Lincoln, Sr. (R) [67.75%] vs. Jabez Upham (F) [27.77%] *Final round of 3; Aug. 1800*

Candidates: 1800 Elections for the 7th Congress

1st Middle: William Eustis (R) [52.85%] vs. Josiah Quincy (F) [47.09%]

2nd Middle: Joseph B. Varnum (R) [71.80%] vs. Timothy Bigelow (F) [27.16%]

3rd Middle: Nathan Read (F) [54.96%] vs. Jacob Crowninshield (R) [45.01%]

4th Middle: Manasseh Cutler (F) [75.50%] vs. Thomas Kitteridge (R) [21.44%]

1st Southern: Lemuel Williams (F) [59.80%] vs. Isaiah Green (R) [25.71%] vs. Isaac Coffin (R) [11.08%]

2nd Southern: Josiah Smith (R) [51.08%] vs. Nahum Mitchell (F) [44.29%] vs. Samuel Niles (R) [3.82%] *Final of 2 rounds*

3rd Southern: Phanuel Bishop (R) [56.86%] vs. Elisha May (F) [25.38%] vs. Stephen Bullock (F) [9.74%] vs. Laban Wheaton (F) [6.82%]

1st Western: John Bacon (R) [58.05%] vs. Ephraim Williams (F) [40.88%] *Errors were committed in the initial voting process; these results from the re-do*

2nd Western: William Shepard (F) [73.35%] vs. William Lyman (R) [12.85%] vs. Samuel Taggart (F) [3.73%] vs. Warham Parks (F) [3.28%] vs. Ebenezer Hunt (F) [1.93%] vs. Samuel Fowler (F) [1.41%]

3rd Western: Ebenezer Mattoon (F) [76.61%] vs. Thomas Dwight (F) [14.16%] vs. Daniel Bigelow (F) [4.74%] vs. Thomas Holt (F) [1.15%]

4th Western: Levi Lincoln, Sr.** (R) [52.60%] vs. Jabez Upham (F) [41.32%] vs. Salem Towne (F) [3.76%]

* Not *officially* a Republican until 1800, he was nevertheless considered opposition to the Federalists in 1798.
** Resigned before the 7th Congress convened, to become Attorney General under President Jefferson.

Appendix 3 – Special Elections and Preliminary Trials

Sixth Congress Special Election 1800

3rd Middle District Massachusetts

Candidate	Votes	[Percent]
Jacob Crowninshield	873	[47.63%]
Nathan Read	803	[43.81%]
James Bancroft	76	[4.15%]
Loammi Baldwin	70	[3.82%]

Sixth Congress Special Election Trial 2 1800

3rd Middle District Massachusetts

Candidate	Votes	[Percent]
Nathan Read	1573	[53.52%]
Jacob Crowninshield	1365	[46.44%]

Sixth Congress Trial 1 1798

1st Southern District Massachusetts

Candidate	Votes	[Percent]
Lemuel Williams	355	[32.48%]
Macajah Coffin	332	[30.38%]
Beriah Norton	190	[17.38%]
Jonathan Moore	176	[13.36%]

Sixth Congress Trial 2 1799

1st Southern District Massachusetts

Candidate	**Votes**	**[Percent]**
Macajah Coffin	704	[32.77%]
Lemuel Williams	634	[29.52%]
Samuel Savage	571	[26.58%]
Beriah Norton	135	[6.28%]
Jonathan Moore	99	[4.61%]

Sixth Congress Trial 3 1799

1st Southern District Massachusetts

Candidate	**Votes**	**[Percent]**
Lemuel Williams	774	[36.05%]
Samuel Savage	719	[33.49%]
Macajah Coffin	626	[29.16%]

Sixth Congress Trial 4 1799

1st Southern District Massachusetts

Candidate	**Votes**	**[Percent]**
Lemuel Williams	537	[45.20%]
Samuel Savage	313	[26.35%]
Macajah Coffin	302	[25.42%]

Sixth Congress Trial 1 1798

3rd Southern District Massachusetts

Candidate	**Votes**	**[Percent]**
Stephen Bullock	426	[26.89%]
Laban Wheaton	407	[25.69%]
Josiah Dean	373	[23.55%]
Phanuel Bishop	187	[11.81%]
Samuel Toby	80	[5.05%]

Sixth Congress Trial 2 1799

3rd Southern District Massachusetts

Candidate	**Votes**	**[Percent]**
Stephen Bullock	929	[33.13%]
Josiah Dean	710	[25.32%]
Laban Wheaton	625	[22.29%]
Phanuel Bishop	526	[18.76%]

Sixth Congress Trial 3 1799

3rd Southern District Massachusetts

Candidate	**Votes**	**[Percent]**
Stephen Bullock	1533	[47.56%]
Phanuel Bishop	1317	[40.86%]
Josiah Dean	339	[10.52%]

Sixth Congress Special Election 1800

3rd Western District Massachusetts

Candidate	**Votes**	**[Percent]**
Ebenezer Mattoon	1139	[97.94%]
Scattering candidates		

Sixth Congress Special Election Trial 1 1800

4th Western District Massachusetts

Candidate	**Votes**	**[Percent]**
Levi Lincoln, Sr.	1038	[47.07%]
Jabez Upham	572	[25.94%]
Seth Hastings	302	[13.70%]
Salem Towne	256	[11.61%]

Sixth Congress Special Election Trial 2 1800

4th Western District Massachusetts

Candidate	**Votes**	**[Percent]**
Levi Lincoln, Sr.	1079	[49.77%]
Jabez Upham	843	[38.88%]
Seth Hastings	129	[5.95%]
Salem Towne	103	[4.75%]

Sixth Congress Special Election Trial 3 1800

4th Western District Massachusetts

Candidate	Votes	[Percent]
Levi Lincoln, Sr.	1059	[67.75%]
Jabez Upham	434	[27.77%]

Seventh Congress Trial 1 1800

2nd Southern District Massachusetts

Candidate	Votes	[Percent]
Nahum Mitchell	611	[36.22%]
Josiah Smith	551	[32.66%]
Samuel Niles	150	[8.89%]
Benjamin Whitman	116	[6.88%]
Nathaniel Goodwin	99	[5.87%]

Seventh Congress Trial 1 1800

1st Western District Massachusetts

Candidate	Votes	[Percent]
John Bacon	1427	[49.36%]
Ephraim Williams	1381	[49.11%]
William Williams	15	[0.54%]

Appendix 4 – Massachusetts Voting Requirements, 1780-1825

Property Requirements:

1780, state constitution: Must own a freehold estate with a yearly income of at least 3 pounds, or own any estate worth at least 60 pounds to vote in state Senate elections. To vote in state (and U.S.) House elections, property must be owned in same town as residence.

1821, state constitution: Property requirement eliminated.

Taxpaying Requirements:

1780, state constitution: No requirements.

1821, state constitution: Must have paid any state or county tax assessed within 2 years, unless exempt from taxation.

Residency Requirements:

1780, state constitution: No residency requirement to vote in Senate elections. 1 year in-town residency requirement to vote in state (and U.S.) House elections.

Gender Requirements:

1780, state constitution: Must be male to vote.

Race Requirements:

1780, state constitution: No requirements.

1821, state constitution: No requirements.

Citizenship Requirements:

1780, state constitution: No requirements.

1821, state constitution: Must be a citizen to vote.

Requirements for Native Americans:

1807, state Supreme Court: Inhabitants of incorporated plantations are barred from voting in gubernatorial elections, effectively excluding many Native Americans.

Pauper Exclusions:

1821, state constitution: All paupers barred from voting.

Source: Alexander Keyssar, *The Right to Vote: The Contested History of Democracy in the United States* (New York: Perseus, 2001) 306-27.

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Map A13. United States House of Representatives Elections – Share of Vote by Town Massachusetts 2nd Western District Sixth Congress 1798

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Map A15. United States House of Representatives Elections – Share of Vote by Town Massachusetts 4th Western District Sixth Congress 1798

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Massachusetts Sixth Congress 1798-1799

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