The New Hampshire Zoning Atlas

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Abstract

The New Hampshire Zoning Atlas is a database and interactive online map cataloguing and portraying many zoning district-level land use regulations affecting housing construction across the entire land area of the state. The data are valid as of June 1, 2022 and represent these regulations as adopted by local governments, as well as the ways in which state law interacts with those provisions. The data are available to download so that users can reproduce their own maps, analyze the data statistically, and integrate the datasets with information from other sources or states. This paper posits some uses of the data, describes the variables, recapitulates the data collection process, and presents some of the major findings.

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1 Introduction

Quantitative researchers have long struggled to assess directly the effects of land use regulations on housing supply and affordability, because it has been so difficult to measure the stringency of land use regulation. Local governments have dozens of regulatory tools to affect the cost of building new homes, and many of them are substitutes for each other. Thus, focusing on any one regulation – or even a small subset of regulations – risks yielding misleading results. Furthermore, it is difficult and time-consuming to acquire and interpret land use ordinances for a large number of jurisdictions. Knowing this, researchers have mostly relied on proxies for regulation in their work, such as municipal surveys (Gyourko, Saiz & Summers 2008) and supply elasticities (Sorens 2018).

The National Zoning Atlas Project (www.zoningatlas.org) is a new attempt to solve this problem by creating state-by-state datasets on certain land use regulations affecting housing at the level of the zoning district. The first atlas completed was Connecticut's (www.desegregatect.org/atlas). Inspired by this project, the New Hampshire Zoning Atlas follows a methodology consistent with Connecticut's (Bronin & Ilyankou 2022). However, we also include some new variables that are specific to the New Hampshire environment.

New Hampshire has 226 jurisdictions with independent zoning authority.[1] Two hundred fifteen of these jurisdictions are municipalities, but ten are submunicipal governments, and one (Coös) is a county with zoning authority for the 23 unincorporated areas within its territory. In total, there are 269 jurisdictions in our dataset: every municipal and submunicipal zoning authority plus 19 municipalities and two unincorporated townships without zoning.

The zoning district is the unit of analysis (row) in the datasets. Regulatory provisions are the variables (columns), ranging from whether different types of housing (single- and multi-family) are permitted to dimensional and parking requirements to rules for accessory dwelling units (ADUs) and manufactured housing.

There are two datasets. The first, an online spreadsheet, contains the "raw data" found in local ordinances, including textual descriptions of complex rules that could not be summarized with a single number without some loss of information, and covers all zoning districts in the state, including unmapped districts. The second dataset, available in comma-separated values (csv) format, covers only mapped districts, includes state legal provisions that in some cases override local zoning rules inconsistent with state law, and interprets complex rules as numerical codes suitable for statistical analysis and filtering operations in the map. It also removes base districts that are wholly contained within overlay districts to avoid double-counting. The second dataset links up to the attribute table in the ArcGIS shapefile for the state. These datasets are accessible from the Saint Anselm College website (`https://www.anselm.edu`) and my Harvard Dataverse (`https://dataverse.harvard.edu/dataverse/jsorens`).

[1] Some sources list Dalton as having zoning, but its temporary zoning expired before our data closing date of June 1, 2022.

This introduction to the New Hampshire Zoning Atlas describes the variables and data collection process, draws out some key findings about zoning in New Hampshire, and finally suggests some further uses for the data. Questions, suggestions, and corrections can be addressed to ethics@anselm.edu.

2 Variables and Method

This section assumes the reader's familiarity with the basic method of the Connecticut Zoning Atlas (Bronin & Ilyankou 2022). It describes how this method was applied to New Hampshire and go into greater detail on the new variables contained in the New Hampshire atlas.

2.1 District Characteristics

The first set of variables in the zoning atlas has to do with basic characteristics of each district: jurisdiction name, county, abbreviated district name, full district name, binary variables for whether the district is mapped, whether the district is "mapped but extinct," and whether the district is an overlay, the type of zoning district, type of nonresidential district, and binary variables for whether the district is an affordable housing district or an elderly housing district.

In considering whether a district is mapped, we ran into an issue that required judgment. Many overlay districts have boundaries that are not fixed on official zoning maps but are based on actual, on-the-ground conditions, such as aquifer, floodplain, and wetland areas. Because these districts' borders can change based on hydrology and other contingencies that are not legal decisions of the controlling regulatory bodies, we considered them not mapped. They therefore do not appear in the interactive map, but they are coded in the datasets. These districts often have important consequences for the lawful development of particular lots.

As in Connecticut, we found a handful of New Hampshire districts that still appear in official zoning maps but not in official ordinances. These were coded according to the features that prevailed in the last version of the ordinance that contained them. Most of them were overlay districts, but not all. West End Neighborhood Overlay in Hanover, Business Development in Bow (base district), Commercial/Industrial Business Overlay in Farmington, Cemetery in Somersworth (base district), Protected Parcel in Albany (base district – a single lot), and Special Highway Corridor Overlay in Conway are the mapped but extinct districts in the state. In addition, Weare's official map lists a "Public" district that has never appeared in the ordinance. These are state and federal lands currently closed to development. In a few other towns, public lands are not included in the ordinance or map at all. We include them as additional rows in the spreadsheet and code them as unregulated, except where there are ordinance requirements that apply across the whole jurisdiction.

Type of zoning district can be either "primarily residential" (no general categories of commercial activity are allowed beyond uses traditionally thought com-

patible with residential use, such as home-based businesses, churches, schools, outdoor recreation, and farming and forestry activities), "mixed with residential" (both residential and nonresidential uses allowed), or "nonresidential" (no residential uses are allowed beyond a single accessory apartment in a commercial building). Overlay districts are automatically coded as "mixed with residential" unless they prohibit residential development.

Type of nonresidential district is a new variable in the New Hampshire atlas. We coded nonresidential districts as either "primarily commercial," "primarily industrial," or "primarily conservation/agriculture." Industrial districts include districts specifically intended for uses that might have major adverse externalities, such as manufacturing, large warehouses, airports, seaports, mining, large-scale quarrying, military facilities, and landfills. Conservation districts are those where all development is prohibited beyond small, accessory structures for agricultural or forestry use, drainage works, and so on. Commercial districts are a catch-all category for districts allowing nonresidential development other than the industrial categories mentioned above.

Affordable housing district and *elderly housing district* capture whether the district prohibits all housing development that does not include guaranteed-affordable units or age-restricted units, respectively. In New Hampshire, the statute authorizing inclusionary zoning (RSA 647:21, IV(a)) defines it as "land use control regulations which provide a *voluntary* incentive or benefit to a property owner in order to induce the property owner to produce housing units which are affordable to persons or families of low and moderate income. Inclusionary zoning includes, but is not limited to, density bonuses, growth control exemptions, and a streamlined application process" (emphasis added). A state handbook interprets this language to mean that "inclusionary zoning may not be made mandatory" (New Hampshire Department of Environmental Services 2008, p. 139). It would seem then that there should be zero "affordable housing districts," as defined here, in the whole state.

But that would be a mistaken expectation. There are five affordable housing districts in New Hampshire: Performance in Bedford, Commercial C-I in Kingston, Osprey Landing Overlay in Portsmouth, Conservation in Rye, and Public Recreation in Rye. What all five districts have in common is that they permit certain nonresidential uses, but the only residential use they allow is affordable housing, either "workforce" (the first three) or age-restricted (Rye). Perhaps these municipalities would justify this regulatory approach by claiming that if affordable housing were not available, they would simply prohibit all housing in these districts. In that case, the availability of affordable housing might count as a kind of "voluntary incentive" to developers. But this hypothetical response raises the question of whether on this logic a municipality could ban new housing development in a formerly residential district and then allow only affordable housing, in which case state law would seem to become inoperative.

2.2 Housing Treatments

The next set of variables has to do with how the district "treats" different kinds of housing: single-family, two-family, three-family, four-family, five-or-more-family, affordable housing, accessory dwelling units, planned residential developments, and manufactured housing. The last of these is unique to the New Hampshire Atlas.

For one- through five-plus-family housing, we look at whether the ordinance simply allows these numbers of units in a building with nothing more than administrative review ("Allowed/Conditional" coding), allows them subject to some form of public hearing process ("Public Hearing"), prohibits them ("Prohibited"), or – for overlay districts only – does not affect the base district treatment ("Overlay"). In New Hampshire, site plan review (SPR), which requires a public hearing of the planning board, usually applies to multifamily developments, which are almost always defined as three or more units in a building. (State law does not allow municipalities to subject duplexes to SPR.) Thus, the "Public Hearing" code applies to these provisions. "Public Hearing" also applies whenever a particular type of development requires a Conditional Use Permit (CUP), obtained from the planning board, or a Special Exception (SE), obtained from the zoning board. Typically, the SE process is more cumbersome for a landowner than the CUP process, but in this version of the atlas, we do not distinguish between them. (The "Special Notes" column at the end of the dataset does usually note whether one of these is required, however.)

The "family" treatments are based on the number of units in a building, rather than the number of units on a lot. Thus, if a district allows manufactured housing parks with single, common ownership, we code one-family treatment as "Allowed/Conditional" or (more commonly in this specific example) "Public Hearing." If an indeterminate number of accessory apartments are allowed in mixed-use buildings, but single-family is not allowed, we code single-family treatment as "Prohibited" and all the other treatments, plus ADU treatment, as either "Allowed/Conditional" or "Public Hearing." We also consider townhouses on their own lots to be attached single-family, so even though they are usually considered two-family or multifamily in New Hampshire ordinances, if a district allows townhouses we consider single-family to be allowed, and we do not consider two-family to be allowed unless the district also allows two attached units on a single lot (duplexes). If an ordinance allows an attached ADU equal in size to the main unit, we consider two-family to be permitted, because there is no difference between a duplex and a single-family house with an attached ADU of the same size. Similarly, if a district allows both detached single-family and duplexes, it necessarily allows ADUs on the same terms.

Sometimes a district will allow multifamily only under certain conditions, such as by residential conversion rather than new construction. In such cases, we code the more permissive treatment but log the conditions in the "Special Notes" column. In general, our coding strategy is generous toward the regulations, and thus the statistics we report about percentage of land area open to housing of various kinds or under a certain dimensional regulation should be seen as upper

bounds.

For *Affordable Housing (AH) Treatment*, the possible codes are "Allowed/ Conditional," "Public Hearing," "Prohibited," "Overlay," or "Not Mentioned." The last is by far the most common coding here. If all housing is forbidden, then AH is prohibited too, even if the ordinance doesn't specifically mention AH. The first two codes are meant to capture cases in which a district has some kind of inclusionary housing provisions, offering incentives for building guaranteed-affordable units.

Accessory Dwelling Unit (ADU) Treatment has the same possible codes, but in that case, "Not Mentioned" is unusual. State law requires jurisdictions to permit ADU construction "in all zoning districts that permit single-family dwellings" (RSA 674:72, I). However, "[t]he municipality may prohibit accessory dwelling units associated with multiple single-family dwellings attached to each other such as townhouses, and with manufactured housing." Towns may either adopt their own ADU ordinance meeting state standards or fall back on state law. The vast majority of towns have created their own ordinances. The only districts where ADUs appear to be banned in detached single-family dwellings that are not manufactured housing, in contravention of state law, are the Suburban district in Barnstead, the Forestry and Conservation district in New Boston (a residential district despite the name), and the Waterfront Recreation district of Northfield. The Barnstead and Northfield cases appear to be drafting errors in the use tables, because both ordinances' sections on ADUs say they are allowed by special exception in all residential districts, but since the ordinances impose the stricter requirement in cases of conflict, we have to code ADUs as banned here. In the second dataset, state ADU provisions are applied to these districts.

On the other hand, we count 36 districts around the state where ADUs are permitted even though single-family dwellings are not. Because state law does not require municipalities to allow ADUs in these districts, municipalities are free to regulate them as they like.

Planned Residential Development (PRD) Treatment only has four possible codes, with "Not Mentioned" being used for overlays that do not affect PRD treatment. Manufactured housing parks and subdivisions are automatically considered to be PRDs. As in the Connecticut atlas methodology, coders had substantial freedom about whether to consider certain types of developments as PRDs. For instance, "open-space subdivisions" and "cluster subdivisions" are common in New Hampshire ordinances, but it's a matter of interpretation whether these are truly PRDs or not. Some coders included them and some did not. Researchers should be aware that this variable is not coded consistently across jurisdictions, except when it comes to manufactured home parks and subdivisions.

Manufactured Housing Zoning can take on one of five possible codes: "Allowed in Parks Only," "Allowed on Both Lots and Parks," "Allowed on Individual Lots Only," "Not Mentioned," and "Prohibited." A manufactured housing subdivision is considered a type of park. We interpreted zoning ordinances' treatment of manufactured housing even when the ordinance does not specifically

mention it in a use table or the equivalent. Thus, for instance, we looked at the definitions of "dwelling unit," "single-family dwelling unit," and "manufactured home" to understand whether manufactured homes could be placed on single-family lots in a single-family residential district. "Not Mentioned" therefore applies *only* in overlay districts. State law prohibits municipalities from excluding manufactured housing entirely. Some towns have minimum unit sizes that exclude all but the largest manufactured homes, but we do not consider these requirements to be manufactured housing bans on their own. Those provisions are coded separately (see next section).

2.3 Dimensional and Other Regulations

The last and largest set of variables has to do with dimensional and other regulations for each housing "type." For single-family housing, when that treatment variable is either "Allowed/Conditional" or "Public Hearing," the following variables are coded: minimum lot size (acres), minimum front, side, and rear setbacks (feet), minimum road frontage (feet), a binary variable for whether there is a maximum lot coverage, maximum lot coverage of buildings (%), maximum lot coverage of impervious surfaces (%), minimum parking spaces, a binary variable for whether there is a maximum height, maximum height in stories, maximum height in feet, a binary variable for whether there is a floor area ratio, the floor area ratio, and minimum unit size (square feet). Of these, the binary indicator variables and minimum frontage are new to the New Hampshire Atlas.

The purpose of the binary indicator variables is to distinguish between missing data and nonexistence of a regulation. When there is no maximum height, for example, the two maximum height variables are blank, and the binary indicator is scored 0. In the absence of a binary indicator variable, a researcher might not be able to distinguish between missing data on maximum heights and the nonexistence of a maximum height regulation.

Minimum frontage is a classic dimensional regulation in New Hampshire zoning. In some cases it is even the primary tool to limit density. We found five districts with no minimum lot size for single-family and a minimum road frontage of 200 feet or more (Campton–Resort Residential, Hollis–Mobile Home 2, Wilton-Commercial, Boscawen–Industrial, and Webster–Pillsbury Lake).

Another difference from the Connecticut Zoning Atlas is that we coded no minimum lot size as "0," no minimum setback as "0," and so on rather than leaving them as blank. Again, this strategy helps to distinguish the nonexistence of a regulation from missing data, and the "0" codes are also literally true, as it is physically impossible to have a negative lot size or setback. (Septic and well regulations may require substantial minimum lot sizes even where there is no local regulation.) A few districts have maximum setback regulations, but we did not code these, instead logging them in *Special Notes*.

Some minimum lot sizes are specified in terms of "buildable acres" instead of total acreage. We record these the same way, even though we realize that "buildable acres" represent a stricter, sometimes a substantially stricter, standard. In a future version of the atlas we may try to grapple with these differences in a

sensible way that would retain interjurisdictional comparability.

Sometimes setbacks are defined in relation to public roads rather than lot perimeter. We interpret these as front setback requirements, because the part of the lot bordering on a public road is generally considered the front of the lot.

We sometimes found municipalities place minimum parking requirements in their site plan review (SPR) regulations rather than their zoning ordinances. However, constructing a single-family house or duplex on a lot of record is exempt from SPR. Therefore, we do not code these regulations for the single-family and two-family minimum parking variables.

As in the Connecticut Atlas, overlay districts are scored for these variables only when they have a regulation overriding base district zoning; otherwise, they are left blank.

Two-family adds the following variables to the single-family set: a yes-no indicator for whether two-family is allowed for affordable housing only, a yes-no indicator for whether two-family is allowed for elderly housing only, a binary variable for whether there is a two-family maximum density, two-family maximum density (units/acre), minimum parking spaces for a studio or one-bedroom, and minimum parking spaces for a two-plus bedroom (these replace the one minimum parking variable for single-family). We do not "interpret" maximum density on the basis of minimum lot size; we code a maximum density only when one is explicitly stated in the ordinance.

Three-family adds the following variables to the two-family set: a yes-no indicator for whether a connection to water or sewer is required, a yes-no indicator for whether connection or proximity to public transit is required, a binary indicator for whether there is a maximum bedrooms per unit, and maximum number of bedrooms per unit. No districts in New Hampshire require any multi-family housing to be connected or proximate to public transit. Elderly developments are often required to provide transportation services, but we do not interpret this requirement as mandating proximity to public transit.

Four-family and five-plus-family add the following variables to the three-family set: a binary indicator for whether there is a maximum number of units per building and the maximum number of units. If the maximum number of units is four, then five-plus-family housing is prohibited. For ease of merging with the Connecticut Atlas, a "four-plus-family" set of variables is also created, taking on the values of the four-family and five-plus-family variables, with a slash between them if they are different.

The affordable housing (AH) regulations are mostly identical to those coded in the Connecticut Atlas: AH definition, a yes-no indicator for whether AH is for elderly housing only, AH minimum lot size, a binary indicator for whether there is an AH maximum density, AH maximum density, AH parking spaces per studio or one-bedroom, AH parking spaces per two-plus-bedroom, AH connection to water/sewer required (yes/no), AH connection/proximity to public transit required (yes/no), AH minimum unit size, a binary indicator for whether there is an AH maximum bedrooms per unit, AH maximum bedrooms per unit, a binary indicator for whether there is an AH maximum units per building, AH maximum units per building, and AH minimum buffer from other residential

lots (feet). The last variable and the binary indicator variables are new to the New Hampshire Atlas. The AH variables are meant to capture whether a district provides any incentives for affordable housing. Accordingly, some of these variables can be left blank if the usual zoning for that type of structure applies: blanks do not mean that there is no requirement.

ADU regulations coded include: ADU employee or family occupancy required (yes/no), ADU renter occupancy prohibited (yes/no), ADU owner occupancy required (yes/no), ADU elderly housing only (yes/no), ADU minimum lot size, ADU minimum parking spaces, ADU restricted only to primary structure (yes/no), binary indicator for whether there is an ADU maximum size, ADU maximum size (% of main unit), ADU maximum size (sq. ft.), binary indicator for whether there is an ADU maximum number of bedrooms, and ADU maximum number of bedrooms. State law does not allow municipalities to limit ADUs to family or employee occupancy in single-family zones, but two commercial districts do allow accessory apartments and require employee occupancy: Commercial and Industrial in Belmont. No districts in New Hampshire allow ADUs for elderly housing only. ADU minimum lot size is zero unless a higher minimum lot size is required for a dwelling with an ADU than one without an ADU. In detached single-family zones, such a requirement contradicts state law, unless it applies only to detached, not attached ADUs.

Mont Vernon is testing the edges of state law, crafting an ADU ordinance that mandates primary access through an interior door: "Access to the Accessory Dwelling Unit shall be through an interior door off a living area, open foyer or hallway that is contained within the larger dwelling unit . . . Up to one external entrance shall be allowed provided that it is not the primary entrance to the Accessory Dwelling Unit." State law requires towns not to mandate that an interior door between the ADU and the main building remain unlocked. The legislative intent seems to be that towns may not require the interior door to be the primary entrance. We code Mont Vernon as mandating family occupancy in the base dataset and code the state requirement in the second dataset.

Kingston unlawfully bans ADUs for homes under 1,200 square feet and limits their size to 600 square feet for homes between 1,200 and 1,800 square feet. According to statute, ADU "size may not be restricted to less than 750 square feet." Also noteworthy is the fact that Kingston sets a *minimum* ADU size of 600 square feet. Thus, before the state ADU law was enacted, an ADU for a home under 1,800 square feet would have had to be precisely 600 square feet in order to be lawful: one foot more or less would make it illegal. Today, its maximum size provisions are overridden by statute, but the minimum size still applies.

The PRD regulations are: a yes-no indicator for whether the PRD codings refer to mobile/manufactured home parks, PRD minimum lot size, a binary indicator for whether there is a PRD maximum density, PRD maximum density, a binary indicator for whether there is a PRD maximum units per development, and PRD maximum units per development. If some kind of PRD other than a manufactured housing park or subdivision was allowed, that type of PRD's requirements were coded here. Otherwise, if only manufactured housing parks

or subdivisions were allowed, then its required features were coded. The PRD minimum lot size variable can be misleading if coders were not explicit about the type of parcel to which the minimum applies, because "lot size" could refer either to an individual space or lot within the PRD, or to the entire tract that is to be developed. In general, if the PRD section refers to manufactured housing parks or subdivisions, coders were explicit about tract versus individual lot differences, but researchers should not use these data without investigating the ordinances for those cases in which the distinction is not explicitly drawn.

Finally, *Special Notes* lists special features of the zoning regulations in a district. Sometimes these can be important, such as when a district allows residential conversions to multifamily but bans new multifamily construction. Coders used this column at their discretion, and practices varied.

2.4 Processing the Base Dataset

This section describes how the base dataset was processed into the second dataset, which lines up with the shapefile attribute table.

The observations (rows) in the processed dataset represent base districts that lie outside mapped overlay districts and base/overlay district segments where a mapped overlay district exists. Unmapped overlay districts do not appear in this dataset, but it should be mentioned that some of these districts significantly affect housing development, particularly in or near wetlands, floodplains, perennial streams, and aquifer recharge areas. Together, the base districts and base/overlay segments exhaust the buildable and regulated land area of the state. (The unbuildable, unregulated land area of the state consists of water and wetland polygons of 10 acres or more and permanently protected land.) The base/overlay segments include the full regulatory requirements in these areas, capturing both the base district regulations and any overlay requirements.

In general, complex text codes were replaced with numerical codes by averaging over the different categories. For instance, New Hampshire ordinances commonly specify different minimum lot sizes and frontages for lots with sewer and water access or neither. To create a single, numerical code, the minimum lot sizes and frontages for lots with neither water nor sewer, either water or sewer, and both water and sewer were averaged. In the same way, separate minimum side setbacks for each side (e.g., one must be at least 10 feet and the other 12 feet) were averaged. Some ordinances specify different parking minimums for studio apartments, one-bedrooms, two-bedrooms, and so on. The parking minimum "Per Studio or 1BR" is then the average of those two categories, and the parking minimum "Per 2+ BR" is the average of requirements for two- and three-bedroom units. Maximum lot coverage requirements sometimes vary by lot size, and we simply average over whatever lot sizes are specified. Sometimes categories are nested within categories, as when lakefront and non-lakefront lots have different regulatory minimums, which are then further specified by utilities access. In those cases, we average across sub-categories by category before averaging across categories.

Minimum lot sizes often vary significantly over dozens of soil and slope conditions, when sewer is not available. In these cases, we record the midpoint over the entire range of minimum lot sizes that could apply.

Because these average conditions do not obtain across the entire territory of most districts that specify varying dimensional regulations, we have added new variables to the processed dataset to reflect both optimistic and pessimistic assessments of allowable density. For each of the family treatments, we have added minimum lot size under "ideal" and "worst" conditions to reflect, respectively, the regulation that applies when utilities are available or soil conditions are best, and the regulation that applies when utilities are not available and soil conditions are worst. We have done the same for minimum frontage regulations and, for two-family and up, maximum density regulations.

In other cases, the text codes merely noted exceptions that clearly would not apply to the majority of lots. These notes perhaps make more sense in the "Special Notes" column, so in the processed dataset the usual situation is recorded instead and the exceptions are noted in "Special Notes." This procedure also applies whenever a text code notes a difference between a requirement that applies by-right and one that can be obtained with a CUP or SE; only the by-right requirement is recorded. There is an exception to this rule: if the mode of development itself (e.g., ADU) requires a CUP or SE, then we code the regulation that applies with a similar type of permit.

There are also cases in which an average would not make sense. For example, in Bedford's Commercial 2 and Service and Industrial districts, there is a maximum units per building of 12 for workforce housing and no limit for elderly housing. An average of 12 and infinity would be infinity. In these cases, we select the modal category's requirement.

Sometimes a numerical code could be derived with some basic assumptions about typical dwelling units. For instance, some districts specify density restrictions in terms of bedrooms instead of dwelling units. These were converted to dwelling unit restrictions on the assumption that the median apartment has two bedrooms. Yet other regulations are specified in terms of square footage rather than dwelling units or bedrooms. In these cases, the average square footage of apartments of a particular number of bedrooms in the United States are assumed (600 square feet for a studio, 800 square feet for a one-bedroom, and 1100 square feet for a two-bedroom).

Some front setbacks are specified in terms of distance from the centerline of a road. We assume that the average road right-of-way width is 50 feet from lot line to lot line, subtracting 25 feet from the centerline to make the requirement comparable with lot-edge setbacks.

Derry specifies maximum height restrictions in terms of sea level. We have subtracted the official elevation of Derry in order to make these figures comparable with other towns' regulations.

Urban districts often require setbacks or heights to be either no less or no more, respectively, than the average quantities for neighboring or nearby buildings. Generally, we use the requirements for neighboring districts to interpret these as numbers. The assumption is that neighboring districts' regulations

might reflect the built environment in the given district. To be sure, zoning requirements are often stricter than the existing built environment, creating nonconformities, but the fact that these requirements impose a limit in terms of the *average* of nearby buildings implies that they too are stricter than much of the existing built environment. Forcing everything new to be no taller or closer than the average building in the area is a subtle way to downzone the area, making the new *maximum* no more than the previous *mean*.

ADU regulations are generally straightforward. If parking minimums vary by number of bedrooms, we assume that the average ADU has 1.5 bedrooms. If requirements vary for detached and attached ADUs, we record only the requirement for attached ADUs. Fremont requires ADUs to have fewer bedrooms than the principal unit. We interpret this as a maximum of 2.5 bedrooms per ADU.

Because of their complexity, we do not adopt numerical codes for AH regulations at all. Additionally, because inter-coder variability makes PRD regulations non-comparable across jurisdictions, we do not bother to record numerical codes for PRD regulations either.

3 Findings

Here I discuss two different sets of findings: first, those on individual district characteristics, and second, those on land area, for the whole state and for key municipalities.

3.1 Individual District Extremes

This section highlights maximum and minimum values on key variables.

3.1.1 Single-Family Dimensional Regulations

Eighty-seven districts around the state lack a single-family minimum lot size. Lots without sewer are still subject to state septic rules, of course. When we limit the list to those without large setbacks (20+ feet), stringent maximum lot coverage requirements (under 50%), significant minimum frontages (50+ feet), or a minimum unit size, and to those that allow single-family by right, then the list drops to 36 districts. Most of these are in towns that lack zoning. Excluding them, as well as unregulated areas that are public lands, we see that Fitzwilliam (VCB), Hanover (D-1 and D-2), Manchester (B-1), Nashua (D1 and D3), Peterborough (West Peterborough), Wilton (Downtown Commercial/Aquifer Protection/Main Street Overlay), Newbury (Blodgett Landing Cottage), Derry (OBD), Portsmouth (G1 and G2), Dover (CBD-MU, CWD, and G), and Charlestown (B and G-1) all specify some places where single-family development on lots of record is very lightly regulated. To be sure, most of these are downtown districts that are already fully developed, where a detached, single-family house would be uneconomical, and the largest of these

districts by land area - West Peterborough - specifies a maximum single-family density of four units per acre.

At the other extreme, there are some large districts where single-family is allowed by right, but minimum lot sizes are big. Lyme's Mtn. & Forest, Peterborough's Retirement Community, and Springfield's Forest Conservation all tie for the state record with single-family minimum lot sizes of 50 acres. Five more districts, in Groton, New Boston, Peterborough, and New London, have minimum lot sizes of 25 acres. Peterborough deserves a bit of a break on this one, as their districts mentioned here are small in land area and already built up with planned communities.

The largest single-family setback in the state is 575 feet in Weare's Rural Agricultural/Mt. Dearborn Road Historic district. Lyme deserves honorable mention here, as two large districts – East Lyme and Mtn. & Forest – have 150-foot setbacks on all sides.

The largest minimum frontage requirement is found in Lyme's Mtn. & Forest: 1000 feet. Sanbornton's Forest Conservation and East Lyme both have minimum frontages of 600 feet. For a perfectly square lot that is equivalent to a minimum lot size of 8.2 acres.

Lyme also has the strictest maximum lot coverage requirements: 1 percent for buildings in East Lyme and Mtn. & Forest and 2 percent for buildings in Holt's and Rural, plus 2 percent for impervious surfaces in Mtn. & Forest. Lebanon's RL-3 also requires a maximum of 1 percent of a lot be dedicated to a single-family home. This is equivalent to a minimum lot size of 6.9 acres for a 3000-square-foot ranch house. Cornish also has strict lot coverage requirements: 2 percent for buildings throughout Rural and 4 percent for impervious surfaces there. Still, even these requirements aren't constraining rural development much on their own.

Three districts have unusually low height restrictions for single-family dwellings of 15 feet: Residential C in Newton and Manufactured Housing and Manufactured Housing Subdivision in Exeter. The only dwellings allowed in these districts are manufactured homes, so the height restriction is unlikely to be important. Excluding districts that don't just allow manufactured homes, Rochester's Neighborhood Mixed-Use has the most restrictive single-family height limit: 20 feet.

The vast majority of New Hampshire districts do not have floor-area ratios (FARs), but the most restrictive single-family FARs are found in Manchester's Residential-Suburban and Pittsfield's Rural zones (0.1). For a two-story house that is basically equivalent to a 5 percent maximum building lot coverage limit. Amherst's Rural Residential, Northern Transitional, and Northern Rural zones all have single-family FARs of 0.15.

Minimum unit sizes for single-family housing other than manufactured housing are rare in New Hampshire, but some towns do have them. The most restrictive such regulation is found in Waterville Valley's Lower Density Residential, where homes under 1,500 square feet are banned. Other noteworthy restrictions are Windham's 1000-square-foot minimum in Residence A and Rural and Rye's 960-square-foot minimum in Business, General Residence, and Single Residen-

tial.

3.1.2 Five-Family Dimensional Regulations

Excluding districts where five-family is allowed only for affordable or elderly projects, there are 82 districts around the state with no minimum lot size and no maximum density for five-plus-family developments. Many of these have other dimensional regulations that limit five-family structures, however. One approach is to look at how many districts have light regulations on five-family housing that could conceivably permit new market-rate apartments at moderate rents. For this count, we look at districts where housing may be market-rate, the minimum lot size for five-family is 1.0 acre or below, maximum density is five per acre or higher, all setbacks are 30 feet or less, minimum frontage is 200 feet or less, maximum impervious lot coverage is 50% or greater, parking required is one space or fewer per studio unit, maximum height is three stories and thirty feet or more, FAR is no lower than two, minimum unit size is 600 feet or less, and a PRD is not required (found in "Special Notes"), and that are not unregulated public land or uninhabited. There are only 63 such districts in the state: excluding unzoned areas, they are found in Keene, Berlin, Lancaster, Bristol, Goffstown, Hillsborough, Manchester, Nashua, Derry, and Portsmouth, generally in downtown locations. All downtown districts except one, that in Berlin, require public hearings for five-family buildings.

The largest five-family minimum lot size is Londonderry's Industrial-I/PUD (100 acres). However, the maximum density here is six units per acre and there is no cap on units in a building. The most restrictive maximum density requirement found in the state is in Amherst's Northern Rural and Bradford's Conservation districts (0.2 units per acre). You would need a 25-acre lot to build a five-family building and five acres for each unit after that.

Several districts have large setback requirements for multifamily. Canterbury's Rural, Rural/Workforce Housing Overlay, and Residential/Workforce Housing Overlay districts all require a front setback of 200 feet. Plymouth's Village Commercial, Marlow's R-2/Comm-2, and Lyme's Commercial all require 150 feet in front. The largest side setback is 100 feet, found in Stratham (Flexible-Mixed Use Development), Weare (Residential, Village, Village/Clinton Grove Historic), Sharon (Rural Residential), Marlow (R-2/Comm-2), Dublin (Mountain, Rural, Village), Chesterfield (Residential, Village), Hampton Falls (Agricultural-Residential/Elderly, Multifamily, and Workforce Multifamily, Business North/Elderly, Multifamily, and Workforce Multifamily), and Nottingham (Residential-Agricultural). A rear setback of 200 feet is found in Ashland (Rural Residential/Pemigewasset Overlay).

Five-family frontage requirements can be large. Kearsarge Lighting Precinct's Residential Agricultural requires 1000 feet, and Kensington's Commercial and Industrial Use and Residential and Agricultural Use and North Hampton's Industrial-Business/Residential require 650 feet. In the latter three districts frontage actually seems to be the main tool for limiting density.

Five-family lot coverage requirements aren't much different from single-

family regulations. Lyme's Rural district again requires a 2% maximum for buildings and 12% for impervious surfaces. The lowest five-family impervious surface maximum is found in Epsom's Residential-Agricultural, Residential-Commercial, and Residential-Light Commercial: 6.25%. In the same districts there are no single- or two-family lot coverage limits.

Excluding elderly zoning, 25 districts limit five-family buildings to two stories. Rochester's Neighborhood Mixed-Use and Hancock's Village Commercial limit five-family buildings to 22 feet or less in height.

The strictest five-family floor-area ratios are found in Amherst (0.15). That means that if you wanted to build a five-family structure with 1,000 square feet of floor space per unit, you'd need a lot that is at least 33,333 square feet in size - still not a tight restriction. However, density restrictions in these districts are tougher, ranging from 0.2 to 0.5 per acre, so you'd effectively need anywhere from 10 to 25 acres to build such a structure.

Minimum unit sizes of 800 square feet or more are found in 32 districts in eight towns: Farmington, Merrimack, Derry, Rye, Bedford, Bristol, Wakefield, Goshen, and Greenville. The highest requirement is 875 square feet in Bedford's Apartment Residential district. Rye's 800 square foot minimum is noteworthy since the housing is also required to be affordable.

Towns rarely set a cap on bedrooms per unit, but 17 districts do have a cap of two bedrooms per unit, and one – Hancock's Rural and Agricultural – has a cap of one bedroom per unit for elderly housing.

Most districts set no hard limit on the maximum units in a structure, but the highest such limit found in the state is 43, in Hampton Falls' Agricultural - Residential/Elderly, Multifamily, and Workforce Multifamily and Business North/Elderly, Multifamily, and Workforce Multifamily districts.

Of course, the strictest way to regulate five-family housing is to prohibit it altogether. In fact, most districts in the state (899 of 1726, 52%) prohibit all five-family housing, and a further 99 allow it only for affordable or elderly developments. Do any jurisdictions prohibit market-rate five-family housing throughout the entire jurisdiction? Yes, 62 inhabited jurisdictions do. Some of the largest jurisdictions to ban all market-rate five-family housing include Sutton, Francestown, Chester, Bridgewater, Springfield, Deerfield, Barnstead, Greenfield, Strafford, Rye, Kingston, Deering, Newfields, Mont Vernon, Warner, Lyndeborough, and Temple. Some of these jurisdictions allow deed-restricted affordable five-family housing, but as mentioned above, state law requires inclusionary housing to be voluntary. Affordability guarantees represent an exaction on the developer, making development less attractive. In fact, 48 inhabited jurisdictions also prohibit all market-rate three- and four-family developments.

3.1.3 Parking Requirements

Fully 374 districts lack parking requirements for single-family homes built on existing lots. However, two towns require four parking spaces per single-family residence: Kingston and Temple. Meredith, Derry, Haverhill, and Croydon have at least one district requiring three spaces per unit.

Of the 827 districts that do not prohibit five-family dwellings, 117 (14%) do not have minimum parking requirements. However, since five-unit structures usually require SPR, planning boards may be able to require parking in most of these districts anyway.

Temple's Mountain and Rural Residential and Agricultural districts require four parking spaces for a studio apartment in a five-unit building. Raymond's Commercial and Commercial-Residential districts, Milton's Commercial Residential and High Density Residential districts, Croydon's Village district, and the unzoned part of Haverhill all require three spaces per studio apartment.

For ADUs, 475 districts do not require parking. However, 46 districts require *four* spaces for an accessory dwelling unit. Some of these districts also limit ADUs to no more than 750 square feet. To be fair, in 32 of these districts there is no single-family parking minimum, so what the regulation actually requires is two spaces per unit if a house has an ADU. But that does mean that if for some reason a detached single-family house does not currently have a lawful parking spot under the code, then the owners would need to build four compliant spaces in order to have an ADU. Meanwhile, in Derry's Office Business district a single-family home must have three parking spots, and a single-family home with an ADU needs *seven* parking spots. Throughout Kingston, single-family homes must have four parking spots, and a single-family home with an ADU needs *eight* parking spots.

3.1.4 Manufactured Housing

While ADU regulations are largely consistent across districts within the same jurisdiction, manufactured housing provisions usually differ across districts. A majority of districts, 976, prohibit manufactured homes altogether, 65 allow them in parks only, 477 allow them on individual lots only, and 208 allow them in both lots and parks. Of the districts that generally allow manufactured homes, 99 have minimum unit size provisions that ban at least the smallest manufactured models available on the market.

Eighty-four jurisdictions (81 inhabited) allow manufactured houses townwide, and 134 jurisdictions allow them on all residential land. Only three inhabited jurisdictions prohibit manufactured houses entirely: Seabrook Beach Village District, Mountain Lakes Village District, and Hart's Location. State law requires towns to allow manufactured housing on a majority of zoned-residential land.

3.2 Land Area Statistics

3.2.1 Single-Family Housing

Single-family housing is allowed by right on 90% of New Hampshire's 3.6 million buildable acres. (New Hampshire's buildable acreage is only 61% of its land area to begin with.) It is allowed by public hearing on a further 6% and is banned on only 4% of the acreage.

However, on only 16% of the buildable land area (9% of the total area) is single-family allowed by right on less than one acre with under 200 feet of road frontage, averaging over conditions. In other words, starter-type homes on smaller lots are banned on the vast majority of New Hampshire's developable land. If we assume ideal conditions (e.g., best soil, water and sewer connections), up to 18.5% could be available for small-lot single-family. Under the worst conditions (no utility connections, worst buildable soils), as little as 12.5% could be available for small-lot single-family.

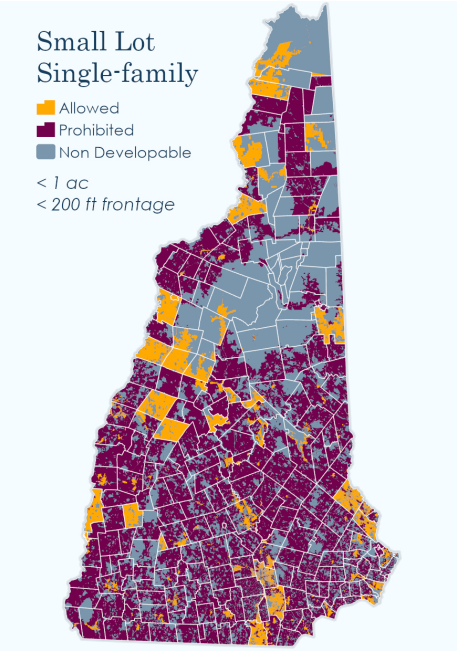

Figure 1: Small Single-Family Map

Figure 1 shows where small-lot single-family is not prohibited under the average-condition scenario. The pattern is that small-lot single-family is allowed more widely in urban cores and in highly rural areas without zoning. In the former, more lots are already developed, and so the zoned capacity is not necessarily large. Even so, the sharp discontinuities between larger cities and their neighboring suburbs suggest that the former allow genuinely more development opportunities in similar neighborhoods. If we look at only the four southeastern counties of the state (Merrimack, Strafford, Rockingham, Hillsborough) where the majority of jobs and people are located, then only 13% of the land area is available for small-lot single-family even with water and sewer hookups.

One hundred forty-one jurisdictions – the majority of the 269 independent land use regulatory jurisdictions in the state – offer no development opportunities for small-lot single-family under average conditions at all. Twenty-two inhabited jurisdictions are entirely open to small-lot single-family. Excluding jurisdictions without zoning, four small waterfront communities (Center Harbor, Mountain Lakes Village District in Haverhill, Bristol, and North Walpole Village District) allow small-lot single-family jurisdiction-wide. Of the towns that have abundant, undeveloped land that could be subdivided into small lots, Lancaster, Charlestown, Conway, Rochester, and Ashland, in that order, zone the most land area for small-lot single-family, ranging from 87 to 99.9% of the buildable acreage.

"Medium-lot" single-family zoning here refers to areas where a single-family house could be built on less than 2 acres with under 300 feet of frontage. Under state environmental guidelines, this lot size should be sufficient for septic on any soil and slope combination that allows building. Still, however, only 36%

of the buildable land area is zoned for this kind of development, under average conditions (39% ideal, 32% worst).

3.2.2 Multifamily Housing and ADUs

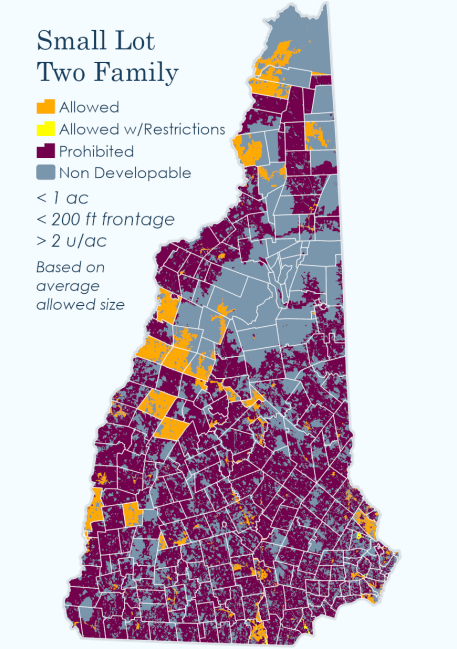

Figure 2: Small Two-Family Map

Duplexes are not technically defined as "multi-family" in most jurisdictions, but they are quite a bit more restricted than single-family in New Hampshire. They usually do not need to go through site plan review or other public hearings, but their geographic scope is quite limited. Small-lot two-family development (lots under an acre with either no maximum density or a maximum density above two units per acre, and frontages under 200 feet) is allowed by right on only 9.7% of the buildable land area, and by public hearing on a further 1.7%. (These figures, like all others in this section, exclude affordable- and elderly-only zoning.)

Figure 2 shows where small-lot two-family development is not prohibited. Compared to the single-family map, even urban areas restrict small-lot two-family to small zones. Even in the scattered rural areas that seem to allow a great deal of small-lot two-family, the lack of sewer infrastructure means that sites on which small-lot two-family are feasible will be highly restricted.

One hundred sixty-one jurisdictions do not allow small-lot two-family on any land at all. The only jurisdictions that allow it on all their land are some towns without zoning, Center Harbor, and North Walpole Village District. Other than these places, Charlestown, Lincoln, Ashland, Dover, and Seabrook, in that order, zone the highest proportion of buildable land for small-lot two-family, ranging from 73% to 98%.

Five-plus-family developments are actually allowed on small lots more frequently than duplexes are, although they usually require public hearings, at minimum through site plan review. "Small lots" here are defined consistently with the two units per acre standard, so the statistic includes areas with minimum lot sizes up to 2.5 acres and 300 feet of minimum road frontage. By this standard, 8.3% of the buildable land area of the state is available for market-rate, five-family development on small lots by right, and a further 13% is available for development after a public hearing.

Figure 3 shows where this kind of development is not prohibited. Compared to the two-family map, some larger areas in the southern part of the state are now available for development. This may be a result of the state's workforce housing statute, which requires a town to provide "reasonable and realistic opportunities" to develop affordable housing in at least five-unit structures.

One hundred thirty-five jurisdictions prohibit small-lot five-family on their entire land area. Thirty-one jurisdictions (30 inhabited) allow it on their entire territory. Other than non-zoning towns, these are Stoddard, Piermont, Colebrook, Randolph, Moultonborough, Whitefield, Lisbon, Lancaster, Bath, North Walpole Village District, and Salisbury. Most of these, as well as the non-zoning towns, are rural and lack the sewer infrastructure that would be necessary to make small-lot five-family feasible under state environmental requirements. Again, five-family requires a public hearing and SPR in any town that has SPR regulations, except in Berlin. It is possible that town voters are more willing to countenance zoning for large multi-family developments than even duplexes if they are given the "fail-safe" of a public hearing and more stringent review. But it is open to them to require conditional use permits for duplexes if they want to bring in some planning board discretion; thus, the puzzle of New Hampshire communities' negative regulations toward two-family remains to be explained.

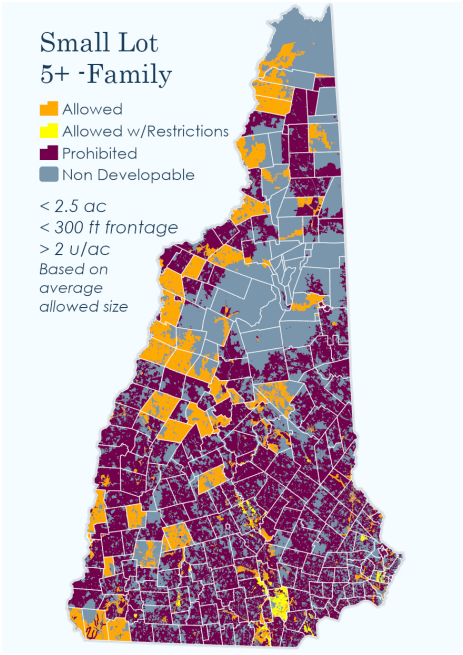

Figure 3: Small Five-Family Map

ADUs are generally available wherever detached single-family homes are allowed, as state law requires. As mentioned previously, ADU regulations very rarely differ across districts within the same town. As a result, Figure 4, which maps certain ADU requirements, shows little within-jurisdiction variation. In maroon are the places where ADUs are prohibited. The places in pink require three or four parking spaces per attached ADU, which can make building one prohibitively expensive. The places in yellow *either* require two parking spaces (also expensive and quite unnecessary for some ADUs) *or* require a public hearing process (conditional use permit or special exception) for attached ADUs, regardless of the number of parking spaces. These special permits are also usually expensive to obtain. The orange places allow attached ADUs by right with either zero or one required parking space. The areas in orange represent 42% of the buildable land area of the state.

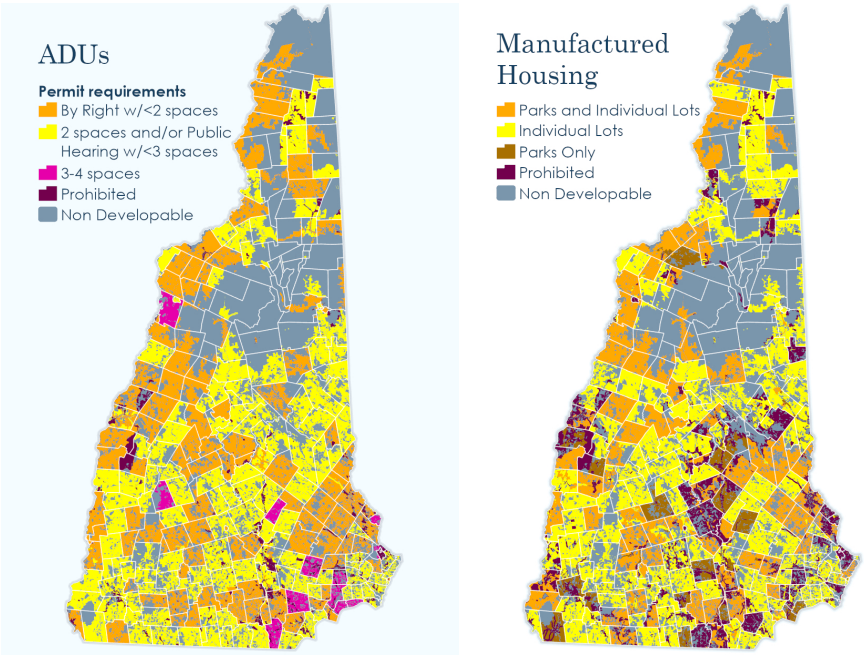

Figure 4: ADU Restrictions and Manufactured Housing

Other ADU regulations can be more restrictive. Only 33% of the buildable land area is available for attached ADU development without owner-occupied requirements. Only 35% of the buildable land area is available for detached ADUs as well as attached ADUs by right. On 57% of the buildable acreage, larger ADUs of 1,000 square feet or more are allowed. Finally, only 11% of the buildable land area is available for ADUs under all of the preceding conditions.

3.2.3 Manufactured Housing

Figure 4 also displays where manufactured homes are permitted in parks or on individual lots, or prohibited entirely. Manufactured housing is allowed on 85.1% of the buildable acreage of the state and forbidden on 14.9% of the buildable acreage. However, only 40% of the buildable acreage is zoned for *either* manufactured housing parks or subdivisions *or* manufactured homes on small ($<$ 1 acre, $<$ 200 feet of frontage) lots, the naturally affordable typologies. Moreover, this percentage would fall if manufactured housing parks and subdivision districts with strict maximum density limits were eliminated. Figure 5 shows where these possibly more affordable manufactured housing typologies may be found. "Prohibited" in this map means that no presumptively *affordable* manufactured housing typology is available.

Other than the three jurisdictions that completely prohibit manufactured housing (Seabrook Beach Village District, Mountain Lakes Village District, and

Hart's Location), the jurisdictions that allocate the least buildable acreage to manufactured homes are Hollis (0.7%), Windham (1.1%), Eaton (1.2%), Brentwood (1.9%), and Somersworth (3.6%). In general, rural and suburban areas allot more land to manufactured housing, perhaps the only area of zoning we track where suburbs regulate less than center cities do. The most densely populated city in the state, Manchester, lets manufactured homes be placed on only 62.5% of its buildable acreage. However, densely populated and extremely wealthy New Castle allows manufactured homes on its entire land area. Wealthy Rye lets manufactured homes on 98.7% of the area under its jurisdiction. This otherwise surprising fact is consistent with other waterfront jurisdictions that tend to be favorable to manufactured housing, such as Bristol, Bridgewater, and Center Harbor. In total, 87 jurisdictions (82 inhabited) allow manufactured housing in some development pattern on their entire land area.

One hundred thirty-eight jurisdictions prohibit manufactured housing parks and subdivisions on their entire land area. Only 29 jurisdictions allow them on their entire land area. Other than towns without zoning, they are Bristol, New Durham, Middleton, Deering, Strafford, Piermont, Colebrook, Columbia, Stratford, Sandown, Whitefield, and Thornton.

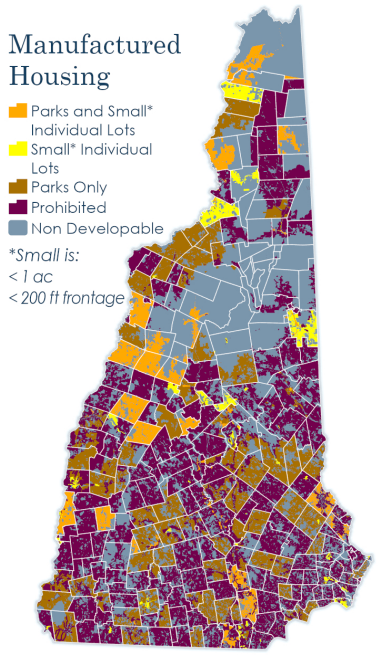

Figure 5: Manufactured Housing Typologies Map

Thirty-four districts around the state allow manufactured housing parks or subdivisions only at a density of one unit per acre or less, which is unlikely to be attractive to households in that market because of the land expense. Those districts are Forestry and Rural in Meredith, Commercial and Rural Residential in Sandwich, Residential and Rural/Agricultural in Chesterfield, Residential Agricultural in Rindge, I, II, III, and IV in Bethlehem, A and D in Lisbon, Commercial/Recreation and Rural/Agricultural in Bennington, Agricultural in Goffstown, Mobile Home-2 in Hollis, General in Hudson, Manufactured Housing Overlay in Allenstown, Rural Residential in Loudon, Rural Residential 3 Acres, Rural Residential-2, Sports Complex/Residential, and Town Center in Atkinson, Mobile Homes in Danville, Industrial-Business/Residential in North Hampton, Middleton 4 Corners, Residential-Commercial/Industrial, Rural Residential, and Sunrise Lake in Middleton, Agricultural-Residential in Strafford, Residential and Rural in Cornish, Rural-

Residential in Plainfield, and Rural-Residential in Sunapee.

3.2.4 Commercial and Industrial Uses

Figure 6 shows where at least one general category of commercial use is allowed, either by right or by conditional use permit or special exception. (Nonresidential uses usually require site plan review in New Hampshire.) A general commercial use could be retail shops, medical facilities, professional offices, factories, hotels, and so on. Utilities, schools, churches, owner-occupied bed and breakfasts, agriculture, forestry activities, and the like do not count as general commercial uses per National Zoning Atlas methodology. In total, 52.6% of New Hampshire's buildable acreage is available for at least one general category of commercial use.

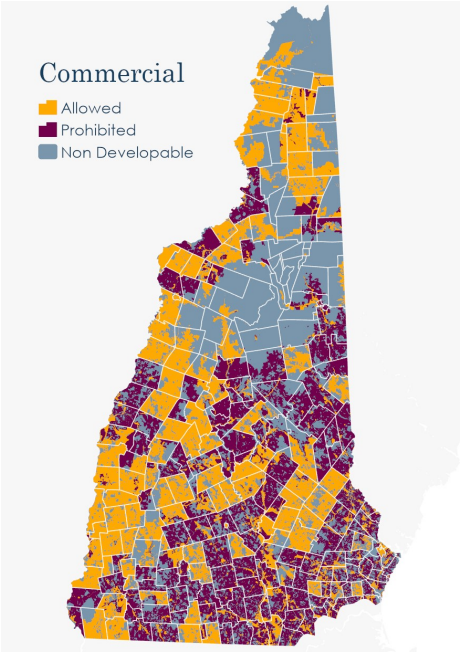

Figure 6: Commercial Use Map

Seventy-four jurisdictions (71 inhabited) allow some general commercial uses across the entire jurisdiction, excluding only unmapped areas such as wetland buffers. Only three jurisdictions prohibit general commercial uses across the entire jurisdiction: Orange, Sharon, and Kearsarge Lighting Precinct. Other than these, the most restrictive jurisdictions for commercial are Hancock (less than 0.1% of the buildable land area available), Harrisville (0.2%), Little Boar's Head (0.7%), Landaff (0.7%), and Eaton (1.2%).

New Hampshire municipalities are more favorable to commercial uses than small-lot housing developments in part because commercial development raises the tax base, reducing the tax rate required for homeowners to fund local government. Small-lot residential development also raises the tax base and might reduce the tax rate, but it also increases the supply of housing, reducing the rate of growth in the value of existing homes, providing incumbent homeowners a self-interested reason to oppose it.

4 Conclusion and Further Uses of the Atlas

It will be tempting for researchers to use the New Hampshire Zoning Atlas to come up with a summary index of how restrictive each jurisdiction's zoning is.

Facilitating comparisons of zoning stringency is indeed one possible use of the atlas. However, it is worth noting that to create such an index, the data from the atlas would need to be complemented by jurisdiction-level information, such as growth control ordinances, impact fees, and unique aspects of code enforcement such as requiring an engineer to be present for construction. Moreover, the timeliness of land use boards' acting on applications and the behavior of boards of adjustment in granting variances can't be captured by reading the ordinances. Still, the data from the zoning atlas could be an important element in creating such an index.

The data in this atlas could be used in tandem with a parcel-level investigation of building locations and densities to conduct a buildout analysis, that is, to estimate the number of dwelling units theoretically permitted under current zoning. To compare zoning stringency across jurisdictions it would be necessary to do this kind of analysis, because as noted above, already built-out jurisdictions are more likely to allow small-lot development, but that fact doesn't mean that there are many opportunities for additional development.

For researchers, further uses of the data could involve comparisons across sharp, plausibly exogenous discontinuities in zoning districts. For instance, if neighboring jurisdictions have extremely different zoning regimes, then we should expect more production in neighborhoods that are just across the border in the less regulated jurisdiction than in those neighborhoods that are just across the border in the more regulated jurisdiction (Dong 2021). Other interesting questions could be whether public hearing requirements significantly affect outcomes; to answer this question, municipalities with similar densities and similar dimensional requirements for a particular type of housing, but different treatments in terms of by-right versus public hearing, could be compared.

The atlas also has uses for industry professionals and policymakers. Industry professionals can quickly get a first glimpse at how a particular parcel is regulated, or how different towns compare in their general approaches to zoning. Policymakers can investigate opportunities for reform, including regulations that seem self-defeating, unnecessary, or outdated. (Some of these are highlighted in the "Special Notes" column.)

The atlas will continue to be updated with corrections, which may be sent to ethics@anselm.edu, and with amendments enacted over the course of the preceding year(s). At present, the plan is to update the atlas annually with data valid as of June 1st of each year, and to maintain a consistent time series for research purposes.

The New Hampshire Zoning Atlas will remain an integral part of the National Zoning Atlas and will continue to provide critical information on the formal legal treatment of housing development in the Granite State.

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