

SCHOOL + STATE FINANCE PROJECT



ECONOMIC IMPACTS OF LAND USE REGULATIONS IN CONNECTICUT

How Connecticut's restrictive zoning laws limit economic growth, and why reforms can create more affordable housing

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Key Findings

The following report contains a number of key findings about the economic impacts of Connecticut's land use regulations. This section summarizes these findings and provides a quick glance at some of the report's biggest takeaways.

Connecticut's land use regulations are a structural challenge that have restricted the state's housing supply, increased housing prices, and limited economic growth. (p. 5)

- Connecticut has the eighth largest shortfall between the average wage of a renter and the wage per hour a full-time worker must earn in order to afford the Fair Market Rent for a two-bedroom rental without being housing-burdened (spending more than 30 percent of their wage income on housing).¹ (p. 10)
- The Partnership for Strong Communities has estimated approximately 50 percent of renters and 32 percent of homeowners are housing-burdened.² (p. 10)
- Additionally, Connecticut housing development has not kept pace with the country or other peer states after the Great Recession. (p. 11)

Connecticut has significant land use regulations compared to other states and parts of the country. (p. 8)

- Local control of land use has created significant restrictions on the use of land with specific regard to housing. (p. 8)
- 60 towns (or 36 percent of all Connecticut municipalities) require at least one acre of land to build single family housing, and 25 towns prohibit multifamily housing entirely.³ (p. 8)
- In towns that do allow multifamily housing, 80 towns require multifamily housing to be situated on one or more acres of land.⁴ (p. 8)

Local zoning regulations by local elected entities have contributed to the creation of segregated towns in Connecticut along the lines of income and race. (p. 8)

- According to The Century Foundation, due to exclusionary zoning, one in four Black Americans and one in every six Hispanic Americans in poverty live in high-poverty neighborhoods, as opposed to one in every 13 White Americans in poverty.⁵ (pp. 8-9)
- Within Connecticut, DataHaven found that wealth and poverty are highly concentrated in the state, with 27 percent of high-earning households living in neighborhoods that are predominantly White and wealthy, as compared to 10 percent in other large metropolitan areas.⁶ (p. 9)
- In the Greater Bridgeport and Greater Hartford regions, the percentage of the population that lives in racially concentrated and affluent neighborhoods is greater than the percentage found in most other metropolitan areas.⁷ (p. 9)

Connecticut is experiencing net out-migration in younger demographics that are key to the state's economic future. (p. 6)

- The state is losing population in the key 18-29 age demographic, and experiencing a contraction in the prime working-age demographics. (p. 14)
- Connecticut is currently the eighth oldest state in the country with a median age of 42.7 years.⁸ (p. 6)
- It is one of only 10 states to lose population from 2018 to 2019,⁹ and one of only three states whose population has declined each of the past six years.¹⁰ (p. 6)
- Connecticut is projected to experience an increase of approximately 84,000 residents aged 70 and over from 2015 to 2030.¹¹ (pp. 13-14)
- According to a September 2018 report by S&P Global Ratings, this aging, declining population has contributed to diminished economic growth in Connecticut, and one of the country's "largest contractions of prime working-adults."¹² (p. 6)
- Reforming land use regulations to increase the affordability of housing will pay dividends in attracting younger demographics and prime working-age populations, especially given the proximity of Connecticut to high productivity urban centers such as New York City, and the state's high productivity as a whole. (p. 14)

Enacting land use reforms will help increase housing supply, decrease housing prices, and lead to a more economically just and stable Connecticut. (p. 5)

- As the State of Connecticut has provided municipalities with the flexibility to regulate the nature of residential development within their borders, resulting in municipal zoning codes that are unique to each town, the possible policy reforms to increase economic growth are plentiful. (p. 15)
- At the same time, economic growth is just one of many competing priorities that will shape the current process of residential development and associated zoning regulations. (p. 15)

Introduction

The State of Connecticut is facing structural headwinds that threaten the ability for its residents, taxpayers, and businesses to thrive. One of these structural challenges is Connecticut's land use regulations,^A which have restricted housing supply, increased housing prices, and limited economic growth.

As local zoning codes have resulted in a lack of affordable housing for Black, Indigenous, People of Color (BIPOC) and widespread segregation by race and income, Connecticut has the opportunity to reform land use regulations, not only to right these historical inequities, but to also improve the state's economic outlook and place it on more solid fiscal footing in the aftermath of the COVID-19 pandemic.

The State of Connecticut should use this moment as an opportunity to enact land use reforms that will increase housing supply, decrease housing prices, and lead to a more economically just and stable Connecticut. As an initial next step, this report describes how including the dimension of economic impact and growth in the analysis of land use regulations and development processes can help further this goal.

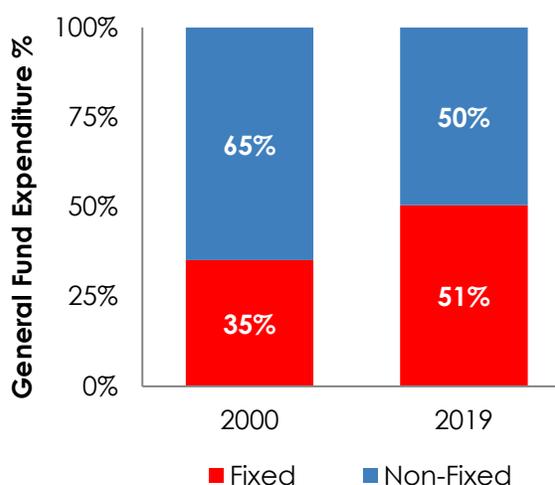
Connecticut's Current Headwinds

Increasing Fixed Costs

The State of Connecticut's budgetary challenges have received significant attention over the past several years. In short, Connecticut is experiencing increasing fixed costs that threaten to squeeze discretionary expenditures. Connecticut's fixed costs have risen from approximately 35 percent of the state's General Fund expenditures in fiscal year 2000 to 50.5 percent of the General Fund's expenditures in FY 2019.^{13,14} On a dollar basis, fixed costs have increased 84 percent over this time period, from \$5.3 billion in FY 2000 to \$9.7 billion in FY 2019.^{15,16} One of the primary drivers of this increase in fixed costs is the contributions to Connecticut's State Employee Retirement System (SERS) and Teachers' Retirement System (TRS).

In order to keep promises to retirees and current employees, and to make up for decades of inadequate contributions, the State has had to increase contributions to the SERS and the TRS substantially in recent years — a trend which will continue over the next few years. Since FY 2000, the State's contributions to the SERS and the TRS have increased (in 2019-dollars) by \$851 million (269 percent) and \$988 million (325

Figure 1: General Fund Fixed versus Non-Fixed Costs Over Time



^A "Land use regulation" and "zoning" are used interchangeably in this work.

percent), respectively. The State's contributions to the pension systems are set to peak in FY 2024 for the SERS (with a \$2.2 billion contribution) and in FY 2031 for the TRS (with a \$1.7 billion contribution).^{17,18,19} As the State is required to meet these obligations over the next decade, fewer and fewer dollars will be available to spend on education, human services, or transportation — unless revenues, including taxes, increase. Absent revenue increases, this will result in less spending on public services that Connecticut residents and businesses rely on to move the state forward.

Aging and Declining Population

Connecticut also faces demographic headwinds. The state is currently the eighth oldest state (including Puerto Rico) in the country with a median age of 42.7 years.²⁰ It is one of only 10 states (including Puerto Rico) to lose population from 2018 to 2019,²¹ and is one of only three states whose population has declined each of the past six years.²²

From 2018 to 2019, the largest driver of resident population change in Connecticut was domestic migration out of Connecticut to other states, which outweighed births, international in-migration, and domestic in-migration.²³ Connecticut is experiencing net out-migration in younger demographics that are key to the state's economic future. According to population estimates from the U.S. Census Bureau, Connecticut is experiencing net out-migration of 18- to 29-year-olds, while Internal Revenue Service federal income tax return data shows more federal income tax filers under age 35 are leaving the state than are entering.²⁴ This aging, declining population has contributed to diminished economic growth in Connecticut, according to a September 2018 report by S&P Global Ratings, which specifically noted that Connecticut had “one of the largest contractions of prime working-adults.”²⁵

Slow Employment Growth

Connecticut has also struggled to recover from the Great Recession over the past decade. Prior to the economic downturn sparked by the COVID-19 pandemic, Connecticut had recovered (by January 2018) all private sector jobs lost during the Great Recession, but employment growth over this time occurred in low-wage industries. During this time period, Connecticut experienced a net loss of 45,400 higher-wage industry jobs (jobs with annual wages greater than \$80,000), which were tempered by a net gain of 28,500 jobs in mid- and lower-wage industries (jobs with annual wages less than \$80,000).²⁶ In addition, Connecticut is the only state in New England and the tri-state area to record a decline in real gross domestic product (GDP) from 2010 to 2018, as all the economies for all peer states experienced positive growth over this period.²⁷

Connecticut's slow and uneven recovery from the Great Recession has been interrupted by the COVID-19 pandemic and its resulting economic impact. Connecticut's economy shrunk by approximately 4.6 percent in the first quarter of 2020, as all 50 states and the District of Columbia similarly experienced a contraction in GDP.²⁸ This economic recession has been accompanied by increased unemployment, decreased consumer confidence, and increased initial and continuing claims for unemployment insurance.^{29,30,31,32} While the COVID-19 pandemic is not over, and the true economic and budgetary impact will not be known for some time, it is clear Connecticut will have a weaker economy over the next several years.

Residential Land Use Regulation in Connecticut

Municipal Regulation of Land Use

Laws and ordinances governing land use and zoning in Connecticut are the purview of the State of Connecticut. The 10th Amendment of the U.S. Constitution reserves powers not delegated to the federal government of the United States to the states themselves, or to the people.³³ States can regulate land use and development through laws and ordinances to promote the general interest, as found in *Euclid v. Ambler*, and the Connecticut General Statutes delegate the authority to regulate land use to each municipality.^{34,35} Within municipalities, zoning commissions, zoning boards of appeals, coastal management commissions, and other entities manage land use and development.^{36,B}

These elected municipal entities regulate residential, commercial, and industrial uses of land in accordance with the aims of the community. A town zoning commission creates and implements the land use regulations of a community.³⁷ A town zoning board of appeals is the body that hears appeals to development decisions, including approvals and denials, made by the zoning commission.³⁸ Towns also employ a zoning enforcement officer to specifically enforce the laws created by the zoning commission.³⁹ Towns also have wetlands and sewer commissions, each responsible for the regulation of development within wetlands, and water control and the interaction between proposed development and sewer capacity, respectively.^{40,41} While these municipal entities regulate all land use within a municipality, including commercial, agricultural and industrial land, the focus of this overview will be residential land use and housing development.

Generally, these municipal boards and commissions manage many aspects of potential housing development, including, but not limited to, where residential housing may occur and what type(s) of housing is allowed in different areas of the municipality. Specifically, zoning can regulate the number of housing units allowed, the number of units allowed per acre of land, the types of units allowed (for example: guest houses or accessory dwelling units), the amount of square footage of the structure, the number of parking spaces required per unit, and other aspects of housing.⁴² The table below provides a small sample of the types of residential land use regulations a municipality can implement through a zoning code.

^B This piece is not intended to be a comprehensive overview of zoning and land use regulation in Connecticut. For a deeper investigation of this topic, please see the University of Connecticut Center for Land Use Education and Research's Land Use Academy (<https://clear.uconn.edu/luu/index.htm>).

Table 1: Sample of Residential Land Use Regulation Types⁴³

Regulation	Description
Lot Coverage Maximum	Regulation that specifies the maximum percentage of a residential lot that can be occupied by buildings.
Parking Minimum	Regulation that specifies the minimum amount of parking spaces a housing development must have.
Required Setback	Regulation that specifies the distance a residential building must be located from the boundaries of the residential lot.
Acceptable Accessory Uses	Regulation that specifies the allowable types and characteristics of units that do not fulfill the primary purpose of the development.
Minimum Lot Size	Regulation that specifies that single family or multi-family housing must be built on a certain acreage of land.
Maximum Height	Regulation that specifies the maximum permitted height of residential buildings, either in stories or feet/meters.

Restrictive Regulations

Connecticut has significant land use regulations compared to other states and parts of the country. The Wharton Residential Land Use Regulation Index, published by the Samuel Zell and Robert Lurie Real Estate Center at The Wharton School of the University of Pennsylvania, is a summary measure of how restrictive a local regulatory environment is. This index notes the Hartford-West Hartford-East Hartford and Worcester MA-CT core-based statistical areas (CBSAs) were among the 40 most restrictive areas in 2018.⁴⁴ A previous version of this Index calculated state-level values using data from the 2000 decennial census and evaluated Connecticut as the 15th most restrictive regulatory environment on the dimension of residential land use.⁴⁵

In Connecticut, each of the state's 169 municipalities control the use of land within its borders. Local control of land use has created significant restrictions on the use of land with specific regard to housing. For example, 60 towns (or 36 percent of all Connecticut municipalities) require at least one acre of land to build single family housing, and 25 towns prohibit multifamily housing entirely.⁴⁶ In towns that do allow multifamily housing, 80 towns require multifamily housing to be situated on one or more acres of land.⁴⁷

Racial and Economic Segregation

It is important to recognize the historical role that local land use regulations by local elected entities have played in the creation of segregated towns along the lines of income and race. The Century Foundation found that due to exclusionary zoning, one in four Black Americans and one in every six Hispanic Americans in poverty live in high-

poverty neighborhoods, as opposed to one in every 13 White Americans in poverty.⁴⁸ Within Connecticut, DataHaven found that wealth and poverty are highly concentrated in the state, with 27 percent of high-earning households living in neighborhoods that are predominantly White and wealthy, as compared to 10 percent in other large metropolitan areas.⁴⁹ This study also found that in the Greater Bridgeport and Greater Hartford regions, the percentage of the population that lives in racially concentrated and affluent neighborhoods is greater than the percentage found in most other large metropolitan areas.⁵⁰

Affordable Housing

In recognition of the fact that local land use regulations have resulted in too little affordable housing in many communities, Connecticut has implemented legislation designed to promote its development. Section 8-30g of the Connecticut General Statutes established a series of procedures that developers, municipalities, and courts must follow when a developer appeals a decision by a local board or commission concerning a proposed affordable housing development."⁵¹ The statute states that housing developers have the right to appeal to the Superior Court of Connecticut when the developer's affordable housing application is denied by a municipality, or approved with substantial modifications.⁵² In this appeal, the denying municipality must prove that either:

- The denial/modified approval was necessary to protect public health and/or safety, that the public interests clearly outweigh the need for affordable housing, and that public interest cannot be protected by reasonable changes to the proposed housing development, or;
- The application would develop affordable housing in an area that is not assisted housing as defined by Section 8-30g.⁵³

Municipalities are exempt from the appeals process requirement detailed above if at least 10 percent of housing stock in the town is affordable. The Connecticut Department of Housing publishes an annual Affordable Housing Appeals Procedure List, which lists municipalities that are exempt based on this measure.^{54,55}

Impact of Land Use Regulation on Housing Supply and Pricing

Residential land use regulations like those described above contribute to decreased housing supply and increased housing costs. Glaeser, Schuetz, and Ward (2006) studied the Greater Boston area and found that “The relation between land-use regulation and housing prices was also striking. Regionally, housing prices might have been 23 to 36 percent lower if regulation had not greatly slowed new permitting since 1990.”⁵⁶ The National Association of Homebuilders came to a similar conclusion in 2016, estimating that “regulations imposed by government at all levels account for 24.3 percent of the final price of a new single-family home built for sale. Three-fifths of this —14.6 percent of the final house price — is due to a higher price for a finished lot resulting from regulations imposed during the lot’s development.”⁵⁷

These land use regulations also contribute to decreased housing supply. In a review of relevant literature, Gyourko and Molloy (2014) found that “most models predict that regulation should reduce the elasticity of housing supply, resulting in a smaller stock of housing, higher house prices, greater volatility of house prices, and less volatility of new construction.”⁵⁸

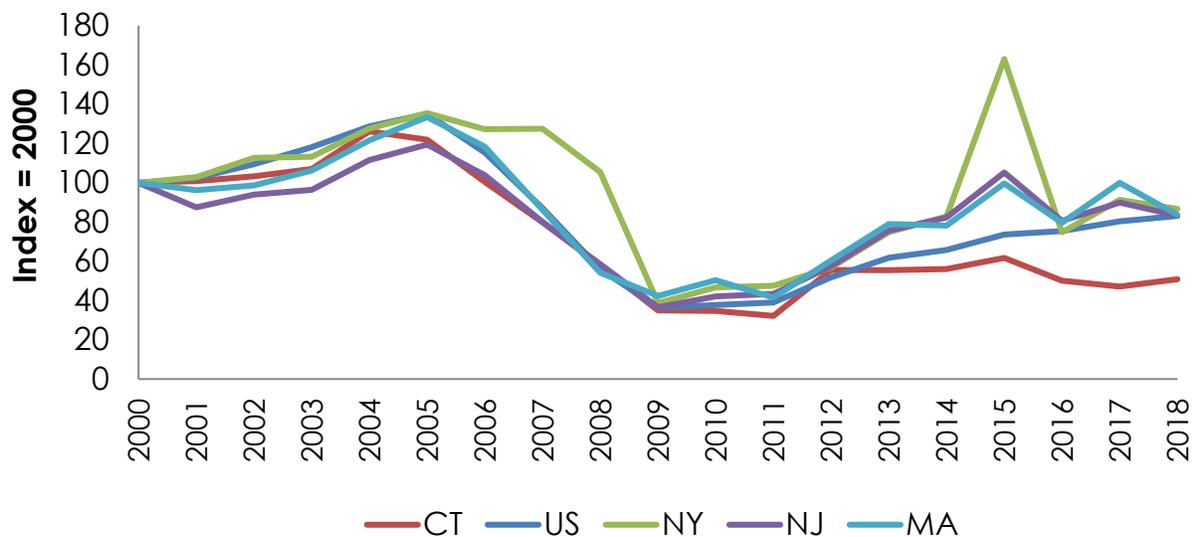
The academic research cited above has borne out in Connecticut along the dimensions of housing prices and affordability and supply. According to the National Low Income Housing Coalition, Connecticut has the eighth largest shortfall between the average wage of a renter and the “two-bedroom housing wage,” which is the wage per hour a full-time worker must earn in order to afford the Fair Market Rent for a two-bedroom rental without being housing-burdened (spending more than 30 percent of their wage income on housing).⁵⁹ Figure 2 below shows the gaps for the states with the largest shortfalls. Similarly, the Partnership for Strong Communities has estimated that approximately 50 percent of renters and 32 percent of homeowners are housing-burdened by that same definition.⁶⁰

Figure 2: States with the Largest Shortfalls between Average Renter Wage and Two-Bedroom Housing Wage⁶¹



Connecticut housing development has not kept pace with the country or other peer states after the Great Recession. The chart below details the number of new private housing units authorized each year for the comparative states and the country, indexed to the year 2000 for comparative purposes. As seen in Figure 3, the country as a whole, and each of Connecticut's peer states, recorded stronger housing development over the past decade than Connecticut.^{62,63,64,65,66}

Figure 3: New Private Housing Units Authorized by Building Permits^{67,68,69,70,71}



Land Use Reform Can Lead to Economic Growth

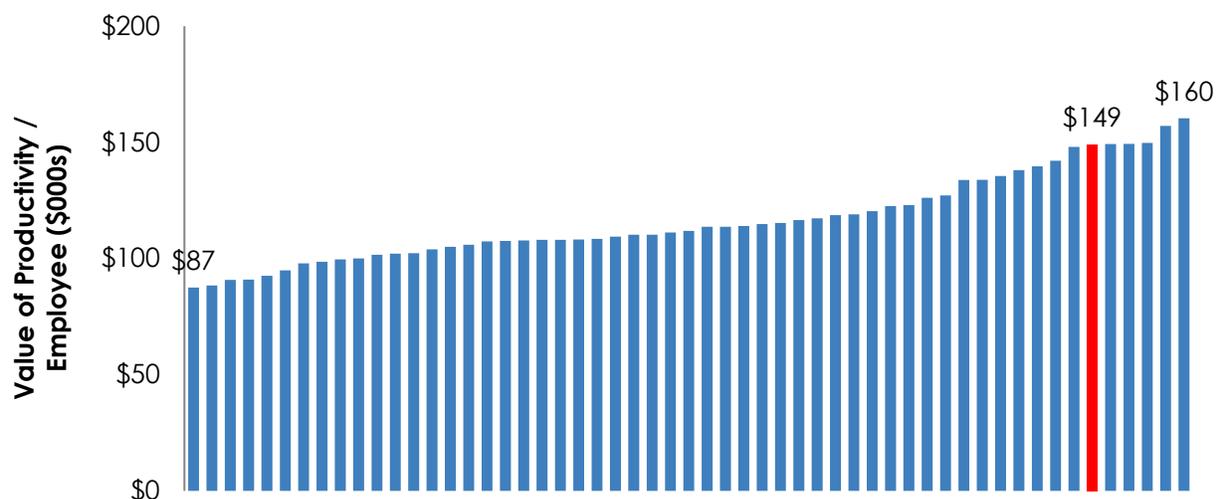
Land use regulation in Connecticut does not just lead to increased costs on current and prospective residents, it also impacts the Connecticut economy. As discussed earlier, Connecticut faces economic, fiscal, and demographic challenges that can be mitigated by reforming land use regulations on housing. Hsieh and Moretti (2019) found “high productivity cities like New York and the San Francisco Bay Area have adopted stringent restrictions to new housing supply, effectively limiting the number of workers who have access to such high productivity.”⁷² These productive areas of the country experienced the largest increases in labor productivity, while also adopting land use restrictions that limited the amount of additive housing that could be constructed. In effect, the lower aggregate output and welfare results from this misallocation, as “instead of increasing local employment, productivity growth in housing-constrained cities primarily pushes up housing prices and nominal wages.”⁷³

While Connecticut and its cities are not identical to New York or the San Francisco Bay Area, Connecticut is among the most productive states in the country, and parts of Connecticut are part of the New York City metropolitan area. When measuring labor productivity (a measure used by Hsieh and Moretti in the research cited above) as the Value of Production per Employee,^c Connecticut is the sixth most productive state in the country, trailing only New York, the District of Columbia, Washington, Delaware, and California.⁷⁴ Figure 4 on the next page illustrates this finding.

^c Labor productivity, generally, refers to the output of goods or services that can be produced relative to the amount of labor used to produce the outputs. Value of Production represents the difference between the total output of goods and services produced, and the intermediate inputs consumed to produce that output. Value of Production was chosen as a productivity measure over output as it takes into account the inputs necessary to create outputs. The number of employees is a measure that “represents the total number of wage and salary workers, self-employed workers, and unpaid family workers working at various occupations (jobs) within business establishments. An individual who works multiple jobs at separate establishments would have each job included in the number of employees.”

Source: U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology. (2019). *Private nonfarm productivity and costs by state and region*. Washington, DC: Author. Available from <https://www.bls.gov/lpc/state-productivity.htm>.

**Figure 4: Value of Production per Employee by State (2019)⁷⁵
(Connecticut in red)**



The authors generalize this finding to the country as a whole, stating that, “using a spatial equilibrium model and data from 220 metropolitan areas we find that these constraints lowered aggregate U.S. growth by more than 50 percent from 1964 to 2009.”⁷⁶ This finding includes metropolitan areas in Connecticut.

Additionally, Connecticut's economy relies on proximity and access to New York City as it is the largest economic engine of the region. In fact, 16.5 percent of Fairfield County workers aged 16 or older commute to jobs outside of Connecticut (primarily to New York) according to data from the U.S. Census Bureau's American Community Survey.⁷⁷

Reforming land use regulations in Connecticut will allow more Connecticut residents (both present and future) access to the highly productive New York City metropolitan area, which would pay dividends in economic growth along the lines presented in this report. As housing supply restrictions, such as local zoning regulations, limit the access of residents to productive labor markets, such as those found in Connecticut, these restrictions and the situation they produce results in “lower income and welfare of all U.S. workers.”⁷⁸

Glaeser and Gyourko (2017) echo a similar theme, noting “the regulation of America's most productive places seems to have led labor to locate in places where wages and prices are lower, reducing America's overall economic output in the process.”⁷⁹ Glaeser, Schuetz, and Ward (2006) concur, noting that “While low densities have their virtues, they also ensure that housing will stay expensive and retard economic growth.”⁸⁰

Outside of the academic literature, there are more direct connections to economic growth by reforming land use regulations. As discussed previously, Connecticut is facing demographic headwinds as the population continues to decrease and age. According to projections from the Connecticut Department of Labor, the state is projected to

experience an increase of approximately 84,000 residents aged 70 and over from 2015 to 2030.⁸¹ Connecticut is also losing population in the key 18-29 age demographic, and experiencing a contraction in the prime working-age demographics. Reforming land use regulations to increase the affordability of housing will pay dividends in attracting younger demographics and prime working-age populations, especially given the proximity of Connecticut to high productivity urban centers such as New York City, and the state's high productivity as a whole.

Analyzing the Millennial^D generation with an emphasis on homeownership, researchers at the Urban Institute found education debt, rise in rental costs, tighter mortgage credit constraints, and a reduction in affordable housing supply are major barriers to Millennial homeownership.⁸² Land use regulation reform can increase the supply of housing and, therefore, decrease housing prices with an end goal of economic growth. In sum, the authors recommend "changing land use and zoning regulations to allow for more construction, particularly in areas with tight housing supply," to increase Millennial homeownership and bridge the gap in homeownership between racial and ethnic groups.⁸³ While this analysis does not specifically recommend increasing homeownership rates in Connecticut as opposed to those renting housing, the barriers to homeownership found in the Urban Institute report are aligned to the barriers found in implementing affordable housing in Connecticut.

While in aggregate the COVID-19 pandemic has wrought havoc on the Connecticut economy, one area of opportunity for the state is real estate markets adjacent to large metropolitan areas. Initial evidence as of September 2020 points to rising demand for Connecticut suburban real estate, with Fairfield County experiencing a 73 percent increase in July home sales and neighboring Westchester County in New York experiencing a 112 percent increase.⁸⁴ Reforming land use regulations to increase housing supply in high demand areas has the potential to pay immediate dividends for the Connecticut economy given the increase in demand for residential real estate adjacent to major metropolitan areas as a result of the COVID-19 pandemic.

^D The cited report defines the Millennial generation as individuals born between 1981 and 1997.

Land Use Reforms and Next Steps

As the State of Connecticut has provided municipalities with the flexibility to regulate the nature of residential development within their borders, resulting in municipal zoning codes that are unique to each town, the possible policy reforms to increase economic growth are plentiful. This is also true of the level of policy change, which could occur at the local, regional, or state level.

At the same time, economic growth is just one of many competing priorities that will shape the current process of residential development and associated zoning regulations. Indeed, the current conversations on residential development in Connecticut rightly center the impact of local zoning and proposed policy changes on segregation and inequities, as well as how changes in development impact existing community stakeholders.^{85,86}

The matrix detailed in Table 2 below provides a sample method for evaluating how changes to the components of the land use environment — including regulations, processes, and stakeholders — impact different policy goals. This matrix is a starting point to ensuring possible land use reforms are evaluated on how they will contribute to, or detract from, economic growth, in concert with their impact on economic and racial segregation.

In this example, evaluating economic growth should align to the theory detailed previously in this piece centering on the impact of regulation change on the supply, location, and pricing of housing, with specific focus on providing access to high-productivity labor markets within and adjacent to Connecticut. Please note, the items in Table 2 are not an exhaustive list of either the components of the land use environment or the criteria by which reforms should be evaluated. Rather, this matrix is intended to show how economic growth should be a criterion by which reforms to the regulations, processes, and role(s) of stakeholders should be evaluated, in concert with several evaluation criteria currently in the public conversation on zoning.

Table 2: Sample Land Use Reform Evaluation Matrix

		Sample Evaluation Criteria			
		Economic Segregation	Racial Segregation	Existing Stakeholders	Economic Growth
Component of Residential Land Use Environment	Local Land Use Regulations	How will changing specific land use regulations impact economic segregation in Connecticut towns and neighborhoods?	How will changing specific land use regulations impact racial segregation in Connecticut towns and neighborhoods?	How will changing specific land use regulations impact existing residents in applicable towns and neighborhoods?	How will changing specific land use regulations contribute to or detract from economic growth?
	Local Zoning Approval Processes	How will reforming zoning approval processes impact economic segregation in Connecticut?	How will reforming zoning approval processes impact racial segregation in Connecticut?	How will reforming zoning approval processes impact existing residents in applicable towns and neighborhoods?	How will reforming zoning approval processes contribute to or detract from economic growth?
	State Role in Local Housing Development	How will adjusting the State's role in housing development impact economic segregation in Connecticut?	How will adjusting the State's role in housing development impact racial segregation in Connecticut?	How will adjusting the State's role in housing development impact existing residents in applicable towns and neighborhoods?	How will adjusting the State's role in housing development contribute to or detract from economic growth?
	Housing Developers	How will reforming the role of housing developers impact economic segregation in Connecticut?	How will reforming the role of housing developers impact racial segregation in Connecticut?	How will reforming the role of housing developers impact racial segregation in Connecticut?	How will reforming the role of housing developers contribute to or detract from economic growth?
	Town Stakeholders (Residents & Elected Officials)	How will reevaluating the role of town residents and stakeholders impact economic segregation in Connecticut?	How will reevaluating the role of town residents and stakeholders impact racial segregation in Connecticut?	How will reevaluating the role of town residents and stakeholders impact existing residents in applicable towns and neighborhoods?	How will reevaluating the role of town residents and stakeholders contribute to or detract from economic growth?

Measuring Economic Impact of Land Use Regulation Change^E

Measuring the actual economic impact of a proposed land use regulation change (for example, a reduction in the minimum lot size for a municipality) is a difficult yet important part of any evaluation of proposed zoning changes. While the academic literature does not detail the specific estimated impacts of different types of zoning regulation changes, it does provide possible frameworks for measuring such impacts.

Two possible frameworks are briefly detailed below, and utilize different research tools and economic principles to estimate economic impact. Please note, these frameworks are intended to serve as a conceptual starting point for research into this area, as the analysis required to produce these estimates is beyond the scope of this report.

1. Estimating Impact by Calculating New Housing Supply Elasticity After Proposed Regulation Change^F

One way to estimate the impact of a specific land use regulation is to use revised housing supply elasticities^G as calculated from the Wharton Residential Land Use Regulation Index.⁸⁷ As referenced previously, this Index captures the level of residential growth restriction in a given area. Saiz (2010) uses the metropolitan statistical area (MSA) data from the Index, coupled with data on geographic constraints on housing (such as water or land slope) to calculate housing supply elasticities for areas across the country.⁸⁸ These elasticities are used by Hsieh and Moretti (2019) to measure the impact of high productivity areas across the country relaxing zoning restrictions to the level of the median city, as provided by Saiz (2010).

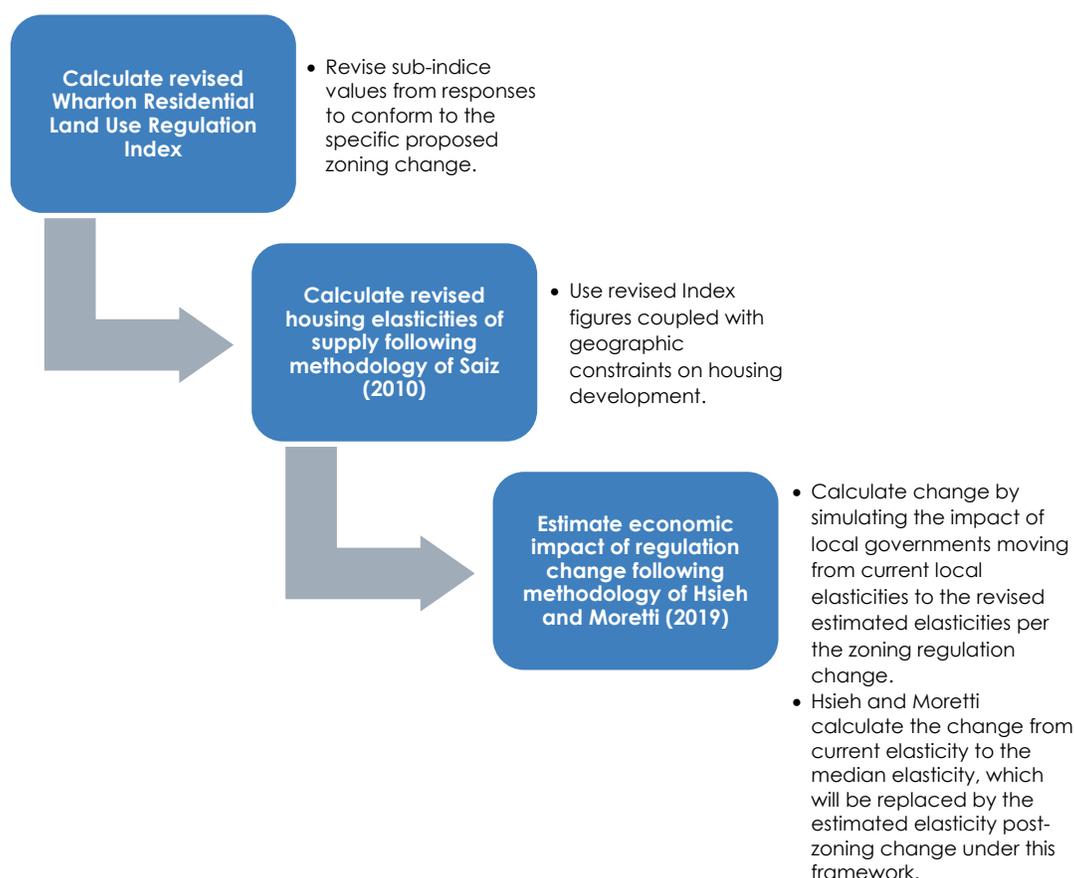
It is possible to calculate a revised Wharton Residential Land Use Regulation Index for Connecticut areas based on the proposed land use change. Specific sub-indices of the Index include the "Supply Restrictions Index," which reflects the presence of caps on the supply of new housing (and by type), as well as the "Density Restriction Index," which details constraints on density, such as minimum lot size. Tweaking these parameters to match the proposed regulation would allow a revised calculation of housing elasticity of supply per the methodology of Saiz (2010). The revised elasticity of supply could then be used in the methodology of Hsieh and Moretti (2019) to calculate the economic impact if Connecticut MSAs relaxed housing restrictions to the new, revised elasticity, rather than the median elasticity used by the authors. The diagram in Figure 5 below summarizes the above steps of this option.

^E William Murdock, Ph.D. candidate in economics at Harvard University, provided insight and feedback on the impact measurement frameworks outlined in this section. The School and State Finance Project is thankful for this assistance.

^F Please note that in this section, the research of Saiz (2010) and Hsieh and Moretti (2019), as well as the analytical work required to reproduce these results, are simplified for the purposes of developing conceptual frameworks to estimate economic impact.

^G Elasticity of Housing Supply measures how much new residential construction would occur in response to an increase in prices or demand. If an area has an elasticity less than one, then supply is inelastic, that is, supply is relatively not responsive to changes in demand. This inelasticity would spill over to an increase in housing price as the increase in demand is not met with an increase in supply.

Figure 5: Steps to Calculating Economic Impact of Zoning Change: Housing Elasticity Method



2. Estimating Impact by Using a Simplified Randomized Controlled Trial (RCT) Approach

A second approach is to use a simplified randomized controlled trial^H approach on two or more areas (counties, MSAs, towns) that are similar. In this approach, researchers would identify similar areas based on demographics, housing stock, housing supply and demand, geography, and other factors, with one or more areas implementing a specific zoning change that “relaxes” constraints, with the other areas serving as the “control” group. From there, researchers could, after accounting for outside factors, measure the response in housing supply to the zoning change. Estimates of housing supply changes could be coupled with existing frameworks for evaluating the economic impact of housing

^H A randomized controlled trial (RCT) is a design that “randomly assigns participants into an experimental group or a control group. As the study is conducted, the only expected difference between the control and experimental groups in a randomized controlled trial (RCT) is the outcome variable being studied.” Source: George Washington University, Himmelfarb Health Sciences Library. (n.d.). Randomized Controlled Trial. Retrieved from <https://himmelfarb.gwu.edu/tutorials/studydesign101/rcts.cfm>.

developments. Existing frameworks, such as RIMS II, typically focus on the impact of constructing a proposed development (construction jobs and materials) as well as net-new tax revenue, employment, and economic activity brought by the development that would not exist absent the development.^{89,90}

To identify specific communities, the Wharton Residential Land Use Regulation Index has been calculated twice over the past two decades (2006 and 2018). Using this tool, a researcher could identify similar communities in Connecticut in terms of the factors mentioned above, and isolate those that have relaxed land use restrictions over this time period. After doing so, a deeper dive into municipal zoning changes over time would uncover the specific changes made in these towns that led to the change in the Index value. From there, analysis would need to isolate changes to housing supply as a result of the restriction changes, and not trends in aggregate supply or demand, as in some cases housing restrictions could come as a result of higher housing prices, rather than vice versa, as local stakeholders changed zoning regulations to “preserve” housing property values.

Each approach detailed above has benefits and drawbacks. While the first approach efficiently ties together academic research without the need for leveraging additional economic impact tools, such as RIMS II, it requires assumptions to be made on the impact of a zoning change on the housing elasticity of demand as measured by the Wharton Residential Land Use Regulation Index. This approach also requires detailed analytical work in reproducing the Index and Hsieh and Moretti (2019) methodologies with the adjusted indices and elasticities. In addition, the data used in this framework would typically be centered at the MSA level, which does not govern land use decisions in Connecticut.

The second approach allows for a town-level comparison of “control” versus “treatment” groups, but the quality and availability of the data is an obstacle. For example, out of 169 towns, only 15 to 18 Connecticut municipalities (depending on the survey question) responded to both versions of the Wharton Residential Land Use Regulation Index survey.⁹¹ Compiling a richer dataset would require in-depth, longitudinal examinations of town zoning ordinances, which are time-intensive. In addition, this methodology looks back rather than projecting into the future, and will thus require translating findings from past implementations of zoning reforms to present day conditions for use in measuring the impact of proposed regulation changes.

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