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Permissibility of Unlisted Zoning Uses Report

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Zoning a new land use: silence in zoning ordinances and consequences for renewable energy

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Introduction

Over the next several decades, the electricity grid is on track to transition away from reliance on fossil-fuel burning power plants and toward renewable electricity generation, which will entail the siting and construction of utility-scale renewable electricity generation projects across the country.¹ While technical and engineering challenges of such a transition are well understood, one key policy dimension of building these projects is, as yet, understudied: zoning authority. This paper examines the complexities of state and local zoning authority as it applies to renewable energy production. Because renewable energy production is a relatively new category of land use, in many parts of the United States, municipalities and counties lack language in their zoning ordinances adjudicating exactly how renewable energy infrastructure should be zoned. This leaves open potentially important questions about how exactly unlisted land uses are governed, leading us to our central research question: in each state, if zoning ordinances do not explicitly list a certain land use, is it prohibited, permitted, or is there a process by which it must be approved? We sought to investigate the significance of these “silences” in zoning ordinances across the US. The first section of this paper provides background on zoning authority in the United States, briefly outlining the history of zoning laws, the principal doctrines of local government authority, and the degree to which zoning authority is devolved from state to state. The second section of this paper centers on a state by state examination of the significance of “silences” in zoning code on renewable energy production as a potential land use.

Background

History of State and Local Zoning Laws

The emergence of land use policies -- and subsequent zoning laws -- is a relatively new phenomenon in the U.S. Well into the 20th century, many cities across the U.S. lacked any formalized zoning laws. In 1916, New York City was the first city to establish zoning codes. As cities continued to grow and urbanization became central to American life, land use and zoning regulations emerged as a pressing issue.² Even today, land use policies vary widely across the country, broaching many questions regarding the complex impact of local zoning laws on the establishment of renewable energy systems across communities.

The U.S. Constitution makes mention of neither local governments nor local powers. Under the 10th Amendment, all powers not explicitly provided to the federal government are delegated to

¹ Edenhofer, O., Pichs-Madruga, R., Sokona, Y., Seyboth, K., Matschoss, P., Kadner, S., Zwickel, T., Eickemeier, P., Hansen, G., Schloemer, S., von Stechow C. (2011). *IPCC: Renewable Energy Sources and Climate Change Mitigation*. London, UK: Cambridge University Press.

² Stewart, K. (2018, August 29). *A Brief History of Land Use Regulation*. Kaplin Stewart Blog.

the States.³ Furthermore, the Constitution provides States the power to determine and govern the limits of property rights and land use within their jurisdiction.⁴ This has produced considerable variance in state-local land use relations, including where and how localities can zone renewable energy projects.⁵ Today, across states, local governments often hold the legal authority to zone their localities.

Local zoning authority was first broadly debated in the 1926 Supreme Court Case, *Village of Euclid vs. Amber Realty Co.* In the case, the Court upheld the constitutionality of local zoning authority as a permissible use of local police power.⁶ While the case's zoning concerns regarded housing, the Court's ruling applied to zoning writ large. This set national precedent for State Courts who had previously been split on the constitutionality of local zoning authority.⁷ Hence, with the new national precedent, the mid-twentieth century became a turning point for solidifying local power over zoning. Today, however, there are still a myriad of detailed, stated and unstated, contradicting, and confusing policies that drastically shape zoning in communities.

While local authority is frequently provided by each state through either the state constitution or state statute, each state has its own distinctive method to address local planning⁸ and how they authorize or prohibit local zoning powers.⁹

Historically, the authority of local government has been defined primarily by two rules: Dillon's Rule and home rule. Broadly speaking, Dillon's Rule describes a doctrine of limited local authority, while home rule provides broader local governing authority. Differences between states in the provisions of local governing authority have significant implications for zoning practices and procedures.

Dillon's Rule: background and origin

Dillon's Rule is a governance doctrine that describes the relationship between state and local government, setting strict boundaries on the authority of local government. Fundamentally, Dillon's Rule views municipalities as subdivisions of the state that exist to perform tasks of the state at the local level. Under Dillon's Rule, local government power is restricted to three

³ U.S. Const. amend. X.

⁴ Nolon, J. R. (2005). Historical Overview of the American Land Use System: A Diagnostic Approach to Evaluating Governmental Land Use Control. *Pace Envtl. L. Rev.*, 23, 821.

⁵ Dupuis, N. et al. (2018). *City Rights in an Era of Preemption: A State-by-State Analysis 2018 Update*. National League of Cities, 5.

⁶ *Vill. Of Euclid v. Ambler Realty Co.*, 272 U.S. (1926).

⁷ Fischel, W. A. (2004). An economic history of zoning and a cure for its exclusionary effects. *Urban Studies*, 41(2), 317-340.

⁸ *Modernize State Planning Laws*. (2020). American Planning Association.

⁹ Hollister, T.S. et al. (2007). *National Survey of Statutory Authority and Practical Considerations for the Implementation of Inclusionary Zoning Ordinances*. National Association of Home Builders.

domains: powers explicitly granted by the state, powers necessarily and fairly implied from those expressly granted, and powers crucial to the functioning of local government¹⁰.

Dillon's Rule was named after Judge John F. Dillon of Iowa in the case of *City of Clinton v. Cedar Rapids & Missouri* (1868). In the case, the Court ruled that a city's powers were limited by the state legislature -- the city could not block construction of a state authorized railway on its streets.¹¹ He wrote,

*"Municipal corporations owe their origin to, and derive their powers and rights wholly to the legislature. It breathes into them the breath of life, without which they cannot exist. As it creates, so it may destroy..."*¹²

While Judge Dillon himself coined the name "Dillon's Rule", the concept of state control over local municipalities had been previously articulated. In the case of *Stetson v. Kemp* (1816), the Massachusetts Supreme Court concluded that towns are "creatures of the legislation" and can exercise "only the powers granted to them."¹³

Though Dillon's Rule faced robust opposition (discussed further below), it was upheld by the U.S. Supreme Court in *Hunter v. City of Pittsburgh* (1907) and again in *Trenton v. New Jersey* (1923).¹⁴ As precedent grew, Dillon's Rule became a guiding principle for local governments across the country. Most recently, in 1982, the US Supreme Court discussed the limited power of local municipalities in the case of *Community Communication Co. v. Boulder*.¹⁵ The Court stated,

*"All sovereign authority within the geographic limits of the United States resides either with the Government of the United States or the States of the Union... There may be cities, counties, and other(s) but they are all derived from, or exist in, subordination to one or the other of these..."*¹⁶

¹⁰ Richardson, J. (2011). Dillon's Rule is from Mars, home rule is from Venus: local government autonomy and the rules of statutory construction. *Publius: the journal of federalism*, 41 662-685.

¹¹ Mead, T. D. 1997. Federalism and state law: Legal factors constraining and facilitation local initiatives. In *Handbook of local government administration*, ed. J. J. Gargan. 31-45. New York, NY: Marcel Dekker.

¹² Richardson, J. (2011). Dillon's Rule is from Mars, home rule is from Venus: local government autonomy and the rules of statutory construction. *Publius: the journal of federalism*, 41 662-685.

¹³ Richardson, J. (2011). Dillon's Rule is from Mars, home rule is from Venus: local government autonomy and the rules of statutory construction. *Publius: the journal of federalism*, 41 662-685.

¹⁴ *Hunter v City of Pittsburgh*. Supreme Court. 18 Nov. 1907. *Find Law*. N.p., n.d. Web. 5 Aug. 2015. <<http://caselaw.findlaw.com/us-supreme-court/207/161.html>>.

¹⁵ *Community Communication Co. v. Boulder*, 455 U.S. 40 (1982).

¹⁶ *Community Communication Co. v. Boulder*, 455 U.S. 40 (1982).

Home rule: background and origin

Through the latter portion of the nineteenth century, as Dillon's Rule became a guiding principle of state and local governance, resistance emerged as well: many states felt that local governments should be granted more authority than Dillon's Rule provided. Thus, the home rule movement emerged.¹⁷

The "home rule" doctrine grants localities greater control and governing abilities as they see fit. However, this autonomy is only permitted through a state's Constitution or legislation that explicitly extends "home rule" powers to local governments.¹⁸ In contrast with Dillon's Rule, foundational to home rule is the notion that each level of government -- federal, state, and local -- have separate realms of authority. Fundamentally, home rule advocates sought to secure local control over matters of local concern.¹⁹

The doctrine of local governance was first articulated by Judge Thomas M. Cooley of the Michigan Supreme Court. In his opinion on the case *People v. Hurlburt* (1871) he outlined the Cooley Doctrine which explained local municipalities' intrinsic rights of autonomy and self-governance.²⁰ Judge Cooley expressed that the State of Michigan could not, by statute, undertake the administration of a city and the appointment of municipal officials. He stated:

*"State may mould local institutions according to its views of policy expediency; but local government is a matter of absolute right; and the state cannot take it away."*²¹

Today, home rule is widespread across the country. However, the definition and implementation of home rule varies greatly across states - in some states, home rule is granted automatically for cities above a certain population threshold, and other states require enabling legislation. For example, while Michigan is a Dillon's Rule state, through state-level legislative action, any municipality can be granted home rule privileges. In Arizona, on the other hand, home rule is "self-executing" for towns with populations of over 3,500 inhabitants.²²

¹⁷ Richardson, J. (2011). Dillon's Rule is from Mars, home rule is from Venus: local government autonomy and the rules of statutory construction. *Publius: the journal of federalism*, 41 662-685.

¹⁸ Richardson, J., Gough, M., Puentes, R. (2003) Is home rule the answer? Clarifying the influence of Dillon's Rule on growth management. *The Brookings Institution*.

¹⁹ Krane, D., P. N. Rigos, and M. B. Hill Jr., eds. 2001. Home rule in America: A fifty-state handbook. Washington, DC: Congressional Quarterly Press.

²⁰ *People v. Hurlburt*, 24 Mich. 44 (1871).

²¹ Richardson, J., Gough, M., Puentes, R. (2003) Is home rule the answer? Clarifying the influence of Dillon's Rule on growth management. *The Brookings Institution*.

²² Russel, J., Bostrom A. (2016). Federalism, Dillon Rule and home rule [White Paper]. *American City County Exchange*.

Dillon Rule and Dillon-Home Rule States

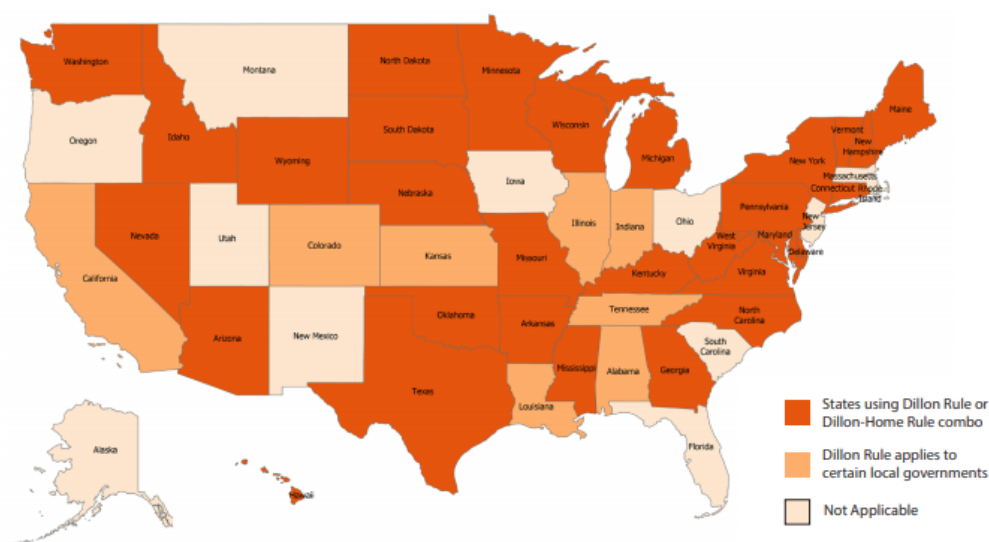


Figure 1: Dillon's Rule and home rule by state (Nebraska LRO, 2020)

Dillon's Rule vs home rule: a complex relationship

The relationship between home rule and Dillon's Rule is subtle – few states in the US assign zoning authority exclusively by one of the other (Figure 1). Indeed, most states in the US employ both, under different circumstances. States fall into three broad categories: while 10 states do not apply Dillon's rule at all, 31 apply it to all local governments, 8 states apply the rule only to certain municipalities (in Florida, case law conflicts). No state reserves all power to itself, and none devolve all authority to local governments – states vary across a gradient of local authority.²³

Furthermore, it would be misguided to interpret home rule and Dillon's rule as a dichotomy, or as mutually exclusive. Rather, while they both relate to government autonomy, they interact in subtle ways, which, as discussed, differ across states. Critically, “home rule” has no explicit definition in the way that Dillon's Rule does – in fact, the Chicago home rule Commission once famously argued that there is no term in legal literature “that is more susceptible to misconception and variety of meaning than ‘home rule.’”²⁴ Legal theorists have employed at least four distinct methods of categorizing variants of home rule. The first is based on how the

²³Richardson, J., Gough, M., Puentes, R. (2003) Is home rule the answer? Clarifying the influence of Dillon's Rule on growth management. *The Brookings Institution*.

²⁴ Richardson, J., Gough, M., Puentes, R. (2003) Is home rule the answer? Clarifying the influence of Dillon's Rule on growth management. *The Brookings Institution*, 7.

grant operates (operational categorization),²⁵ and the second, based on the structure of the grant (structural categorization)²⁶. Other scholars classify home rule based on the source of authority from which it emerges--either the state constitution, or state legislation.²⁷ And finally, a fourth categorization method differentiates between whether the home rule provision grants authority to local governments directly, or instead decides the rule for judicial review of these grants of authority.²⁸

Even these categories, however, are imperfect, and more recently, scholars have pointed out that direct comparisons between Dillon's Rule, a rule of statutory construction, and home rule—a much more amorphous concept—is misguided. Jesse Richardson (2011) argues that in reality, local government autonomy falls along a continuum with no clear demarcations.²⁹

While classifying states as they apply Dillon's rule is a useful starting point for assessing the power of local government, it does not describe the full scope of this power.³⁰ Because we are interested in examining these two approaches as they relate to zoning authority, it is most productive to focus on home rule and Dillon's Rule as they pertain directly to local government authority. The realized impact of Dillon's Rule on local autonomy takes two forms. First, legislation passed by a local body is subject to legal challenge, allowing for courts to strike down laws that it deems outside of the locality's jurisdiction. And second, Dillon's Rule may have an indirect "chilling effect" on local governments, causing them to hesitate to use the full extent of their authority, for fear of a court challenge.³¹ If a state has granted a municipality with some form of home rule, then, it does not face the same threat of challenge, and is thus in theory is less constrained in its legislative action. This is particularly relevant cases in which left-leaning cities in conservative states seek to enact more stringent regulations than those that the state has in

²⁵ Welch, J. 1999. Home rule doctrine and state preemption—The Iowa Supreme Court resurrects Dillon's Rule and blurs the line between implied preemption and inconsistency. *Goodell v. Humboldt County*, 575 N.W.2D 486 (Iowa 1998). *Rutgers Law Journal* 30: 1548–1564.

²⁶ Mead, T. D. 1997. Federalism and state law: Legal factors constraining and facilitation local initiatives. In *Handbook of local government administration*, ed. J. J. Gargan. 31–45. New York, NY: Marcel Dekker.

²⁷ Welch, J. 1999. Home rule doctrine and state preemption—The Iowa Supreme Court resurrects Dillon's Rule and blurs the line between implied preemption and inconsistency. *Goodell v. Humboldt County*, 575 N.W.2D 486 (Iowa 1998). *Rutgers Law Journal* 30: 1548–1564.

²⁸ Richardson, J., Gough, M., Puentes, R. (2003) Is home rule the answer? Clarifying the influence of Dillon's Rule on growth management. *The Brookings Institution*.

²⁹ Richardson, J. (2011). Dillon's Rule is from Mars, home rule is from Venus: local government autonomy and the rules of statutory construction. *Publius: the journal of federalism*, 41 662-685.

³⁰ Bluestein, F. S. 2006. Do North Carolina local governments need home rule? *North Carolina Law Review* 84: 1983–2029.

³¹ Richardson, J. (2011). Dillon's Rule is from Mars, home rule is from Venus: local government autonomy and the rules of statutory construction. *Publius: the journal of federalism*, 41 662-685.

place (e.g. a plastic bag ban) - a Dillon's Rule city faces greater threat of having the legislation overturned in court.³²

The potential for a court challenge has considerable implications for zoning decisions concerning renewable energy projects. This was exemplified by a recent case in Maryland, in which the Maryland Court of Appeals decided that state agencies have ultimately authority to approve the development of electricity generation, thus preempting any objections from localities in the siting of renewable energy projects.³³ As the transition to renewable energy accelerates, such cases are likely to emerge across the US, shaping zoning authority in each state - this will be examined in greater depth in our analysis.

The varied definitions of “local” government

Thus far, we have briefly delineated the complex relationship between state and local governance authority as it is defined by Dillon's Rule and the range of local governance arrangements referred to broadly as “home rule.” These arrangements, however, are further complicated by the fact that with regard to sub-state government zoning authority, “local” does not have a static, uniform definition across all states. In some states, counties hold greater authority, and in others, this authority sits with towns and cities; once again, these authority arrangements fall across a gradient.

While most cities and towns zone their own land (only in Alaska and Hawaii do counties hold unilateral zoning authority), the details vary widely from state to state. Most of the differences emerge in the zoning of unincorporated land--land that is not part of a municipality. In much of the west and southeast, counties zone unincorporated areas, while in much of the Midwest, both counties and townships are implicated in zoning unincorporated land, and in Texas, Oklahoma, and Alabama, counties must meet certain requirements to zone. In much of the northeast, there is no unincorporated land, and thus all land is zoned by townships (in these states, the equivalent of municipalities), and finally, in New York, unincorporated land is zoned by townships, and municipalities zone their own land.³⁴

Thus, the meaning of “local” zoning authority varies considerably across the US, further complicating the variation in how Dillon's Rule and home rule are applied, which, in turn, has implications for the zoning of renewable energy projects. Figure 2 demonstrates sub-state zoning authority in each state.

³² Russell, J. D., and Bostrom, A. (2016). *Federalism, Dillon Rule and home rule* [White Paper]. American City County Exchange.

³³ *Bd. of Cty. Commissioners of Washington Cty. v. Perennial Solar, LLC*, (July 15, 2019).

³⁴ Lo, L. (December 9, 2019). Who zones? Mapping land use authority across the US. [Blog Post]. Retrieved from: <https://www.urban.org/urban-wire/who-zones-mapping-land-use-authority-across-us>.

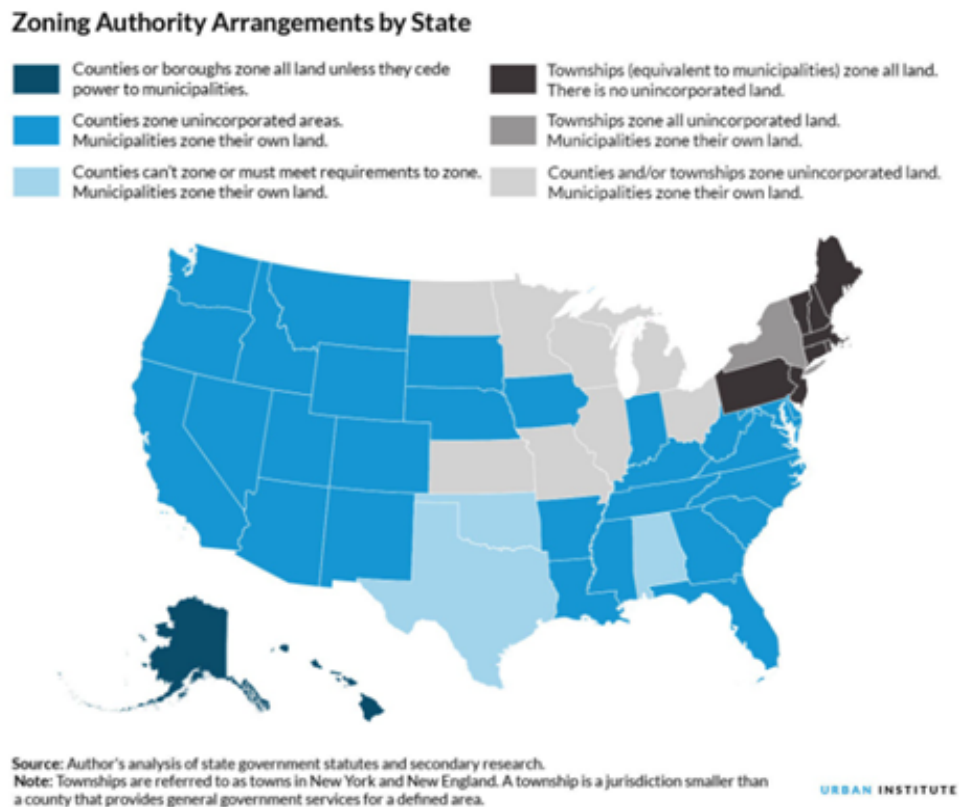


Figure 2: Zoning authority by state (Urban Institute, 2019)

Thus, existing research on state and local authority as it pertains to zoning leaves open some critical gaps in our understanding of how renewable energy projects are governed. We have thus far provided a brief history of zoning authority, examined home rule and Dillon's Rule and the varying ways in which they are deployed and interact, and elucidated the meaning of "local" in zoning authority. An important question remains, however: if state and local zoning law are silent about the legality of a certain land use, does that mean that use is allowed, forbidden, or something in between? This is particularly important in the context of zoning for renewable energy projects – if rules for renewables are not specifically delineated in state or local code, how do governing bodies decide whether or not they are permissible. Our analysis will attempt to answer this question, examining the way that these zoning "silences" are interpreted in the zoning of renewable energy projects and how unlisted zoning uses are treated.

Permissibility of Unlisted Zoning Uses

State by State Analysis

To conduct this analysis, we researched zoning codes and laws in every state to find trends in how governing bodies treated unlisted uses. First, we found that for the vast majority of states,

zoning code decisions are devolved to the county or municipal level; thus, most of our research focused on assessing trends in the definition of zoning silences in a few key counties and cities. There were, however, several states that had state wide comments or determinations on the topic. From this, we have created a [table](#) that indicates the trend of how unlisted zoning uses are treated in each state. As zoning is often a local power, most of the language comes from local zoning ordinances -- city, county, township, etc. -- instead of from a state statute or mandate.

Across states, the trends of unlisted zoning uses broadly fall in the following four categories:

Prohibitive: Across the state, if a zoning use is not listed in a jurisdiction's zoning code or ordinance, it is a prohibited use.

Permissive: Across the state, if a zoning use is not listed in a jurisdiction's zoning code or ordinance, it is permitted unless otherwise explicitly prohibited.

Process for Approval: Across the state, if a zoning use is not listed in a jurisdiction's zoning code or ordinance, there is a process that is followed to determine the use's permissibility. This often means it will go before the local zoning authority to make a judgement on an individual use or to add language to the ordinance regarding a use's permissibility. This judgment often takes into consideration if the use is similar to an already listed use, and if so, is often permitted. However, this decision is solely up to the zoning authority to make the judgement.

Depends: There seems to be no trend across the state. All jurisdictions seem to have language that follows the above categories, however, how an unlisted zoning use is treated differs greatly by locality.

Our research shows that nearly half of the states (24) follow a prohibitive trend (Figure 3). In these states, many local zoning codes explicitly state that unlisted uses are not allowed. In 16 states, however, zoning codes seem to lay out a process that unlisted uses must go through to decide their permissibility. It is important to note that often within jurisdictions with a process for approval, until a use is specifically approved as a permissible use, it is prohibited. 9 states seem to not follow any one direct trend; localities differ in their interpretations of silence and unlisted uses are treated differently across jurisdictions. Lastly, only 1 state, North Dakota, seems to have a trend of permissibility across jurisdictions. Even with this more liberal interpretation of silence, the zoning codes do not explicitly state that all unlisted uses are permissible. Instead, the language implores zoning authorities to make "similar use" interpretations,³⁵ inherently advocating for a more permissible interpretation of silence.

³⁵ Refer to [Table](#) for North Dakota locality zoning ordinances.

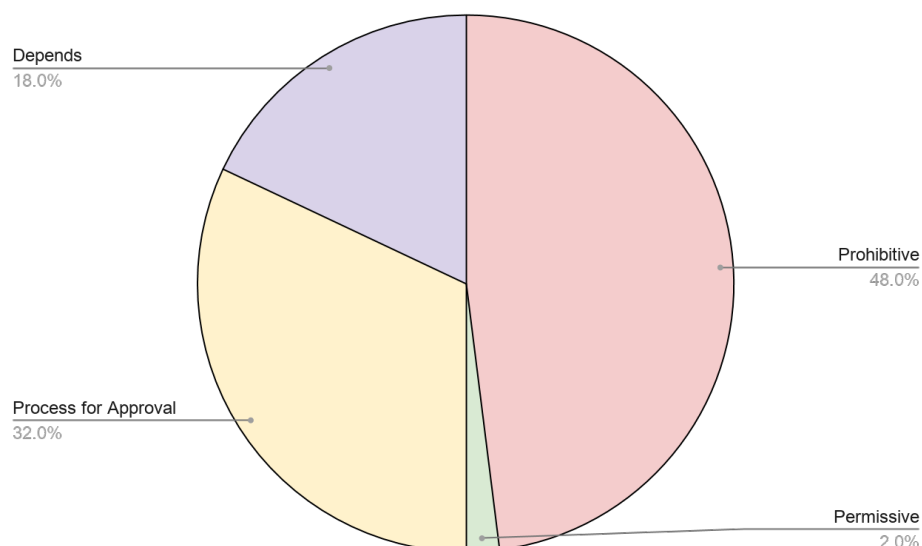


Figure 3: Permissibility of unlisted zoning across 24 states.

Key Trends in Findings

Zoning regulations often explicitly state permissible and prohibited uses within a municipality. However, as wind and solar electricity generation have exploded in the past decade or so, zoning ordinances seem to lag behind in creating zoning language around renewable energies. This creates a wide-spread conundrum: How should renewable energy uses be treated when zoning laws fail to mention any type of renewable energy?

Zoning ordinances - largely prohibitive

Our research provides evidence that in the plurality of jurisdictions across the country, silence in a zoning ordinance on a given land use implies that it is prohibited. Furthermore, this is almost exclusively decided at a municipal and county level - for a state statute to explicitly address this issue is quite rare. This trend is true in states such as **Indiana**³⁶ or **Montana**.³⁷ **North Carolina** and **Wisconsin** seem to be an exception to this trend in that in both, the state's Court of Appeals directly ruled on this question, leading to a state-wide, formalized interpretation of silence, and in both cases, courts ruled that unlisted zoning uses should be prohibited³⁸ and seem to be the only instances in which state governing bodies exert authority over this subject. This may create

³⁶ Richardson, J. J., Jr., Farris, J. O., & Harrison, G. A. (2002, February). The Law Behind Planning & Zoning in Indiana. Retrieved from <<https://www.extension.purdue.edu/extmedia/id/id-268.pdf>>.

³⁷ Missoula County. (2017, April 11). Missoula County Zoning Regulations: Chapter 2 Zoning Districts. Retrieved from <<https://www.missoulacounty.us/home/showdocument?id=25015>>;

Bozeman, Montana. (2016, Sept. 28). Article 3. Zoning Districts & Land Use. Retrieved from <<https://www.bozeman.net/Home/ShowDocument?id=2976>> ;

Yellowstone County. (2019, May). Yellowstone County Zoning Regulations. Retrieved from <<https://ci.billings.mt.us/DocumentCenter/View/34962/Yellowstone-County-Zoning-Code>>.

³⁸ Aaron Byrd v. Franklin County, North Carolina (North Carolina Court of Appeals November 18, 2014).; Foresight, Incorporated v. Daniel Babl (Wisconsin Court of Appeals May 6, 1997).

precedent for future courts across the country to take a conservative approach and interpret zoning ordinances as prohibitive, which, then, may have a chilling effect on the further deployment of renewable energy infrastructure. Already, zoning language tends towards prohibitive in most states; an increase in statewide mandate would further entrench this trend, which may further entrench barriers to the deployment of renewables.

“Similar use” language

However, there are some caveats to this interpretation. Some localities will explicitly state a process or “rule of thumb” to follow for unlisted uses. Take **Bozeman, MT** for example. The Bozeman Zoning Code has a nuanced approach to interpreting unlisted uses, “If a specific use is not listed and cannot be interpreted to be the same, or so similar so as to be interpreted the same, as a listed accessory, principal or conditional use, the use shall not be allowed.”³⁹ Bozeman is not unique in its grey methodology. Many other municipal zoning codes across the country discuss processes to determine the permissibility of an unlisted use. Until approval is granted, however, unlisted uses are often prohibited.

Bozeman, Montana’s “similar use” interpretation of unlisted uses is not unique. Instead, it is one of the most interesting and prevalent trends we have found. Even with general prohibitive language, many zoning ordinances explicitly state that an unlisted use is permissible if it is similar to a use explicitly permitted within the ordinance or code. This language is common in localities across the country in states ranging from **California** to **Iowa** and **North Dakota**. The interpretation of what ‘similar’ means, however, is not as clear and often may need to appear before the zoning authority for clarification. Additionally, when there is a process for a zoning authority to determine an unlisted use’s permissibility, the zoning ordinance often states key factors that must be considered. For example, **Stevensville, MT**’s zoning code states that “if the specific use is not listed...the town council and the planning and zoning board shall consider the following...”⁴⁰. The code goes on to list four factors -- including if the use is similar to a permitted use -- that must guide the zoning authority’s decision. We found this type of language to be common in localities across the country. When it comes to the installation of residential renewable energy systems such as solar panels, “similar use” interpretations could play a major role in the permissibility of such land uses. Therefore, further understanding these interpretations will help decide how well certain counties can attract and implement renewables into their residential areas.

Implications for renewable energy

³⁹ Bozeman, MT Ord. No. 1645, § 18.14.050, 8-15-2005; Ord. No. 1769, exh. D (18.14.050), 12-28-2009. Retrieved from <<https://www.bozeman.net/Home/ShowDocument?id=2976>>.

⁴⁰ Stevensville, Montana Zoning Ordinance. Retrieved from <https://library.municode.com/mt/stevensville/codes/code_of_ordinances?nodeId=COOR_CH10DECO_ARTIVLAUS_S10-214ZOMA>.

Zoning language (or lack thereof) and its interpretation can have substantial implications for the expansion of renewable energy usage. Such language can create incentives or disincentives for installing renewable energies. Take for example various localities in **Washington**. Across the state, local jurisdictions such as Tacoma, WA and Island County, WA seem to take a liberal stance on silence. Their zoning ordinances interpret the lack of explicit mention of a use as permissible. In **Tacoma, WA** allowable uses include both those mentioned as permissible within the ordinance as well as any other use not explicitly prohibited.⁴¹ In **Island County, WA**, the zoning ordinance clearly states that “there is no presumption that a use that is not listed is or should be prohibited.”⁴² Such interpretations provide tremendous leeway for residents who would like to add renewable energy systems, such as solar panels, to do so and consequently reduces potential barriers to renewable energy installation. On the other hand, many jurisdictions interpret silence conversely; only uses which are explicitly mentioned as permissible are allowed. All other uses – whether specifically forbidden or not listed – are prohibited. This can make it much more difficult for the installation of renewable energies. Because no mention of solar panel use means they are prohibited, residents must go through a time-consuming process to appeal to the Zoning Board to get special permission or to add explicit use language to the zoning ordinance. This lengthy process may be frustrating and disincentivize the installation of renewable energies in the community.

State Vignettes

To illustrate our findings in greater detail, and examine particularly interesting dimensions of our findings, we have chosen two brief vignettes below. The first is the state of Florida, which tends toward prohibitive zoning language, and the second is Massachusetts, which has a similarly prohibitive trend, but has begun to address any challenges this may cause in zoning renewable energy in an interesting way.

Florida

Overall, the trend seen against unlisted land uses in Florida were prohibitive. In St. Petersburg, the zoning ordinance states that: “any use not listed in the use matrix is presumed to be prohibited.”⁴³ In Lake County, Florida the ordinance states that, “A use or structure not identified as a permitted use or conditional under the applicable zoning district listed in the Schedule of Permitted and Conditional Uses, shall be prohibited.”⁴⁴ Lastly, in Palm Beach County the county

⁴¹ Capital Region Council of Governments. (July 2016). 9. Streamlined Zoning, De-zoning, and More: Detailed Technical Analysis. Retrieved from <https://crcog.org/wp-content/uploads/2016/07/Ch09_Technical_Zoning.pdf>.

⁴² Island County, Washington Zoning Ordinance. Retrieved from <https://library.municode.com/wa/island_county/codes/code_of_ordinances?nodeId=TITXVIIZO_CH17.03ISCOZO_17.03.180LAUSST>.

⁴³ St. Petersburg, Florida Zoning Ordinance. Retrieved from <https://library.municode.com/fl/st_petersburg/codes/code_of_ordinances?nodeId=PTIISTPECO_CH16LADERE_S16.60.050SEALEN_16.60.050.1SEALEN>.

⁴⁴ Lake County, Florida Zoning Ordinance. Retrieved from <https://library.municode.com/fl/lake_county/codes/code_of_ordinances?nodeId=APXALOLA_CHIIZODIRE>.

also lays out their own set of land use regulations. Within their land development code, they have an extensive list of prohibited and permitted uses for different zoning districts.⁴⁵

Massachusetts

Zoning ordinances in towns in Massachusetts tend to be prohibitive. In Boston, every section of the zoning ordinance includes a clause noting that “any use not included above is forbidden.”⁴⁶ Worcester’s code states that any building or use not expressly permitted is prohibited, and does Cambridge’s code.^{47,48} However, perhaps because of this, over the past decade, the state has worked with several cities and outside legal council and planning consultants to help other municipalities create zoning ordinances for renewable energy. This resulted in the state’s department of energy producing a guidance document for regulating solar energy systems in 2014, which discusses the relevant state statutes, and a separate document, the Model Zoning for the Regulation of Solar Energy System.⁴⁹ Furthermore, through the Direct Local Technical Assistance Program, the state provided funding for a related guidance document produced by the Metropolitan Area Planning Council, providing guidance on solar permitting and zoning.⁵⁰ This document provides a toolkit for municipalities seeking to create zoning ordinances, along with model bylaws. In my search thus far, I have not encountered any statewide attempts to reform zoning to accommodate renewable energy more recent than these Massachusetts in 2014. Moreover, in the states that I have examined, I found no recent instances in which silence in zoning laws had an impact on local zoning decisions significant enough to make the news.

Future Research

The question of how to treat unlisted zoning uses can lead to important insights and raise further inquiries that have substantial impacts on renewable energy development. In the coming subsections we outline relevant next steps and research questions that can help develop both the

⁴⁵ Palm Beach County, Florida Use Regulations Code. Retrieved from <http://www.pbcgov.com/uldc/Article4_pg2.htm>.

⁴⁶ Boston, MA redevelopment authority. Retrieved from: <https://library.municode.com/ma/boston/codes/redevelopment_authority>.

⁴⁷ City of Worcester Zoning Ordinance. Retrieved from: <<http://www.worcesterma.gov/uploads/f0/14/f0148267580e2df5059c34efb59fc2f0/zoning-ord.pdf>>.

⁴⁸ Cambridge, MA Zoning Ordinance. Retrieved from: <https://library.municode.com/ma/cambridge/codes/zoning_ordinance?nodeId=ZONING_ORDINANCE_ART4.00USRE>.

⁴⁹ Department of Energy Resources (March 2014). Policy guidance for regulating solar energy systems. Massachusetts Executive Office of Energy and Environmental Affairs. Retrieved from: <<https://www.mass.gov/doc/policy-guidance-for-regulating-solar-energy-systems/download#:~:text=No%20zoning%20ordinance%20or%20by,public%20health%2C%20safety%20or%20welfare>>.

⁵⁰ MAPC Municipalities. (December 28, 2014). Solar Permitting and Zoning Bylaw Guidance. Metropolitan Area Planning Council. Retrieved from <<http://www.mapc.org/wp-content/uploads/2017/10/Solar-Permitting-and-Zoning-Bylaw-Guidance.pdf>>.

theoretical and practical understanding of how the treatment of unlisted zoning uses can impact renewable energy systems across the US.

Model renewable zoning ordinances: worth the investment?

The first potentially fruitful area of research centers on the process of creating language in zoning ordinances specifically pertaining to the siting of renewable energy infrastructure. As our research has demonstrated, zoning ordinances often contain language specifying that if a particular land use is not expressly listed in the ordinance, it is prohibited. An even greater percentage of zoning ordinances do not place a blanket prohibition on unlisted uses, but instead, contain language describing a process by which an unlisted use might be approved, which usually involves a decision by a zoning board. And while often, the siting of renewable energy infrastructure likely falls into these “unlisted” categories, zoning ordinances in some jurisdictions explicitly address the zoning of renewable infrastructure.

Furthermore, in some states, such as Massachusetts, the state and local municipal governments have invested considerable resources into coordinating the writing of this zoning language. Either an outside consultant might be brought in to craft model language for municipalities, or the state might coordinate municipalities to assist each other in this process. This process requires investment of state and municipal resources, and thus presumably, the entities engaged and invested in the process see it as a worthwhile investment. This is logical: easing the process by which municipalities alter their zoning ordinances to govern renewable energy would in theory make the process of renewable siting and development more streamlined, thus accelerating the deployment of renewables. It is unclear, however, exactly how effective this investment is.

Thus, a potentially fruitful path of future research would be to examine the efficacy of states and municipalities investing in coordinated efforts to write language in their zoning code about renewable energy. Have states that have invested in these processes seen more rapid renewable deployment? Are municipal and county zoning boards pleased with the results? Investigating these questions could be useful in informing future efforts to streamline zoning processes for renewable energy.

Home rule vs Dillon’s Rule and zoning ordinance language

Where our research has taken us so far is analyzing all the states with a narrower lens on *silencing* within zoning policies and how that could impact renewable energy implementation. However, viewing this from a macroscopic lens could potentially paint a broader picture on why states handle silencing on unlisted land uses. A future question to ask is: Why do counties and local municipalities usually have more concise language on unlisted personal/private land uses than at the state level? Does this correlate with state trends in Home Rule or Dillon’s Rule?

This initial research has provided a proper baseline and foundation to build upon this study. Experts such as zoning officials, state planning commissioners, city administrators, state legislators, as well as land grant and land use experts may have important insights into answering this question. Other potentially important perspectives could include renewable energy developers and residents with renewable energy on their property. Insights into this question can provide valuable understandings regarding how enticing renewables can be to all types of land (private and public).

Who has general control of zoning and the level of government involved?

This question is critical to understanding who determines whether unlisted uses are permissive or prohibited. In addition, our research initially depicted that generally, counties and local municipalities have control of zoning across multiple states. However, we necessarily don't know as to *why* that is. Potential areas to research would be to further analyze the states' statutes, codes and comparing them to county and local ordinances and land use regulations. A meta-analysis of these documents could provide a better understanding on how each level of government influences listed and unlisted land uses.

Impact on Renewable Energy Development & Generation

Another aspect that needs further research is to determine whether or not – and how pressing – silence in zoning ordinances actually impacts the residential development of renewable energy. The establishment of baseline research regarding trends across localities and states in the treatment of unlisted zoning uses can help provide foundational work in answering the following research questions:

- What – if any – direct or indirect impact does silence in zoning ordinances on unlisted uses specifically have on the siting of renewable energy?
- If silence does impact renewable energy siting decisions, what trends do we see in the types of impact? How does prohibitive vs. permissive treatment differ in their impact?
- Are there themes or commonalities across states or localities in the types of impacts?

Further research into these questions can formulate a deeper understanding of the realistic and practical barriers households and communities face as our society becomes more reliant on renewable energy. Additionally, digging into these inquiries can help state and local governments better understand how and in what ways zoning ordinances may impact (promote or hinder) the development of renewable energies. Which, subsequently, can provide a foundation for the creation of clearer zoning ordinance language and potentially more uniform policies across localities and states. It is important to connect with households and landowners, state and local government officials, scholars, and developers to create a comprehensive picture of how the treatment of unlisted zoning uses tangibly impacts local relationships with renewable energy development. This research can provide the building blocks for more in-depth analyses

and discussions regarding the profound effects planning and zoning has on energy production and usage as well as better equip states and localities to best respond to the ongoing transition of our energy sector.

Demographic Trends Across States

With the realization that most states default their zoning authorities to county and local governments, it would be vital to understand certain demographic trends across these states. This would provide a sense if factors such as population, geographic location, racial makeup, etc. are significant in influencing the behavior on defining unlisted land uses. An excellent comparison would be comparing populous counties such as Fulton county, Georgia and Cook County, Illinois with smaller counties in their state such as Rockdale County and St. Clair County, respectively. In regards to geographic location, are there differences in approaching unlisted land uses between western, central, eastern and midwestern states.