

Fiscal Zoning in New Jersey: A Study on Single-Family Zoning
and Municipal Revenue

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UEP 410/411
6 April 2022

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Acknowledgments

This study is particularly close to my heart as I was born and raised in Moorestown, NJ, a small, mostly single-family suburb in south western New Jersey. I would like to dedicate this work to Ethel Lawrence, a leading force in the Mount Laurel Doctrine, in securing affordable housing for Black residents in Mount Laurel, NJ, initiated the Fair Share Housing Development Inc., and who also attended Moorestown High School a few decades before myself.

Further, I would like to thank the UEP department and professors for encouraging and helping my work. Particularly Professor Rodnyansky who greatly helped my quantitative research and Professors Matsuoka and Cha who helped encourage this study throughout the past year. Lastly, I would like to thank my parents Mark and Elizabeth for their support and passion for the topic that helped ignite this research.

Abstract

Zoning has played a large role in the development and creation of the New Jersey suburban landscape. In New Jersey, zoning and land-use decisions are almost entirely that of the municipality. For this reason, I chose to explore the potential for municipal revenue to act as incentive for municipalities to zone primarily single-family residential.

This study chose to observe the correlation between single-family zoning share and municipal revenue variables of total revenue per capita, local tax revenue per capita, and local tax as a percentage of total revenue. The hypothesis is that a greater share of single-family zoning will correlate with higher municipal revenue. A regression analysis of six regression models found a positive and significant correlation between single-family zoning share and municipal revenue variables in all six regressions. Lastly, this research recommends that New Jersey housing experts and policy makers consider the potential for upzoning to increase density and produce non-single-family housing opportunities within New Jersey.

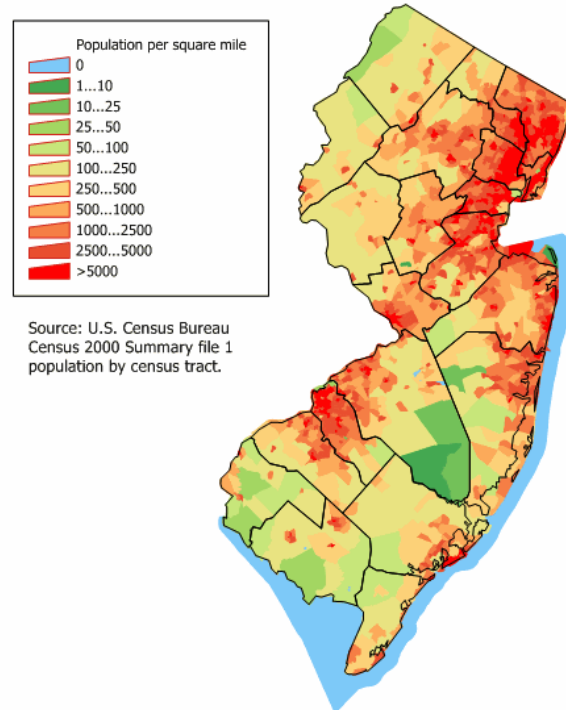
Introduction

In the years following the Mount Laurel Doctrine, there has been ample academic focus on the exclusionary culture of the New Jersey suburbs. Primarily the blame has been focused on the exclusionary zoning practices of many suburban municipalities. Although it is clear that exclusionary zoning practices have played a key role in the present makeup of the suburbs, this research seeks to examine the financial incentive for municipalities to zone primarily single-family residential. This incentive has played a role in the zoning practices of many municipalities. In many cases, the phenomenon has been referred to as fiscal zoning, or zoning for the most favorable financial outcome for a given municipality.

As this paper seeks to understand the role of municipal finance on zoning in suburban New Jersey, it is vital to define and understand what is a suburb. There have been many academic disagreements about the definition of a suburb considering that their shape and makeup have changed over time and vary by location¹. In New Jersey, a suburb can be broadly described as a municipality less densely populated than a city and more residential than a rural community. New Jersey has a unique landscape as approximately 70 percent of the state is defined as suburban as the majority of land in New Jersey falls between the two categories of urban and rural².

¹ Airgood-Obyrcki, Whitney, and Shannon Rieger. Rep. *Defining Suburbs: How Definitions Shape the Suburban Landscape*, 2019. https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Airgood-Obyrcki_Rieger_Defining_Suburbs.pdf

² Gillette, Howard. "Chapter 10. Suburbanization and Decline of the Cities: Toward an Uncertain Future." *New Jersey*, 2019, 264–86. <https://doi.org/10.36019/9780813554105-014>.



Map 1: "Map of New Jersey (Map Population Density)." Map of New Jersey (Map Population Density) : Worldofmaps.net - online Maps and Travel Information.

In *Map 1*, it is evident that the state is most densely populated around cities in the Northeast and Southwest areas of the state, correlating to New York City, Newark, Philadelphia, and Camden sprawl. The majority of the population in New Jersey is located in the suburbs.

Background

History of the Suburbs

In the early 1900s, several New Jersey cities were established as industrial powerhouses, these included Newark and Camden New Jersey. These cities were home to wealth from industrialization and jobs in manufacturing. This was, at least, until the end of World War II and the flood of investment in federal public policy which began to contribute to white flight and the movement out of cities³.

Modern suburbanization was driven by the wave of New Deal public policy like the creation of the Homeowners Loan Corporation(HOLC) as a federal agency which eventually led to the Federal Housing Administration. The HOLC created residential security maps during the 1930s that are commonly known as the color-coded redlining maps of many major cities⁴.

“HOLC was as much a follower as a leader when it came to neighborhood appraisals. Leading real estate texts had started calling for assessments of neighborhood conditions, particularly racial composition and housing quality before HOLC was even created. Congress mandated that FHA develop a system of appraising mortgage risk levels, leading its research department to establish and actively promote guidelines for choosing neighborhoods in which to insure mortgages before HOLC launched its City Survey Program. Private lending institutions, many of which wanted to meet FHA’s standards so that the loans

³ Hoffercker, Carol E. *The Journal of Interdisciplinary History* 17, no. 3 (1987): 691–92.
<https://doi.org/10.2307/204639>.

⁴ Hillier, Amy E., "Redlining and the Homeowners' Loan Corporation" (2003). Departmental Papers (City and Regional Planning). 3. https://repository.upenn.edu/cplan_papers/3

they made could be insured, we're also busy categorizing neighborhoods and creating their own risk maps during the 1930s and 1940s”(Hillier 2003, 412).

Although the redlining maps are not the only source to blame for exclusionary housing practices, the result of exclusionary lending practices was a wave of movement to the suburbs and massive population decline in cities such as Newark, Camden, and Philadelphia.



Figure 1: Furey, Spencer. Rep. *White Picket Fences and the "Worst City in America: Suburbanization and White Flight in the United States and Newark, New Jersey, 1930-2010*, 2016.

Figure 1, exemplifies white flight in the mass movement out of cities and towards the suburbs. Those with resources and ability, who were white, moved to the suburbs where they invested in single-family housing and escaped the tax burden of the city.

Another federal program that contributed to the movement to suburban New Jersey was the investment in the highway system as a result of the 1956 Federal-Aid

Highway Act⁵. The highways created a physical path from the cities to the suburbs and made the suburbs much more accessible to those with vehicles. For example, four of the most significant highway projects in New Jersey, the Garden State Parkway, the New Jersey Turnpike, the Walt Whitman Bridge, and the Lincoln Tunnel were completed or expanded during the 1950s and connected the communities of suburbs to each other and the cities⁶. The expansion of the highway system in New Jersey accompanied the increasing investment in the automobile. Further, the mass investment in the highway system accompanied a lack of investment in public transit in New Jersey. The result of these became a car-centered suburban landscape, where an automobile is necessary to travel to most places. In turn, the suburbs became accessible only to those with a car and out of reach to anyone who relied on public transit.

Lastly, the loss of industrial economic opportunity in cities like Newark and Camden ultimately concretized the suburbanization of New Jersey. By the 1970s-80s labor began to outsource to foreign countries and industrial cities in New Jersey began to diminish in prosperity. "In Newark, between 1970 and 1980, over 600 factories in and around the city shut down"⁷. The death of industry in cities like Newark and Camden contributed to the mass movement toward the suburbs. Those who remained in the cities, largely low-income and people of color, experienced the deterioration of the industrial cities due to a lack of a tax base and corrupt political leaders.

⁵ Askt, Daniel. "The Suburbs: Big Enough for Suburbs of Their Own ." The New York Times. Accessed May 17, 1981.

⁶ Askt, Daniel. "The Suburbs: Big Enough for Suburbs of Their Own ." The New York Times. Accessed May 17, 1981.

<https://www.nytimes.com/1981/05/17/nyregion/the-suburbs-big-enough-for-suburbs-of-their-own.html>.

⁷ Furey, Spencer. Rep. *White Picket Fences and the "Worst City in America: Suburbanization and White Flight in the United States and Newark, New Jersey, 1930-2010*, 2016.

“The trend has been nationwide but has been particularly pronounced in New Jersey, wherein in 1950 more than 25 percent of the state's residents lived in the six biggest cities at the time, Newark, Jersey City, Paterson, Elizabeth, Trenton, and Camden. Today, only about one-eighth of all New Jerseyans live in those cities” (Askt 1981)⁸.

The result of suburbanization has included increased racial segregation, environmental degradation, lack of public transit, and worsened sense of community⁹. The most researched and discussed aspect of New Jersey suburbanization has been the exclusionary founding of the suburbs.

Exclusionary Practices and the Mount Laurel Doctrine

The 1960s movement for racial justice led to the analysis of institutionalized racism through practices like exclusionary zoning, prompting protests against race-based exclusionary zoning. In Mount Laurel, New Jersey the municipality had decided in the early 1960s to initiate three Planned Unit Developments consisting of upper-middle-class homes, without any affordable or low-income housing options available for the existing low-income Black community¹⁰. At the time, Mount Laurel was primarily farmland, meaning that the development would drastically transform the landscape into an affluent suburb.

⁸ Askt, Daniel. “The Suburbs: Big Enough for Suburbs of Their Own .” The New York Times. Accessed May 17, 1981.

<https://www.nytimes.com/1981/05/17/nyregion/the-suburbs-big-enough-for-suburbs-of-their-own.html>.

⁹ Furey, Spencer. Rep. *White Picket Fences and the "Worst City in America: Suburbanization and White Flight in the United States and Newark, New Jersey, 1930-2010*, 2016.

¹⁰ Valenzuela, Tamryn, "The History of the Mount Laurel Doctrine as a Story of Struggle for Social Justice" (2021). Law School Student Scholarship. 1126. https://scholarship.shu.edu/student_scholarship/1126

The development plans not only excluded the existing black community of Mount Laurel but went further to enact code enforcement efforts that would displace Black residents from their current substandard housing. The Black residents soon recognized that this plan would effectively displace them from Mount Laurel and exclude them on a socioeconomic and racial basis. Local Black Mount Laurel resident, Ethel R. Lawrence initiated organizing efforts alongside Burlington County Community Action Program to fight the local zoning board to include affordable housing within the new development. The zoning board opposed the proposal which led to them taking the situation to court in *Southern Burlington County NAACP V. Township of Mount Laurel (Mount Laurel I, 1975) (Valenzuela 12)*¹¹.

In *Mount Laurel I*, the court ruled that the municipality's development plan was unconstitutional because it diminished accessible housing for low-income residents. Further, they ruled that the zoning ordinances were unconstitutional in the way in which they exhibited police power for an unconstitutional purpose (*Rice 136*). The court further recognized that it was not enough to just ban exclusionary zoning but that there must be the opportunity to construct affordable housing. The ruling included a statement that each municipality was required to build their fair share of an "appropriate variety and choice of housing" (*Rice 136*)¹².

Unfortunately, this statement came with no specifications of what an appropriate share of low-income housing looked like, meaning that most municipalities ended up ignoring the statement and continuing patterns of development only for affluent

¹¹ Valenzuela, Tamryn, "The History of the Mount Laurel Doctrine as a Story of Struggle for Social Justice" (2021). Law School Student Scholarship. 1126. https://scholarship.shu.edu/student_scholarship/1126

¹² Rice, Terry. Exclusionary Zoning: Mount Laurel in New York?, 6 *Pace L. Rev.* 135 (1986) <http://digitalcommons.pace.edu/plr/vol6/iss2/1>

residents, including the municipality of Mount Laurel who continued their development plan. The lack of change led to more organizing and another court case called Mount Laurel II in 1983.

Mount Laurel II reaffirmed the beliefs of Mount Laurel I and gave a more tangible basis to the statements. First, the judicial decision gave subsidies and tax incentives toward affordable housing. Further, it established a “builder’s remedy” which gave developers of affordable housing the opportunity to override a municipality that denied their proposal to build affordable housing. Also, the court established a judicial pathway for these litigations which gave immense judicial power to land-use decisions (Valenzuela 14). The flood of litigations following Mount Laurel II led to the eventual establishment of The New Jersey Fair Housing Act¹³.

It was not until 1983 when the same residents went to the New Jersey Supreme Court in Mount Laurel II that the court established the New Jersey Fair Housing Act and the Council on Affordable Housing (COAH), charged to eliminate the exclusionary policies and develop affordable housing plans. The Mount Laurel Doctrine, FHA, and COAH were eventually successful in prompting municipalities to dismantle their exclusionary zoning practices and established methods to calculate a community’s affordable housing need. Unfortunately, the affordable housing mandate from COAH in 1983 included a loophole called Regional Contribution Agreements (RCA) where a municipality could pay for the construction of affordable housing in another regional community to avoid building affordable housing within their own municipality. This loophole was not dismantled until the 2008 introduction of Bill A-500 which also required

¹³ Hughes, Mark Alan, and Peter M. Vandoren. “Social Policy through Land Reform: New Jersey’s Mount Laurel Controversy.” *Political Science Quarterly*, vol. 105, no. 1, 1990, pp. 97–111. *JSTOR*, www.jstor.org/stable/2151227

13% of affordable housing built to be very low income and created a 2.5 percent commercial development fee to fund affordable housing¹⁴.

The Mount Laurel Doctrine was monumental in recognizing the tangible problems of exclusionary zoning but further represented the difficulty in changing municipalities' desires and decisions to perpetuate exclusionary zoning. The Mount Laurel Doctrine also prompted research and literature on the impacts of exclusionary zoning.

What is Zoning

Zoning can be defined as the way in which land is designated within a municipality for varying purposes. Land may be designated for commercial use, residential housing, or industrial purposes¹⁵. The zoning of a land parcel determines what can be built on the unit of land. Zoning is largely determined by local municipalities in New Jersey. The breakdown of the New Jersey Zoning share is seen below.

¹⁴ "Bill A-500: Our Advocacy." Fair Share Housing Center. <https://fairsharehousing.org/advocacy/bill-a-500/>.

¹⁵ Hughes, Mark Alan, and Peter M. Vandoren. "Social Policy through Land Reform: New Jersey's Mount Laurel Controversy." *Political Science Quarterly*, vol. 105, no. 1, 1990, pp. 97–111. *JSTOR*, www.jstor.org/stable/2151227.

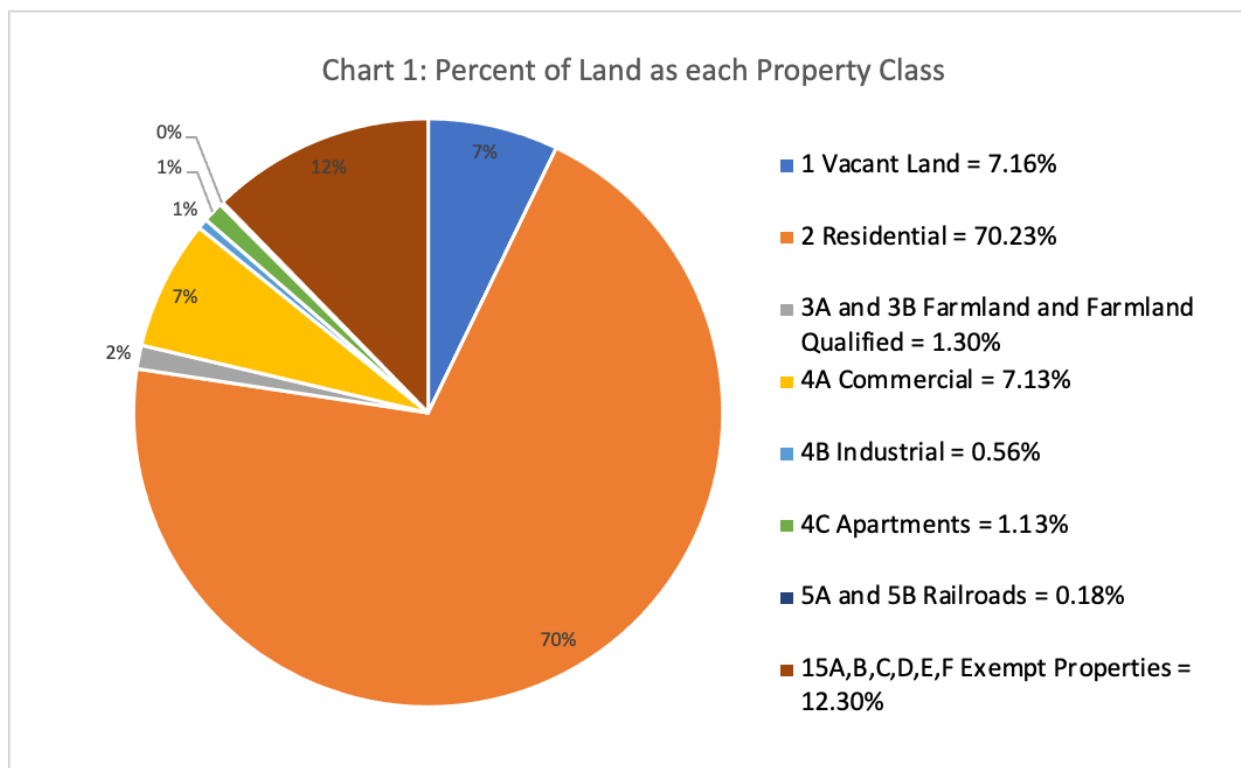


Chart 1 shows the distribution of zoning shares within the state of New Jersey as a pie chart. Within this chart, it is revealed that more than the majority (70%) of land in New Jersey is zoned as property class 2, single-family residential. The next largest type of zoning is exempt properties (12.30%), followed by vacant land (7%) and Commercial (7%). Meanwhile, only 1.13% of land in the entire state is zoned for apartments. This reveals that New Jersey is primarily zoned to create a suburban landscape.

The first examples of zoning legitimized by legislation were the Los Angeles zoning ordinance of 1908 and New York City's model zoning laws of 1916. Soon, zoning became widespread with the result of *Euclid V. Ambler* as the institution of the Standard Zoning Enabling Act of 1926 (SZE¹⁶). This legislation was the first to solidify zoning as

¹⁶ Levine, Jonathan. *Zoned out: Regulation, Markets, and Choices in Transportation and Metropolitan Land Use*. Hoboken: Earthscan, 2012.
<https://ebookcentral.proquest.com/lib/oxy/detail.action?docID=592553&pq-origsite=primo>

legal and legitimate. The legislation first was introduced as a model enabling act that could be instituted by any state and eventually nearly every state adopted almost the exact legislation due to the open-ended statement of regulatory powers given¹⁷. The act gave municipalities regulatory zoning power, resulting in what we now know as fiscal zoning. It's not that suburban municipalities don't have the power to create higher density dwellings but they often chose not to for a variety of reasons. Those include tax and municipal finance outcomes. Fiscal zoning is the practice of utilizing land use controls to maintain and potentially enhance the local property tax base¹⁸.

Although this paper will primarily focus on fiscal zoning, there are many non-fiscal reasons for zoning. Most of the early utilization of zoning was to create a separation of uses within a given community. This could be a desire to separate industrial use buildings from residential areas due to reasons of pollution¹⁹. For these reasons, zoning can be very important in the creation of healthy communities. Since the SZEA gave municipalities regulatory zoning powers, many municipalities utilize this to create zoning that is most financially beneficial. To understand this, we will explore how municipalities are financed.

¹⁷ Fischel, William A., Fiscal Zoning and Economists' Views of the Property Tax (June 19, 2013). <https://ssrn.com/abstract=2281955>

¹⁸ Fischel, William A., Fiscal Zoning and Economists' Views of the Property Tax (June 19, 2013). <https://ssrn.com/abstract=2281955>

¹⁹ Fischel

How are Municipalities Financed?

There are several types of municipalities in New Jersey which include but are not limited to borough, town, city, village, and commission²⁰. These types correlate with the mayoral form and governmental powers.

In New Jersey, municipalities are required to create a budget that establishes the budgetary desires of the community. Typically the local representative's goal is to provide the community with needed services and amenities while simultaneously keeping taxes at their lowest. Inherently, there is a tradeoff between taxes and services.

As every municipality is different, it is crucial to recognize that each has different needs for public services which correlate with varying revenue and expenditures. Some communities prioritize spending on public education which will correlate with higher revenue and expenditure than possibly a community with similar demographics but that does not choose to prioritize spending on public education²¹. In turn, the data on revenue and expenditure is nuanced and should be examined as such.

²⁰ "Types of Government in New Jersey." Types of Government in New Jersey | New Jersey League of Municipalities. <https://www.njlm.org/644/Forms-of-Municipal-Government---New-Jers>.

²¹ Hanushek, Eric A., and Kuzey Yilmaz. "Land-Use Controls, Fiscal Zoning, and the Local Provision of Education." *Public Finance Review* 43, no. 5 (2014): 559–85. <https://doi.org/10.1177/1091142114524618>.

Municipalities and Zoning

Municipalities have regulatory power over local zoning decisions and have the ability to zone and tax for the benefit of their community. This means that many municipalities may choose to zone for the most financially beneficial outcome, known as fiscal zoning. Many New Jersey municipalities have chosen to zone the majority single-family residential, which it is very financially beneficial to municipalities. As zoning regulations guide what can be planned and developed within a community, the majority of single-family zoned municipalities will likely only develop single-family housing which cannot meet the growing housing needs of New Jersey residents. It is not sustainable or affordable to continue as a single-family-focused state. Further, the first step in shifting development patterns is shifting zoning regulations.

Regardless, since municipalities have such strong regulatory zoning power, the way in which they chose to zone can reveal their desired community outcome. First, it will be valuable to explore existing research on zoning and also municipal finances to better understand their relationship.

Literature Review

In order to better understand the interaction between zoning and municipal finance, it is important to examine existing arguments about zoning, municipal finance, and their relationship. Reviewing the literature informs this research, as this paper seeks to understand how zoning and municipal finance theoretically and empirically interact.

Approaches to Zoning

Within zoning literature, there are two most common approaches to zoning that arise. The first approach is that of the *lawyer*. Within this approach, the lawyer believes that zoning is a hindrance to one's private property²². The opposite approach is that of a *planner*. The planner believes that zoning can be utilized to create a better society. Most approaches to zoning are seen on a scale between the lawyer's view and the planner's view.

In William Fischel's, *Homevoter Hypothesis (2005)*, he goes a step further than the two approaches to zoning²³. He concludes that zoning is not that of a lawyer or planner's view but that the best zoning model should emphasize the economic interests of residential voters who have the most input into municipal decision-making.

There are many varying opinions about the theoretical purpose of zoning. In William Fischel's book, *Zoning Rules! (2015)*, he theorizes that land use controls can best be seen as collective property rights under the control of economically rational

²² Cunningham, Roger A. "Zoning Law in Michigan and New Jersey: A Comparative Study." *Michigan Law Review* 63, no. 7 (1965): 1171–1202. <https://doi.org/10.2307/1286858>.

²³ Fischel, William A. *The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies*. Cambridge, MA: Harvard University Press, 2005.

voters²⁴. Further, he includes that a function of zoning is to reduce property tax avoidance by making any structure's use difficult to change. This explains why zoning is utilized to control use rather than a more general land tax.

Fischel also references perfect zoning throughout their book and explains it as a scenario where every entrant to a community is charged exactly for their public service costs²⁵. This would be exemplified in development decisions that incorporate a balance of costs and benefits to a community ideally creating a scenario where local property tax can be converted into a benefit tax and lacks the deadweight loss of taxation. Fischel believes that America is much closer to perfect zoning than many other economists believe and that perfect zoning is not typically met due to nonfiscal zoning purposes.

Zoning to Cure Urban Sprawl

In Jonathan Levine's, *Zoned out (2012)*, he argues that the conversations about urban sprawl are deeply misguided²⁶. Most beliefs about urban sprawl claim that it is a result of the free market. Meanwhile, Levine makes the point that although the private market may have sprawling tendencies, it is also swayed by municipal regulations that encourage low-density development in order to yield higher property taxes. Levine believes that in order to combat urban sprawl, there must be an easing of government regulation to encourage denser development. This is a novel point considering most

²⁴ Fischel, William A. *Zoning Rules!: The Economics of Land Use Regulation*. Lincoln Institute of Land Policy, 2015.

²⁵ Fischel, William A., Fiscal Zoning and Economists' Views of the Property Tax (June 19, 2013). <https://ssrn.com/abstract=2281955>

²⁶ Levine, Jonathan. *Zoned out: Regulation, Markets, and Choices in Transportation and Metropolitan Land Use*. Hoboken: Earthscan, 2012. <https://ebookcentral.proquest.com/lib/oxy/detail.action?docID=592553&pq-origsite=primo>

other literature about urban sprawl concludes that the solution should involve greater government involvement since urban sprawl is seen as a result of the free market. If municipality revenue was not tied to property taxes, then zoning would be less inclined to perpetuate urban sprawl. In my research, I plan to explore the relationships between property tax reliance and single-family zoning to determine if municipal revenue can act as an incentive to zone for less-dense development. This will be explored through the variables a local purpose tax per capita and local purpose tax as a percentage of total revenue.

Contrary to Levine's solution, William Fischel argues that zoning is critical to the authority of local governments and should stay within their authority²⁷. Further, Fischel advocates that local governments are inherently more efficient in meeting the needs of a community than the national or state governments. He feels that reforms to zoning should rather focus on the reasons why homeowners consistently refute neighborhood changes. This is largely consistent with Fischel's beliefs that homeowners are the lead of zoning and municipal decision-making.

Tiebout Model of Public Goods

In 1956, Charles Tiebout developed the theory now known as the Tiebout theory which has critically shaped the conversation surrounding municipal public goods²⁸.

Tiebout's theory is that the consumer-voter can be seen as choosing a community to live in which will best suit their preference for public goods. In this scenario, consumers

²⁷ Fischel, William A. *Zoning Rules!: The Economics of Land Use Regulation*. Lincoln Institute of Land Policy, 2015.

²⁸ Tiebout, Charles M. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64, no. 5 (1956): 416–24. <https://doi.org/10.1086/257839>.

shop around various communities and seek those that best fit their public good needs. Further, this scenario assumes that municipality revenue and expenditures are generally set and that the greater number of communities and variance among them will provide the consumer a result closest to their preference pattern.

Within Hanushek's article, *Land-use controls, fiscal zoning, and the local provision of education (2014)*, he critiques the Tiebout model in pointing out that zoning ruins the model because zoning impacts who can live where²⁹. For example, a person looking to rent or buy a home within a municipality that prioritizes spending on schooling may have difficulties finding housing that fits their needs due to zoning regulations. Further, he makes the point that perfect models like Tiebout are inherently flawed and will always misrepresent local policy changes. Hanushek also argues that exclusionary land-use practices exist because some households will impose a fiscal burden on the local government and it is favorable for municipalities to exclude those who are a burden. For this reason, municipalities should be ideally viewed as communities of people rather than economic equations to avoid exclusionary practices.

Municipal Finance

In Theodore Bergstrom's, *Private Demands for Public Goods (1973)*, he creates a research study with the intention of understanding how collective commodity costs are shared and how decisions are made within communities³⁰. They do so by creating a demand function for individuals for municipal public services. Demand functions for public goods are heavily debated in the literature surrounding municipal finances. Some

²⁹ Hanushek, Eric A., and Kuzey Yilmaz. "Land-Use Controls, Fiscal Zoning, and the Local Provision of Education." *Public Finance Review* 43, no. 5 (2014): 559–85. <https://doi.org/10.1177/1091142114524618>.

³⁰ Bergstrom, Theodore C., and Robert P. Goodman. "Private Demands for Public Goods." *The American Economic Review* 63, no. 3 (1973): 280–96. <http://www.jstor.org/stable/1914361>.

people believe that demand functions are necessary for municipalities to make the most favorable decisions. Meanwhile, many authors have pointed out that demand functions are inherently flawed and will never show the true outcome, they only exist to skew municipal decision-making. Bergstrom concludes his article that the demand function created is probable but should be utilized with caution due to the immense assumptions that were utilized in its creation.

This conversation continues in Kurt Paulsen's article, *The Effects of Land Development on Municipal Finance (2014)*. Paulsen explains that many localities utilize fiscal projection techniques to make decisions on land development but many of these techniques are flawed and inaccurate³¹. Most of the demand functions only include how land development impacts expenditures and revenues, meanwhile, land development creates many other more indirect fiscal impacts. Regardless, many authors agree that the most critical demand to study is that of the homeowner.

William Fischel in *The Homevoter Hypothesis*, argues that homeowners are highly attentive to the decisions made by local governments and are a key determinant of land use and public goods decisions³². He explains that property taxes are assessed within the local government which then determines each property owner's share of local taxes. Further, the total amount of taxes to be collected is determined annually by the municipality. He furthers that homeowners are acutely aware of their property assets and will make local decisions that are efficient in advancing the values of their assets and the amenities and services that come as a result. He concludes that homeowners

³¹ Paulsen, Kurt. "The Effects of Land Development on Municipal Finance." *Journal of Planning Literature* 29, no. 1 (February 2014): 20–40. <https://doi.org/10.1177/0885412213497982>.

³² Fischel, William A. *The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies*. Cambridge, MA: Harvard University Press, 2005.

have more power within local government decisions than many others have theorized. This is known as an asset market approach to local government. This theory is also conducive to the Tiebout theory in that homeowners can be seen as consumers shopping for the most favorable tax to public goods ratio. Municipalities are vulnerable to the thoughts and feelings of homeowners. Particularly, municipal expenditures vary based on the thoughts and feelings of homeowners. For example, in a given community where homeowners value schooling, the municipality's expenditure on schooling may be higher than another municipality that does not prioritize schooling. Further, this argument is fitting to the New Jersey suburbs in that the majority of residents are owners.

Overall though, the argument is flawed because it does not consider the nonowner and their role within the model. In some communities, non-owners are the majority and are also invested in the decisions of the municipality. Renters are also shopping for the best municipality but their shopping differs in that they have less stake than a homeowner in longer-term municipal decision making. Further, renters impact the public services equation in ways that are not included in Fischel's theory. In this way, it is important to acknowledge the impacts of renters on the municipal environment. Although the suburbs are majority owner-occupied, I will be including a variable on ownership as a result of this conversation within the literature.

Municipal Finance and Zoning

William Fischel described the relationship between property tax and zoning as necessary in that zoning is needed to continue the use of property taxes³³. In this way, municipal revenue is linked to zoning because, in many communities, property taxes are the primary form of municipal revenue. Researching the relationship between property tax structures and zoning may reveal the municipal incentives to zone for favorable financial outcomes. For example, revisiting a given community that has the desire to focus expenditures on schooling, they may choose to zone mostly single-family to produce the most economically beneficial outcome that can be spent on schooling or other municipal expenditures.

There is ample research on zoning and also municipal finance but limited literature on the relationship between the two. This research seeks to understand how municipal finance outcomes can exist as an incentive for municipalities to zone for desired outcomes.

³³ Fischel, William A. "Incentive Compatibility Property Taxes." *Fiscal Zoning and Economists' Views of the Property Tax*. Lincoln Institute of Land Policy, 2013. <http://www.jstor.org/stable/resrep18437.5>.

Methods

Research Question

What is the relationship between zoning shares and municipal finances in New Jersey? My hypothesis was that municipalities that prioritize single-family residential zoning will have higher municipal revenue than communities that do not prioritize single-family residential zoning.

This hypothesis is underlined by the understanding of fiscal zoning. If a municipality wants to zone for the most economically beneficial outcome, they are likely to choose to zone for primarily single-family housing as that will produce the most revenue from property taxes.

Data

The research included data from all 565 municipalities, covering a one-year snapshot of the data, and utilized the most recent year available for all data sources, ranging from 2018 to 2021.

Control Variables

All of the control variables were extracted from Rutgers University's New Jersey Data Book at <https://search.njdatabook.rutgers.edu/municipal/data>. The control variables are area, density, workforce participation, employment, median rent, average residential property value, housing units, percent owner-occupied, per capita taxable property value, municipal budget per capita, municipal tax rate, percent African American, percent Asian, and percent Hispanic.

I controlled for housing demographic variables such as the percentage of occupied housing units, median rent, average residential property value, and housing ownership percentages. It was valuable to control housing characteristics since zoning impacts housing in who is able to live where³⁴. Further, the types of housing within a community will impact property taxes and in turn municipal revenue.

Further, I included labor variables: percentage of unemployed population, labor force participation rate, and income per taxpayer. These will be important to control for as labor impacts municipal revenue and expenditure, shown in studies on municipal demand functions like Bergstrom's study on *Private Demands for Public Goods* which controlled for labor variables³⁵.

Lastly, I included control variables on race as I discussed earlier, the impacts of exclusionary zoning are distinctively racialized in New Jersey³⁶. Disparities in housing and housing opportunity exist based on race so it would be valuable to control for racialized impacts by studying the impacts of zoning on municipal finances. Further, many municipalities in New Jersey are segregated based on historical housing opportunities as marginalized people have been historically excluded from the New Jersey suburbs.

³⁴ Fischel, William A. *Zoning Rules!: The Economics of Land Use Regulation*. Lincoln Institute of Land Policy, 2015.

³⁵ Bergstrom, Theodore C., and Robert P. Goodman. "Private Demands for Public Goods." *The American Economic Review* 63, no. 3 (1973): 280–96. <http://www.jstor.org/stable/1914361>.

³⁶ Hughes, Mark Alan, and Peter M. Vandoren. "Social Policy through Land Reform: New Jersey's Mount Laurel Controversy." *Political Science Quarterly*, vol. 105, no. 1, 1990, pp. 97–111. *JSTOR*, www.jstor.org/stable/2151227.

Explanatory Variable

The explanatory research variable is the residential zoning share within each municipality. I extracted this data from the New Jersey Geographic Information Network's parcel data. Located at <https://njgin.nj.gov/njgin/edata/parcels/#/>. The data includes all forms of zoning in that the variable could be extended to zoning types other than single-family. The zoning types included within the data are as follows:

- 1 Vacant Land
- 2 Residential (single-family)
- 3A Farmland, 3B Farmland Qualified
- 4A Commercial
- 4B Industrial
- 4C Apartments
- 5A Railroad Class 1, 5B Railroad Class 2
- 15A Public School, 15B Other School Property, 15C Public Property, 15D Churches and Charitable, 15E Graveyards, 15F Other Exempt Properties

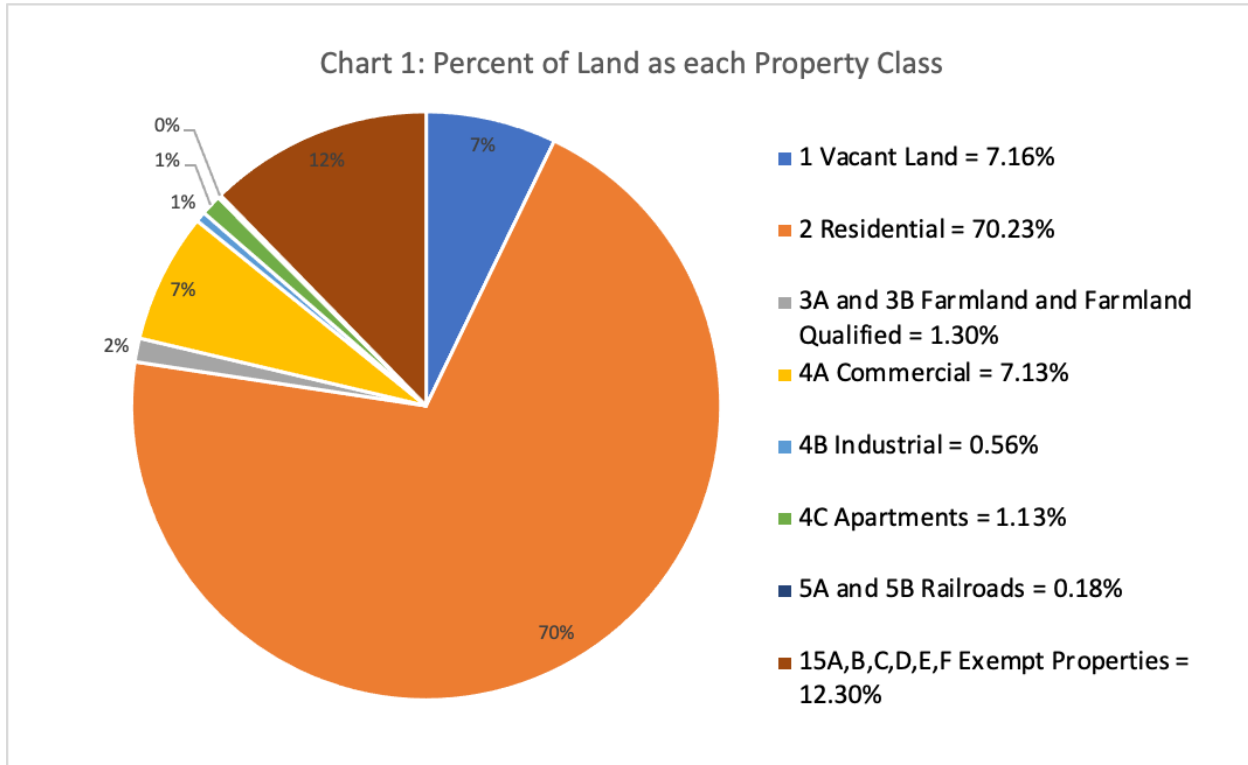
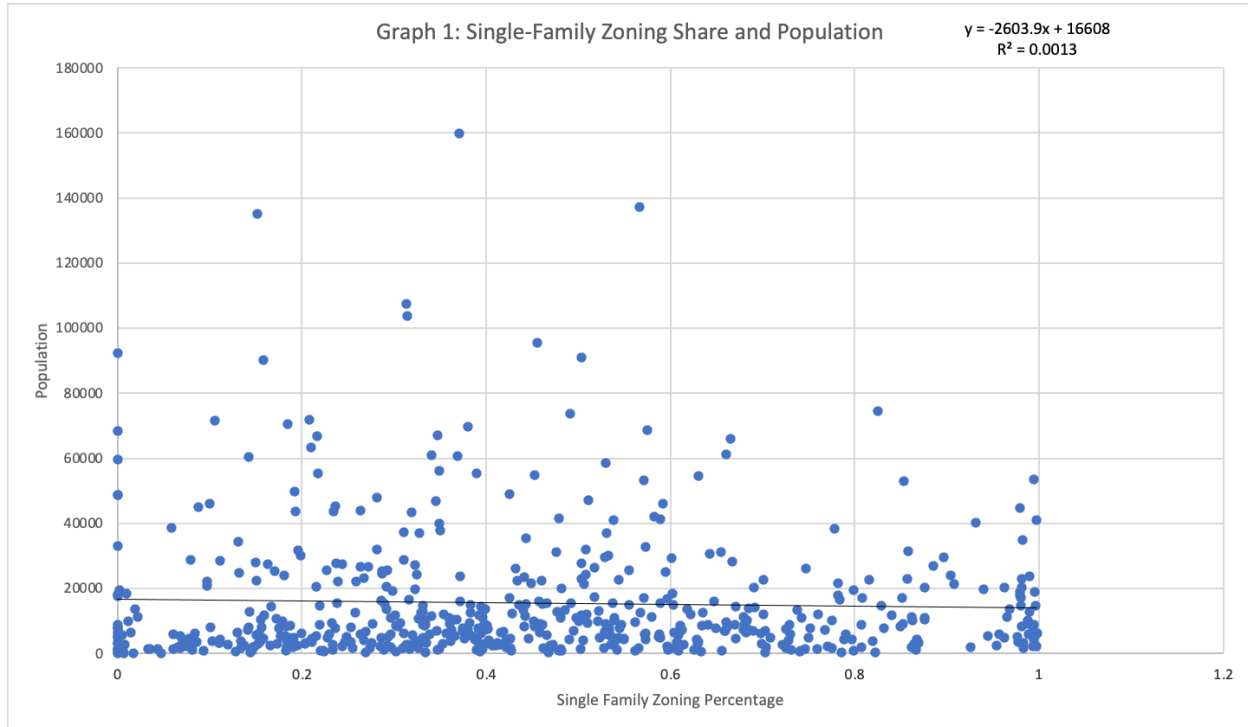


Chart 1 shows the distribution of zoning shares within the state of New Jersey as a pie chart. More than the majority (70%) of land in New Jersey is zoned as property class 2, single-family residential. The next largest type of zoning is exempt properties (12.30%), followed by vacant land (7%) and Commercial (7%). Meanwhile, only 1.13% of land in the entire state is zoned for apartments.

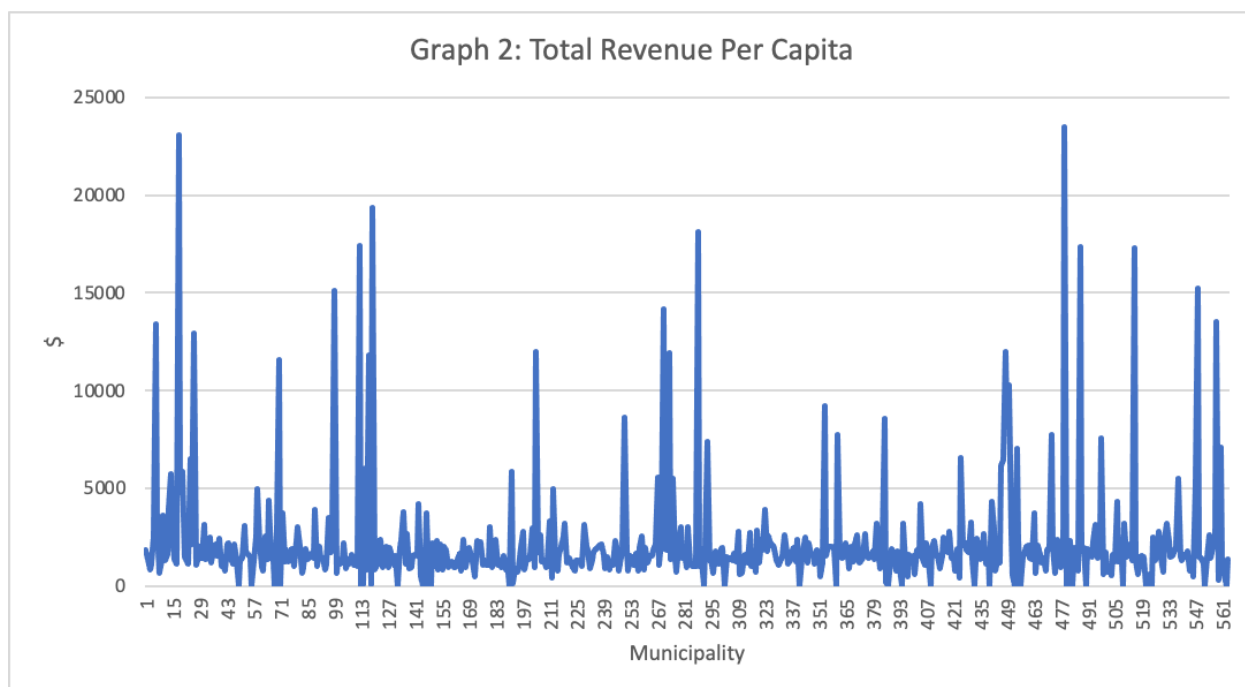


Graph 1 is a scatter plot of single-family zoning percentage and population. The graph excludes two outliers, Jersey City (292,449, 12.48%) and Newark (311,459, 34.24%) with the largest populations. Otherwise, the scatter plot is relatively evenly distributed, showing that there is little correlation between increases in population and increases in single-family zoning percentage. An R squared of 0.0013 shows low correlation between the two variables.

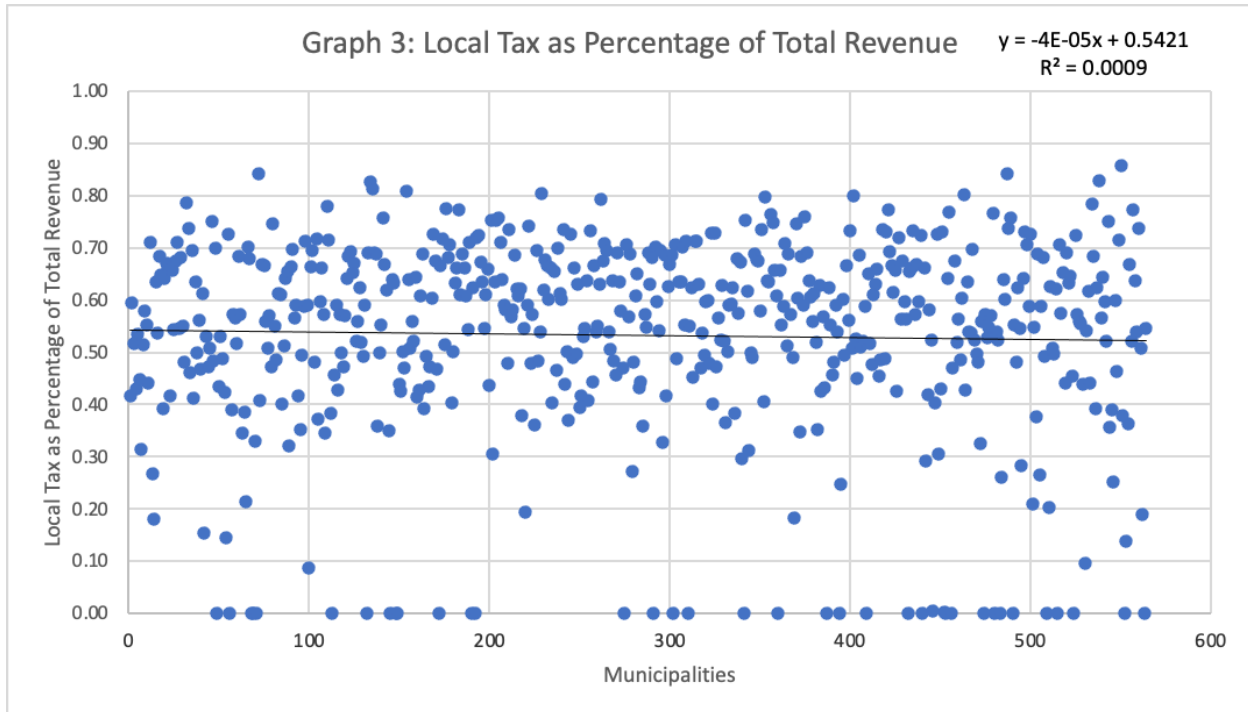
Dependent Variables

The dependent variables are related to municipal finance. Measured by total revenue per capita, local purpose tax revenue per capita, and local purpose tax as a percentage of total revenue. A local purpose tax is collected to fund the municipality in that revenue from a local purpose tax remains within the municipality. In this way, a local

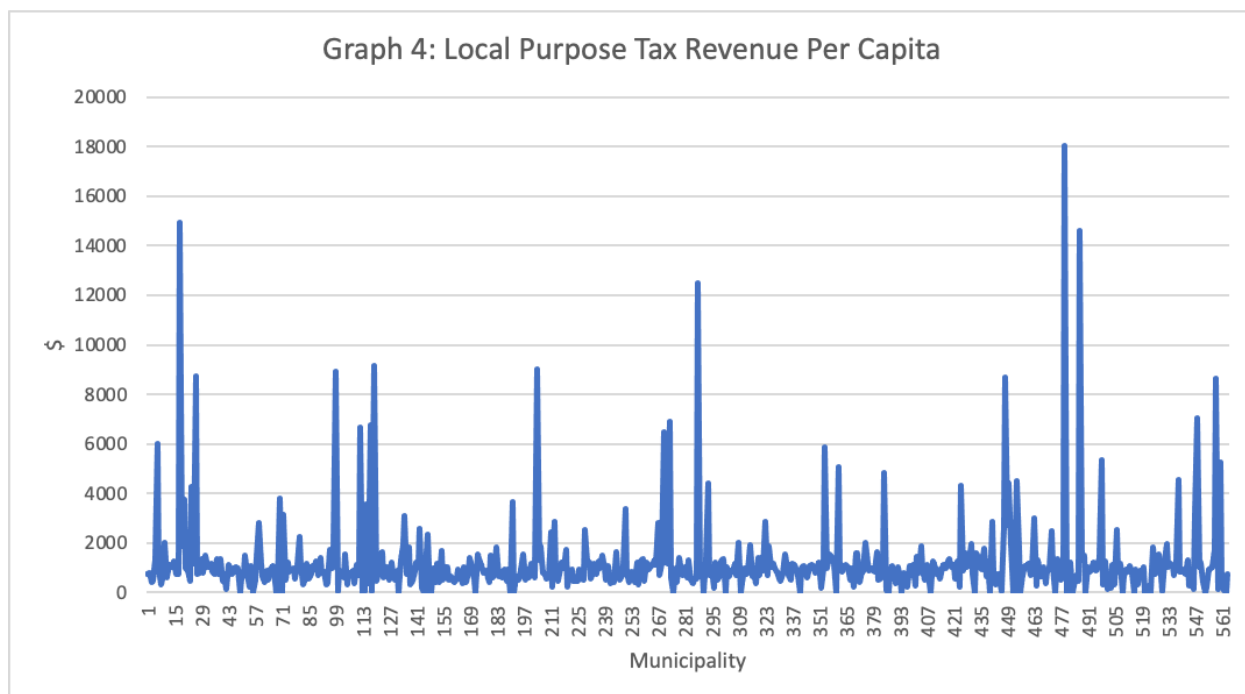
purpose tax is valuable to observe as it represents the revenue from property taxes for local purposes rather than the total revenue of the municipality. This variable can reveal a municipality's revenue sourced from local property taxes. The data on municipal revenue was not readily accessible and consequently was extracted at the municipal level. Manual data extraction, although less reliable, was necessary for this variable. My hypothesis is that municipalities with higher shares of single-family zoning will have greater revenue from a local purpose tax.



Graph 2 describes the total municipal revenue per capita variable which will be used in a primary regression model 1. This graph shows the distribution of the revenue per capita variable by the municipality. The graph reveals that although some municipalities earn up to \$23,000, most municipalities earn less than \$5,000 as revenue per capita.



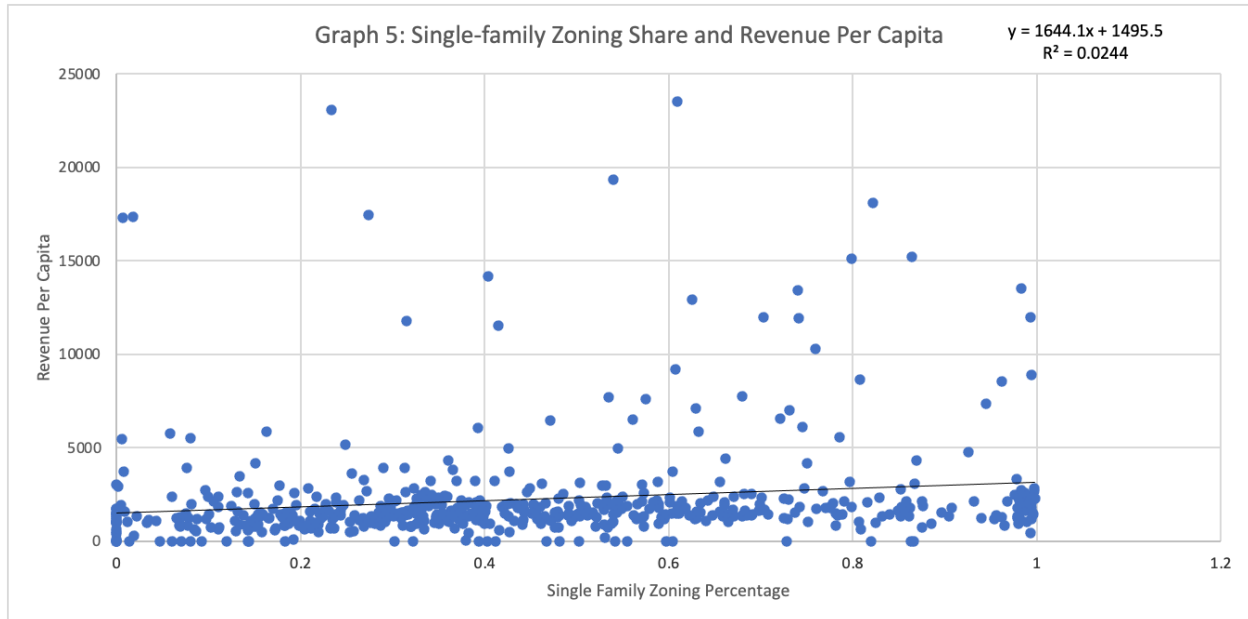
Graph 3 shows the local purpose tax as a percentage of total municipal revenue and municipality in a single variable scatter plot. This variable is important to examine as it shows the percent of total revenue that is acquired by local property taxes. The minimum is 0, the first quartile is 48.22%, the median is 58%, the third quartile is 66.81%, and the maximum is 86%. Discuss line of best fit



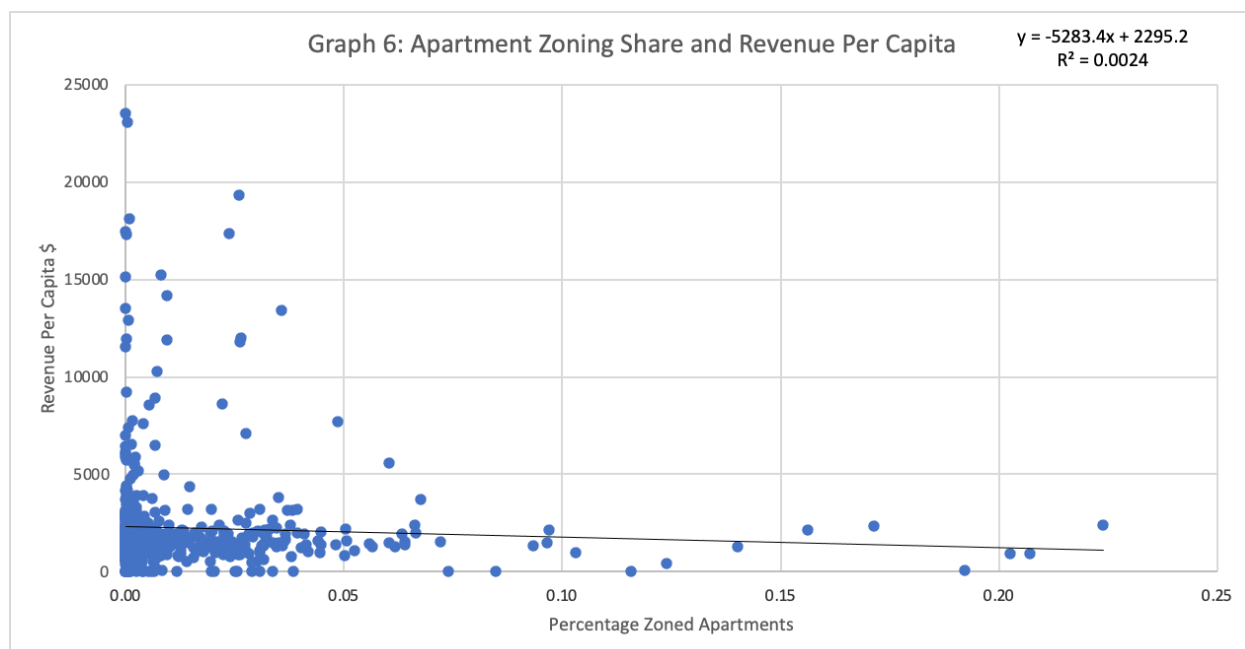
Graph 4 shows the local purpose tax revenue per capita variable by the municipality. The standard deviation of the variable is 1738, meaning that there is significant variation within the variable. The majority of municipalities' local purpose tax revenue per capita is less than \$2,000 while the 3 municipalities have a local purpose tax revenue greater than \$14,000 per capita, there is a sizable minority that makes a lot of revenue from a local purpose tax. These top municipalities are Tavistock (\$18,042 per capita), Avalon (\$14,927), and Stone Harbor (\$14,618).

Descriptive Statistics

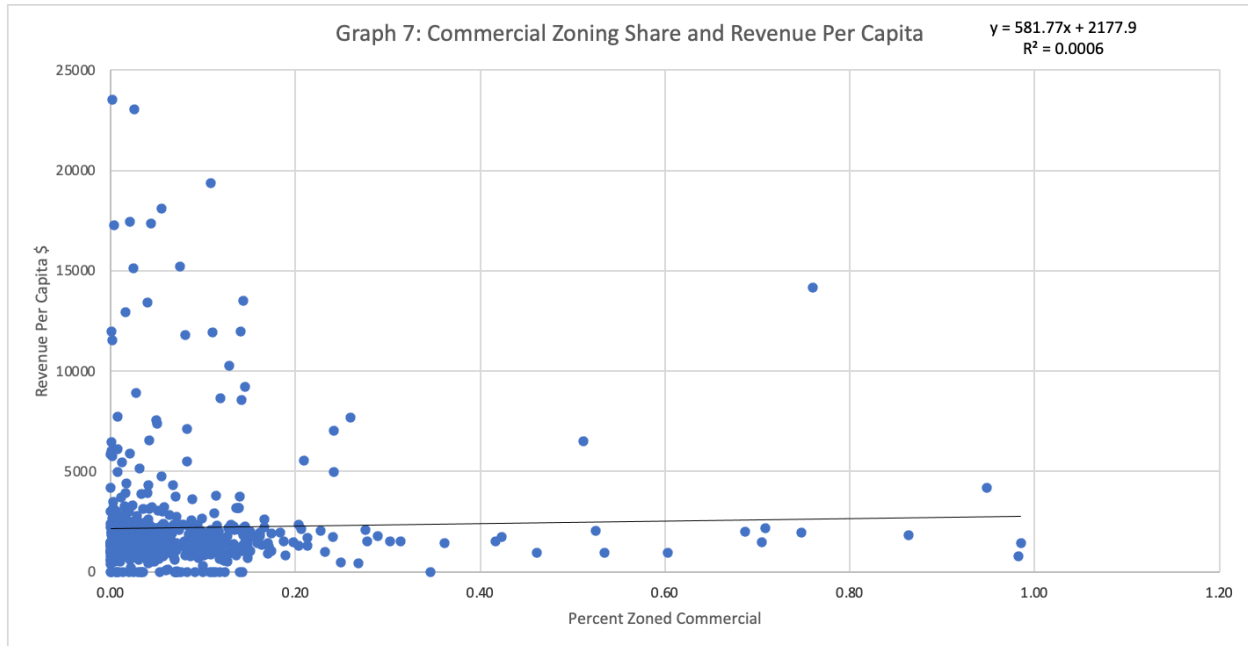
Revenue Per Capita



Graph 5 is a scatter plot of the second primary regression equation, single-family zoning percentage as the independent variable and revenue per capita as the dependent variable. The line of best-fit equation reveals that if the single-family zoning percentage is equal to zero, the revenue per capita will be \$1496. Each unit increase of single-family zoning will result in a \$16.44 increase in revenue per capita. An R squared value of 0.0244 reveals a low correlation between the two variables but the correlation is stronger than the next two graphs on the apartment and commercial zoning shares.

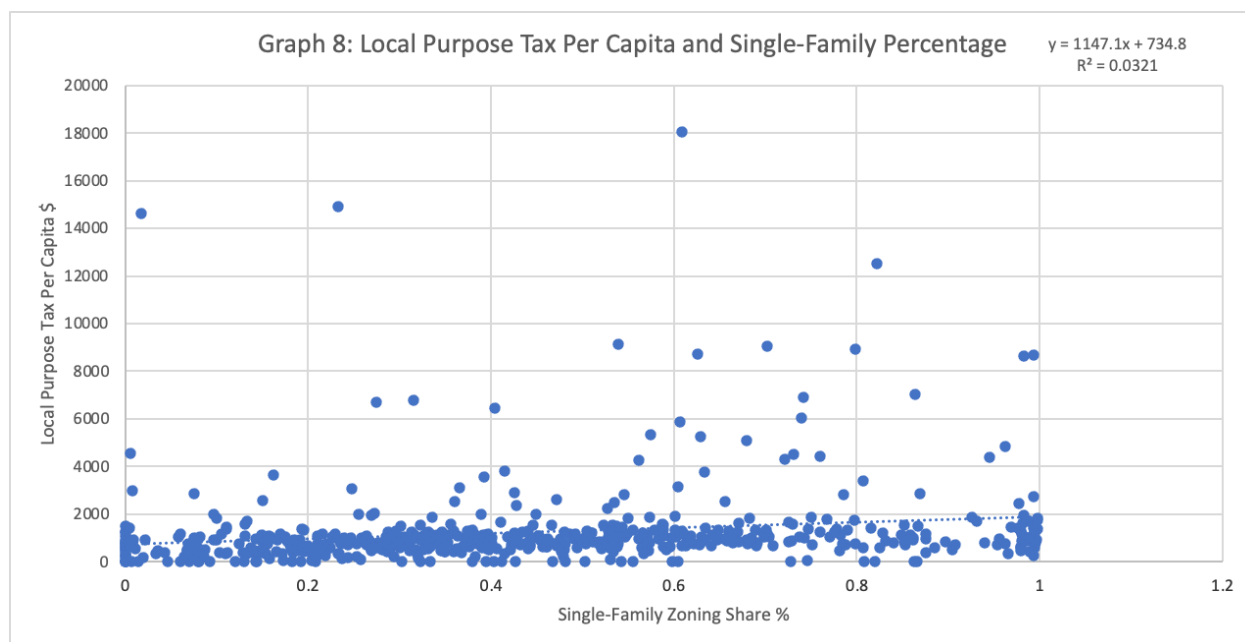


Graph 6 is a scatter plot demonstrating the relationship between an independent variable of percentage zoned apartments and a dependent variable of revenue per capita. The graph reveals a negative correlation between apartment zoning share and revenue per capita. This graph excludes outliers Audubon Park (100% apartments), Clifton (77%), and Passaic (75%). The graph shows that although a few municipalities have 10-25% zoned apartments, none of those same municipalities have a revenue per capita greater than \$5,000. The line of best-fit equation shows that if the apartment zoning share is equal to zero, the revenue per capita will be equal to \$2295. Each additional percentage increase in apartment zoning share will result in a \$52.83 decrease in revenue per capita. Lastly, the R squared value of 0.0024 reveals little correlation between the two variables, less correlation than single-family share but more than commercial share.

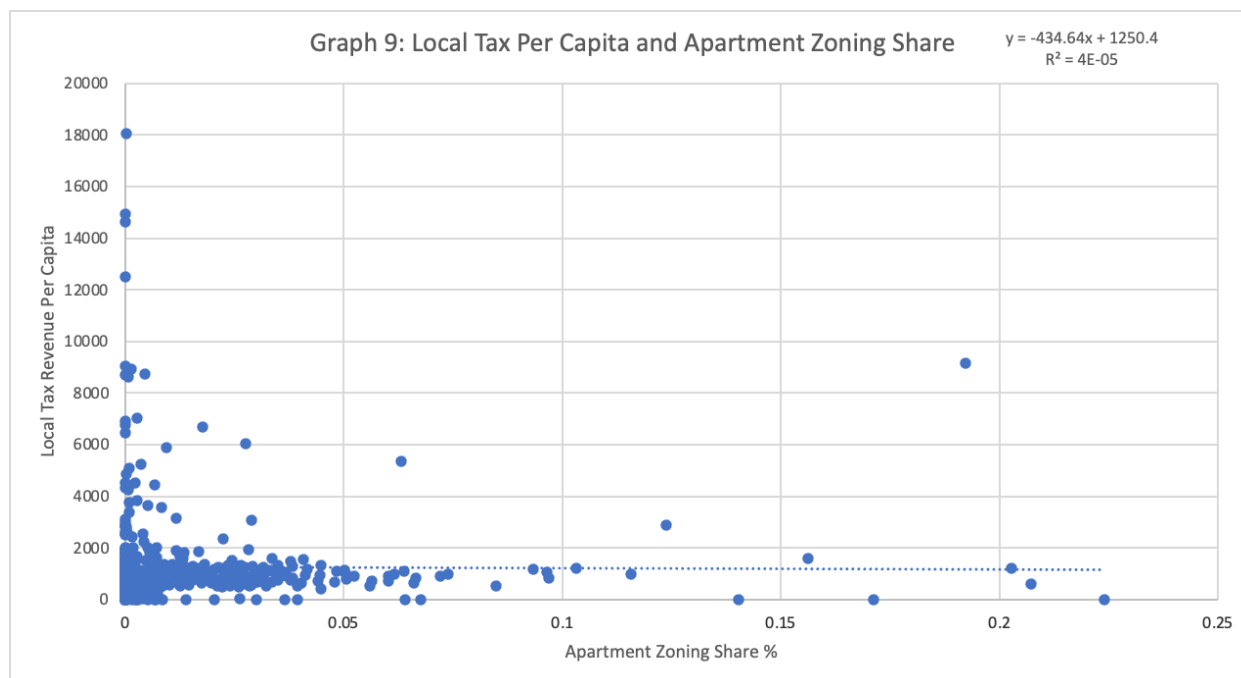


Graph 7 is a scatter plot with the independent variable as percent zoned commercial and the dependent variable of revenue per capita. This graph is included to compare the same graphs with percentage residential and apartments. The line of best-fit equation shows that if commercial zoning share is equal to zero, revenue per capita will be equal to \$2178. Further, a single unit increase in commercial zoning share will result in a \$5.82 increase in revenue per capita. The R squared value of 0.0006, represents the least correlation between commercial shares and both single-family or apartment shares.

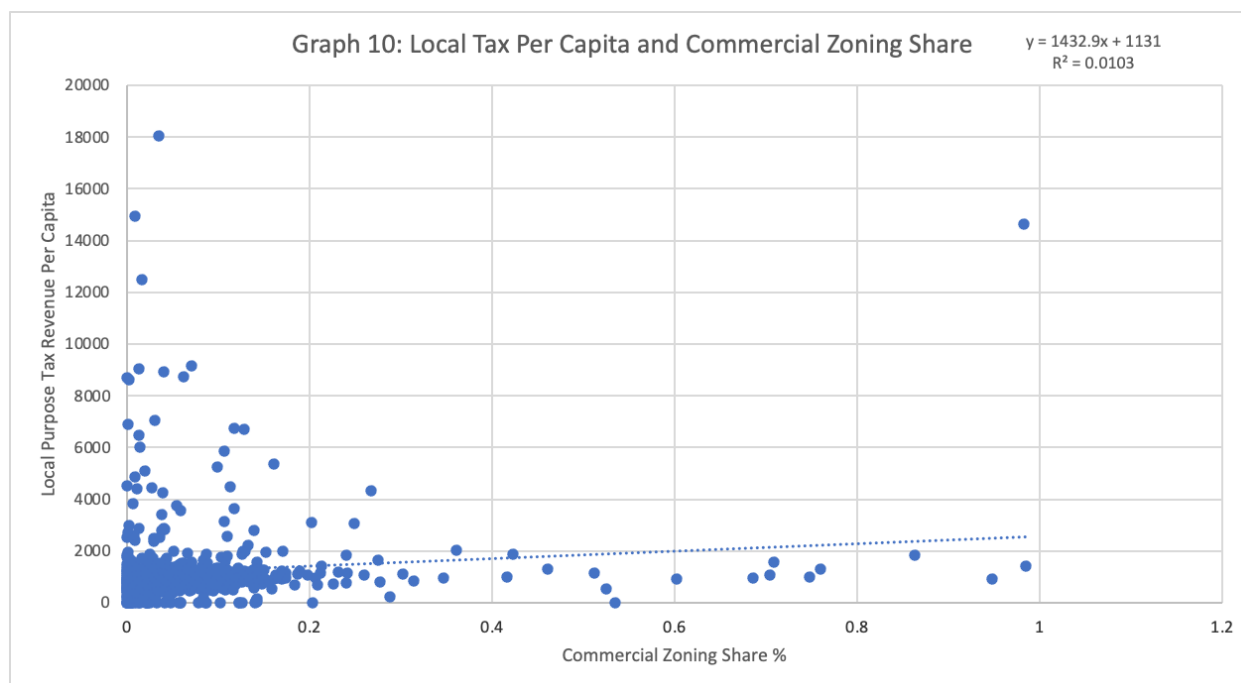
Local Purpose Tax Revenue Per Capita



Graph 8 is a scatter plot of percentage zoned single-family residential as the independent variable and local purpose tax revenue per capita as the dependent variable. This graph represents the relationship between the key variables of the third regression. The line of best fit shows a positive correlation. Further, the equation reveals that if the single-family zoning share is equal to zero, local tax per capita will be \$735. The local tax per capita will increase by \$11.47 for each percentage increase in single-family zoning share. The R squared value of 0.0321 reveals little correlation between the two variables but does show more correlation than the following graphs of apartments and commercial zoning shares.

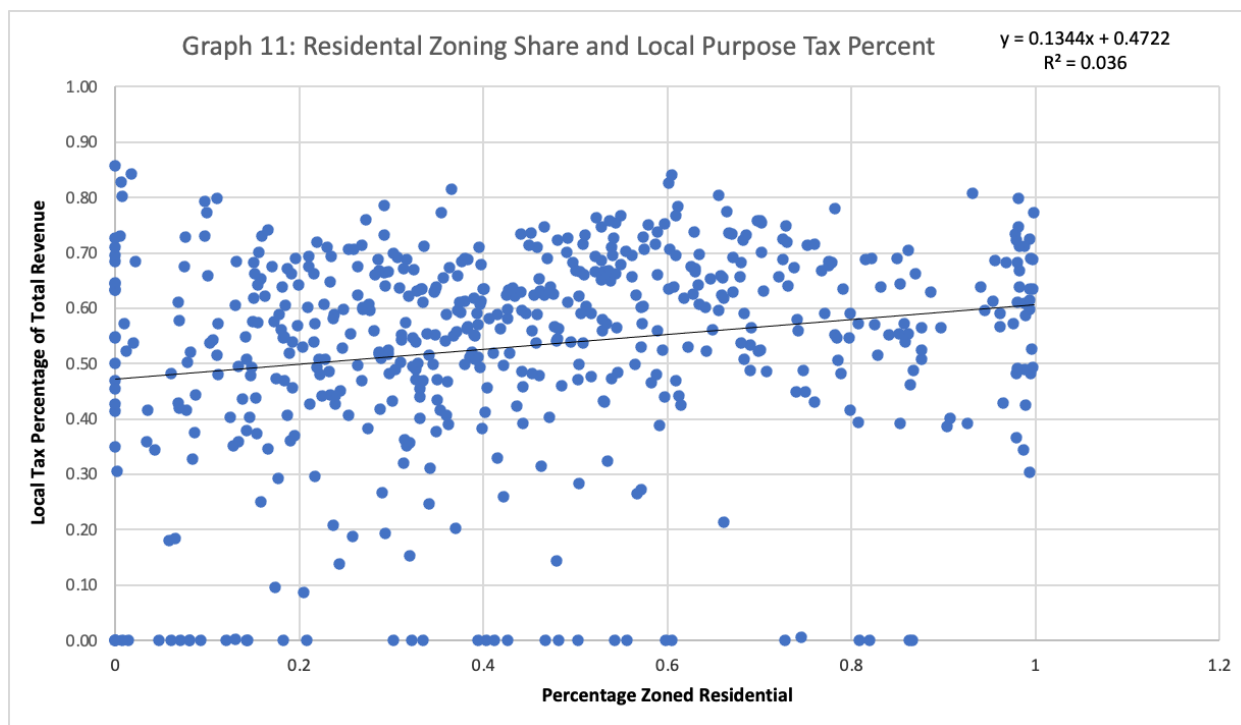


Graph 9 is a scatter plot of percentage zoned apartments as the independent variable and local purpose tax revenue per capita as the dependent variable. This graph excludes outliers Audubon Park (100% apartments), Clifton (77%), and Passaic (75%). The line of best fit shows a negative correlation between apartment zoning share and local tax revenue per capita. The equation reveals that if the apartment zoning share is equal to zero, the local tax per capita will be \$1250. Further, the local tax per capita will decrease by \$4.35 with each increasing unit of apartment percent. The R squared is very close to zero meaning that there is very little correlation between the two variables, less than both single-family and commercial zoning shares.

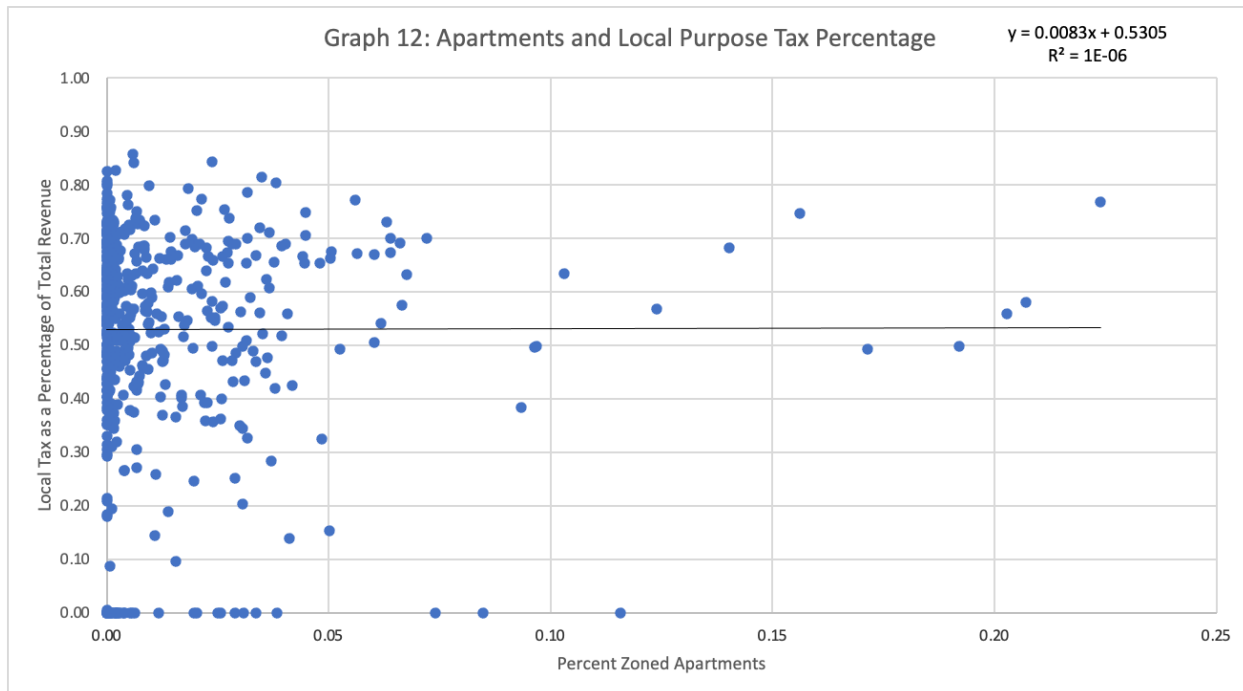


Graph 10 is a scatter plot with an independent variable of commercial zoning share and a dependent variable of local purpose tax revenue per capita. The line of best fit shows that there is a positive correlation between the two variables. The equation concludes that if the commercial zoning share is equal to zero, the local tax per capita will be \$1131. Also, each increasing percentage of the commercial share will correlate with a \$14.32 increase in local tax per capita. The R squared value is 0.0103 which reveals a limited correlation between the two variables. This value is less than that of the single-family zoning share graph and more than the apartments zoning share graph.

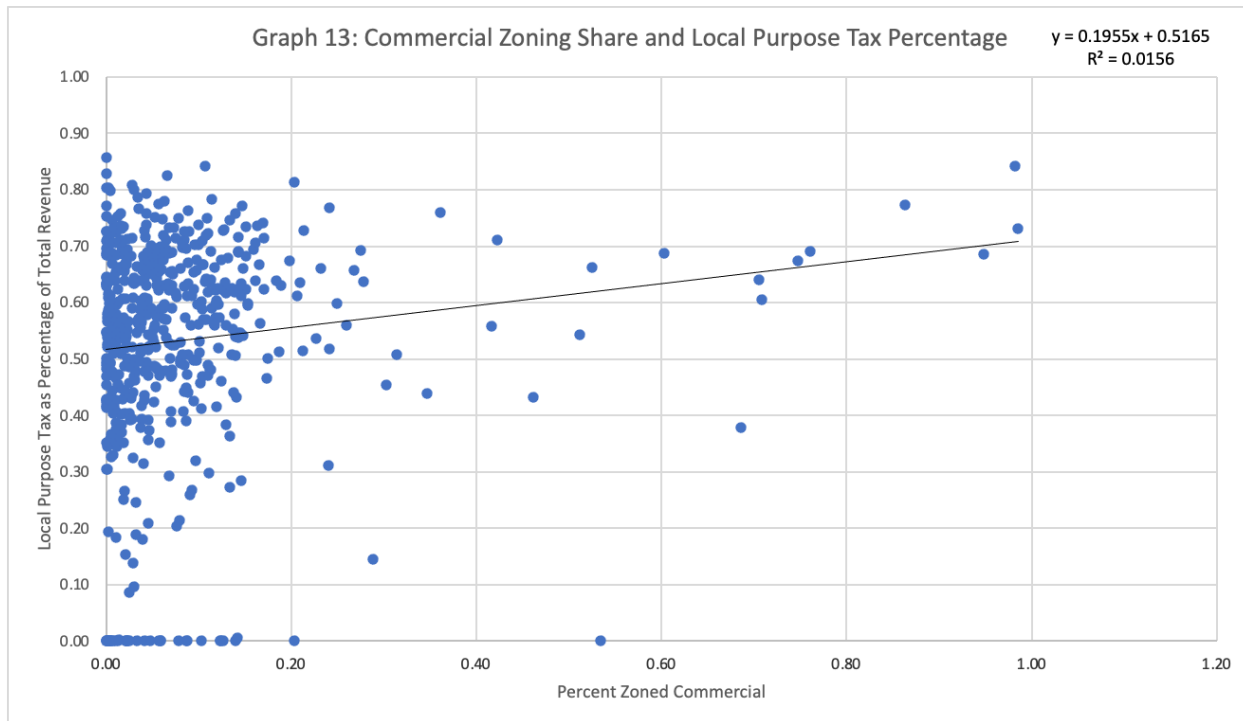
Local Purpose Tax as a Percentage of Total Revenue



Graph 11 is a scatter plot of the regression 3a, percentage of single family zoning share as the independent variable and local purpose tax as a percentage of total revenue as the dependent variable. The line of best fit equation represents that when percentage zoned residential is equal to zero, the local tax percentage of total revenue is 47.22%. Further that each 10 percent increase in single-family residential zoning share will result in a 1.34% increase in the local purpose tax percentage. An R squared value of 0.036 reveals that the variables have low correlation but higher than the graphs for apartments and commercial zoning shares.



Graph 12 shows the percent zoned apartments as the explanatory variable and local tax as a percentage of total revenue as the dependent variable, the graph excludes outliers Audubon Park (100% apartments), Clifton (77%), and Passaic (75%). This graph shows a marginally positive correlation between apartments' zoning share and local tax percentage with a median of 57%. The line of best fit equation shows that when the percent zoned apartment is equal to zero, the local tax percentage of total revenue is 53.05%. Further, with each percentage increase in apartments will result in a 0.83% increase in local tax percentage of total revenue. This increase is significantly smaller than in the previous graph representing single-family zoning share instead of apartment share. Further, the R squared value of 1×10^{-6} reveals that there is very little correlation between the two observed variables and also less correlation than the graph with single-family zoning share. This graph is included to be compared to the percent zoned residential and commercial graphs above and below.



Graph 13 is a scatter plot of the percent zoned commercial as the independent and local purpose tax as a percentage of total revenue as the dependent variable. This graph is included to compare with the percent zoned residential and apartment graphs above. The line of best-fit equation shows that when the percentage zoned commercial is equal to zero, the local purpose tax percentage will be 51.65% which is greater than the intercept for single-family zoning share and less than the intercept for apartment zoning share. Further, each increase in the percentage of commercial zoning share will result in a 1.95% increase in local purpose tax as a percentage of total revenue. Lastly, an R squared value of 0.0156 shows that the single-family zoning share has the largest correlation, and apartments have the least correlation with the local purpose tax as a percentage of the total revenue variable.

Regression Equations

This study utilized regression analysis to match a correlation/association research design. Regression analysis was chosen to best show the correlation between zoning shares and municipal finance.

Regression 1a: Revenue per capita (DV) = SF zoning share (%) (EV)

Regression 1b: Revenue per capita (DV) = SF zoning share (%) (EV) + Controls

The first two regressions included dependent variable revenue per capita and explanatory variables single-family zoning share percentage, and 1b also includes control variables. Revenue per capita is an appropriate dependent variable as it shows the municipality's revenue adjusted for the population.

Regression 2a: Local Purpose Tax Revenue Per Capita (DV) = SF Zoning Share (%) (EV)

Regression 2b: Local Purpose Tax Revenue Per Capita (DV) = SF Zoning Share (%) (EV) + controls

Regressions 2a and 2b with a dependent variable of local purpose tax revenue per capita and an explanatory variable of single-family zoning share for regression 2a and single-family zoning share plus control variables for regression 2b. It was important to observe the relationship between single-family zoning share and local purpose tax revenue per capita as the local purpose tax is the portion of property taxes dedicated to a municipality's local purposes.

Regression 3a: Local purpose tax as % of total revenue (%) (DV) = SF zoning share (%) (EV)

Regression 3b: Local purpose tax as % of total revenue (%) (DV) = SF zoning share (%) (EV) + Controls

Regressions 3a and 3b included local purpose tax as a percentage of total revenue as the dependent variable and single-family zoning share as the explanatory variable, and 3b also includes control variables. Local purpose tax as a percentage of total revenue is an important dependent variable to study as it shows a municipalities' percentage of property taxes dedicated to local purposes within the total revenue.

Regression Results

The regression results are all relatively similar despite three different dependent variables of revenue per capita, local purpose tax revenue per capita, and local tax as a percentage of total revenue. All of the regressions show a statistically significant and positive relationship between single-family zoning share and the dependent variables. Regression 1b has the highest adjusted R squared value of 0.49.

Regression 1a: Revenue per capita = SF zoning share (%)

DV: Revenue Per Capita		Adjusted R-Squared: 0.023
	Coefficients	P-Value
Intercept	1495.53	1.31 E-10
Single-Family Percentage	1644.05	0.000195

The results of the first regression show that if the single-family zoning share is equal to zero, the municipal revenue per capita will be \$1495. Further, the revenue per capita will increase by \$16.44 with each percentage increase in single-family zoning share. The single-family zoning percentage variable is statistically significant as the P-Value is lower than 0.05 at 0.000195.

Regression 1b: Revenue per capita = SF zoning share (%) + Controls

DV: Revenue Per Capita		Adjusted R-Square: 0.49
	Coefficients	P-Value
Intercept	3255.59	4 E-08
Single-Family Zoning Percentage	988.30	0.0052
Area	4.04	0.49
Density	-0.006	0.77
Workforce Participation	-0.064	0.08
Unemployed	0.653	0.0045
Median Rent \$	-0.071	0.74
Average Residential Property Value \$	0.0006	0.04
Housing Units #	-0.01	0.78
Percentage Owner-Occupied	-2928.48	8 E-06
Per Capita Taxable Property Value \$	0.003	4 E-39
Municipal Budget Per Capita \$	-0.17	6 E-10
Municipal Tax Rate	67.23	0.62
Percentage African American	-11.34	0.25
Percentage Asian	-2.71	0.81
Percentage Hispanic	-5.17	0.56

DV: Revenue Per Capita		Adjusted R-Square: 0.49
	Coefficients	P-Value
Intercept	3255.59	4 E-08

Single-Family Zoning Percentage	988.30	0.0052
Workforce Participation	-0.064	0.08
Unemployed	0.653	0.0045
Average Residential Property Value \$	0.0006	0.04
Percentage Owner-Occupied	-2928.48	8 E-06
Per Capita Taxable Property Value \$	0.003	4 E-39
Municipal Budget Per Capita \$	-0.17	6 E-10

The regression results including controls reveal that if the single-family zoning share is equal to zero, the revenue per capita will be \$3255. Further, the results also show that a single unit increase in single-family zoning will result in a \$9.88 increase in revenue per capita and is statistically significant. The workforce participation is a statistically significant control variable with a P-value of 0.08. Percent unemployed is also statistically significant with a P-value of 0.0045. Another statistically significant variable is the average residential property value with a P-Value of 0.036. Further, the percent owner-occupied is statistically significant at a P-value of 7.93×10^{-6} per capita tax at 3.6×10^{-36} . Lastly, the municipal budget per capita is also statistically significant at 5.84×10^{-10} .

Regression 2a: Local Purpose Tax Revenue Per Capita = SF Zoning Share (%)

DV: Local Tax Per Capita		Adjusted R Squared: 0.0045
	Coefficient	P-Value

Intercept	1003.80	3.65E-07
Single-Family Zoning Percentage	706.34	0.06

Regression 2a concludes that if the single-family zoning share is equal to zero, the municipality's local purpose tax revenue per capita will be \$1004. Further, each unit increase in single-family zoning share will result in a \$7.06 increase in local purpose tax revenue per capita. The single-family zoning share variable is statistically significant as the P-Value is 0.0597.

Regression 2b: Local Tax Per Capita = SF Zoning Share (%) + Controls

DV: Local Tax Per Capita		Adjusted R Squared: 0.31
	Coefficient	P-Value
Intercept	1274.47	0.026
Single-Family Zoning Percentage	610.68	0.076
Area	28.56	7.3E-07
Density	0.02	0.34
Workforce Participation	-0.06	0.89
Unemployed	0.36	0.094
Median Rent \$	0.14	0.50
Average Residential Property Value \$	0.00049	0.081
Housing Units #	-0.0015	0.97

Percentage Owner-Occupied	-1951.74	0.0022
Per Capita Taxable Property Value \$	0.0022	3 E-23
Municipal Budget Per Capita \$	-0.12	3.9 E-06
Municipal Tax Rate	94.36	0.48
Percentage African American	-7.45	0.44
Percentage Asian	3.46	0.75
Percentage Hispanic	3.007	0.73

Regression 2b results show that if the single-family zoning share is equal to zero, the local purpose tax revenue per capita will be \$1274. Further, a single unit increase in single-family zoning share will result in a \$6.10 increase in local purpose tax revenue per capita. This variable is statistically significant and has a P-Value of 0.0765. The statistically significant control variables are area (P Value= 7.31×10^{-7}), workforce participation (P Value= 0.089), unemployed (P Value= 0.094), average residential property value (P Value= 0.081), per capita taxable property value (P Value= 2.99×10^{-23}), and municipal budget per capita (P Value= 3.89×10^{-6}).

Regression 3a: Local purpose tax as % of total revenue = SF zoning share (%)

DV: Local Purpose Tax as a Percentage of Total Revenue		Adjusted R-Squared: 0.034
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	Coefficients	P- Value
Intercept	0.47	3.1 E-123
Single-Family Zoning Percentage	0.13	5.76 E-06

The third regression shows that if a single-family zoning share is equal to zero, the local purpose tax as a percentage of total revenue will be 47%. Then, a 10 percent increase in single-family zoning, will increase the local purpose tax share by 1.3%. This variable is statistically significant with a P-value of 5.76xE-6.

Regression 3b: Local tax as % of total revenue = SF zoning share (%) + Controls

DV: Local Tax as a Percentage of Total Revenue		Adjusted R Squared: 0.13
	Coefficients	P-Value
Intercept	0.20	0.00014
Single-Family Zoning Percentage	0.09	0.0035
Area	-0.00013	0.81
Density	2 E-06	0.29
Workforce Participation	2.4 E-06	0.46
Unemployed	5.39 E-06	0.79
Median Rent \$	5.89 E-05	0.0018

Average Residential Property Value \$	4.2 E-08	0.094
Housing Units #	2.41 E-06	0.46
Percentage Owner-Occupied	0.20	0.00054
Per Capita Taxable Property Value \$	6.4 E-08	0.00061
Municipal Budget Per Capita \$	-7 E-06	0.00266
Municipal Tax Rate	0.050	3.6 E-05
Percentage African American	-0.0016	0.065
Percentage Asian	0.00266	0.0073
Percentage Hispanic	0.0014	0.07

The regression results show that when the single-family zoning share is equal to zero, the local purpose tax as a percentage of total revenue will be 19%. Consequently, a 10 percent increase in a unit of single-family zoning will result in a 0.9% increase in local purpose tax as a percentage of total revenue, this variable is statistically significant with a P-Value of 0.0034. From the controls, the median rent is statistically significant with a P-Value of 0.0018, also the percentage owner-occupied (P Value= 0.000535), the municipal tax rate (P Value=3.57xE⁻⁵), the per capita taxable property value (P Value= 0.000612), the municipal budget per capita (P Value= 0.00266), the percentage African American (P Value= 0.0647), the percent Asian population (P Value= 0.0073), and the last statistically significant control is percentage Hispanic (P Value= 0.0698).

Summary of Results

All six regressions show a strong positive and statistically significant correlation between single-family zoning share and revenue per capita, local tax per capita, and local tax as a percentage of total revenue. With the addition of control variables in the three b regressions, the increase in the dependent variable decreased but still remained positive and statistically significant in all cases. Despite the three different dependent variables, all had similar results, the most significant being regression 1b with a \$9.88 increase in revenue per capita and an adjusted R squared value of 0.49. Overall, the results align with the hypothesis that single-family zoning and municipal finance variables will correlate positively.

Discussion

The above analysis was guided by the main research question: what is the relationship between zoning shares and municipal finances in New Jersey? My hypothesis was that municipalities that prioritize single-family residential zoning will have higher municipal revenue than communities that do not prioritize single-family residential zoning.

Within the three sections of descriptive statistics graphs, the single-family zoning share graphs all had the largest R squared values and correlation between the other variables. This reiterates my hypothesis that single-family residential zoning share will

be most correlated with increases in total revenue per capita, local tax as a percentage of total revenue, and local tax per capita. Despite single-family zoning share showing the largest correlation, the variable still had relatively low R squared values ranging from 0.0244 to 0.036. Further, apartments zoning share was the only variable to show a negative correlation in the graphs with revenue per capita and local purpose tax per capita. Meanwhile, apartments and local purpose tax as a percentage of total revenue showed a minimally positive correlation. This may have been because the dependent variable is a percentage rather than a numerical value.

I found a strong positive correlation between revenue per capita and single-family zoning share. Regression 1a shows that the revenue per capita will increase by \$16.44 with each percentage increase in single-family zoning share. When controlling for labor, housing, and socioeconomic characteristics, the impact of a 1% increase in single-family zoning on revenue per capita decreases to \$9.88, but it is still positive and statistically significant. These results align with my hypothesis that increases in single-family zoning share will correlate with greater municipal revenue. Further, Regression 1b had an adjusted R squared value of 0.49 which shows that there is a correlation between single-family zoning share and revenue per capita when controlling for other factors.

I found a strong positive correlation between local purpose tax revenue per capita and single-family zoning share. Regression 2a concluded that a single unit increase in single-family zoning share would result in a \$7.06 increase in local purpose tax revenue per capita. After, Regression 2b showed that when including control variables, local purpose tax revenue per capita will only increase by \$6.10 for each unit

increase of single-family zoning share. This variable is also statistically significant and shows a positive correlation.

I found a strong positive correlation between local purpose tax as a percentage of total revenue and single-family zoning share. Regression 3a shows that the local purpose tax percentage will increase by 1.3% with each percentage increase in single-family zoning share. After the addition of the control variables, the impact of a single unit increase in single-family zoning share decreases to 0.9%. The variable is statistically significant and shows a positive correlation. The results show that increases in single-family zoning not only correlate with increases in municipal revenue but particularly revenue from a local purpose tax.

All six regressions show a positive and statistically significant correlation between single-family zoning share and revenue per capita, local tax percentage of total revenue, and local tax per capita. These results support my hypothesis that an increase in single-family zoning share will correlate with increases in municipal revenue.

Policy Recommendations

In the past few years, there has been an increase in the discussion of upzoning within housing policy solutions aiming to solve urban sprawl. Several cities including Minneapolis, have decided to initiate upzoning plans that eliminate single-family zoning throughout suburban cities. The goal of this effort is to incentivize development that prioritizes diversity of development rather than solely single-family. Upzoning dismantles single-family zoning to allow for duplexes and multi-family housing on sites previously single-family.

Throughout New Jersey's suburban development, many municipalities chose to zone almost entirely single-family residential, which created communities of isolated wealth accumulation and no opportunity to develop any housing other than single-family.

One proposed policy solution entails targeted upzoning throughout the state of New Jersey. Although studies on upzoning are relatively novel, it is agreed upon by many scholars that it is unlikely that widespread universal upzoning throughout an entire area would be beneficial³⁷. Meanwhile, targeted upzoning of areas that have been found to be primarily single-family could diversify communities' housing and provide opportunities for more affordable housing opportunities within New Jersey's suburbs.

Upzoning Research

Although research on the effects of upzoning is limited, Daniel Kuhlmann has recently published research on the beginning impacts of upzoning in Minneapolis (2021). Previous to upzoning initiatives, Minneapolis included an urban center and surrounding suburban sprawl largely zoned single-family residential. A dramatic legislative change, called the Minneapolis 2040 Community Plan, outlines the initiative to dismantle single-family zoning and allow for upzoning development. Minneapolis is valuable to research suburban New Jersey as both are largely zoned single-family regardless of density. The initiative in Minneapolis is focused on incentivizing

³⁷ Davis, Jenna. "The Double-Edged Sword of Upzoning." Brookings. Brookings, July 15, 2021. <https://www.brookings.edu/blog/how-we-rise/2021/07/15/the-double-edged-sword-of-upzoning/>.

development that transitions single-family units to multi-family or multi-use properties. This transition is aimed to increase the density of the urban landscape in Minneapolis.

Daniel Kuhlmann's research on the initial effects of the Minneapolis 2040 Community Upzoning Plan suggests that the upzoning (and speculation of upzoning) of Minneapolis may result in an increase in property values in the urban hub of Minneapolis. Further, he found that when moving from the urban hub of Minneapolis to the suburbs, it is less likely for property taxes to rise from upzoning transitions³⁸. Kuhlmann "find[s] that the price increases were largest in relatively low-valued neighborhoods and among houses that are relatively small compared with their immediate neighbors". This effect is consistent with real estate speculation associated with gentrification in urban areas like Minneapolis. Meanwhile, the proposed targeted upzoning recommendations for the state of New Jersey will not focus on upzoning in urban areas but rather on upzoning in sprawling residential communities less prone to displacement.

Kuhlmann's research also found that in Minneapolis, "because most single-family homes are owner-occupied (87% in Minneapolis, according to the 2014–2018 5-year American Community Survey estimates), it is unlikely that the changes identified here will substantially displace lower-income renters". Consistent with this research, it will be important to prioritize municipalities that have higher percentages of owner-occupied units in targeted upzoning efforts in New Jersey to avoid the displacement of residents.

Daniel Kuhlmann in *Upzoning and Single-Family Housing Prices*, concludes that "understanding whether the price increases I identify here actually result in new housing

³⁸ Daniel Kuhlmann (2021) *Upzoning and Single-Family Housing Prices*, *Journal of the American Planning Association*, 87:3, 383-395, DOI: [10.1080/01944363.2020.1852101](https://doi.org/10.1080/01944363.2020.1852101)

development, documenting where it occurs, and measuring the impact this has on displacement and marketwide housing prices are all important topics for future research”. Although this initial research on the effects of upzoning in Minneapolis may be critical to understanding the potential of upzoning initiatives, the plan is only in its earliest stages and much more intensive research will be necessary to properly understand upzoning’s impacts.

Upzoning in New Jersey

Targeted upzoning would be valuable in New Jersey for communities that experience suburban sprawl, low density, relevantly median to high property values, and highly owner-occupied municipalities. Targeted upzoning could be valuable to restructure New Jersey’s existing racist and exclusionary zoning policy. Organizing efforts like those surrounding the Mount Laurel Doctrine prove that there is a need and desire to transition the New Jersey suburbs away from exclusionary land-use policy.

Throughout the history of zoning and land use in New Jersey, juridical overview and municipal power have gone far to preserve the right to zone for the “general welfare” of a particular municipality. The definition of general welfare has been much broader in NJ than in other states that tend to draw the line at public health, safety, and morals³⁹. Many New Jersey municipalities have utilized fiscal zoning practices to zone primarily single-family to receive the best financial outcome.

³⁹ Cunningham, Roger A. “Zoning Law in Michigan and New Jersey: A Comparative Study.” *Michigan Law Review* 63, no. 7 (1965): 1171–1202. <https://doi.org/10.2307/1286858>.

Proposed Policy Recommendations

The proposed policy recommendations include targeted upzoning for communities that would benefit from more diverse future development. These communities would be most beneficially impacted by targeted upzoning because they will struggle to develop sustainably and affordably for New Jersey residents. Targeted upzoning approaches would focus on dismantling existing single-family zoning to allow for the restructuring and development of single-family homes to duplexes and multi-family housing at a more affordable price. Further, subtly increasing the density of the suburbs could create more walkable communities, incentivize the development of public transit, incentivize the development of central community spaces, and create healthier and more diverse communities within New Jersey. The upzoning initiative will be a state-led program to be adopted and adjusted for individual municipalities to best meet their needs, as it is clear that different communities have different land use needs.

Case Studies for targeted upzoning

To choose municipalities that would be good candidates for upzoning. I have focused on 5 indicating variables. The most important variable to look for is the percentage of single-family zoning, I found that within the 565 municipalities I studied, the median for sf zoning share was 41% and the third quartile was 63%. For my case studies, I chose municipalities that all had sf zoning shares above 63% and above average for the state of New Jersey.

Further, as I mentioned above in order to avoid displacement of residents, it is critical that upzoning initiatives focus efforts on communities with high percentages of

own-occupied housing. This is because people living in owner-occupied properties are less likely to be displaced as a result of new development. Within my dataset, I found that the median percentage of owner-occupied units in New Jersey municipalities is 68% and the third quartile is 79%.

Another indicating variable is a high average residential property value. I found the New Jersey median of all 565 municipalities' average residential property value to be \$334,172 and the third quartile to be 495,268.

High median rent is another indicator of the potential for upzoning in New Jersey. High median rent likely means that there is demand for housing within the community which could be met by upzoning efforts. I found the New Jersey median rent to be \$1404/month with the third quartile of \$1651.

The last indicator I considered was low density within a particular municipality. As upzoning is an initiative that would increase density, it would be important to consider the density of a given municipality when considering upzoning. I found the density median to be 2,118 and the first quartile to be 617.

Potential Case Studies for Upzoning

Name	County	% SF	% Owner-Occupied	Median Rent	Avg Residential Property Value	Density
Livingston	Essex	86%	85%	\$2,811	\$710,652	2204
Mansfield	Burlington	80%	87%	\$1,054	\$312,612	392
Roxbury	Morris	86%	83%	\$1,494	\$350,986	1092
Springfield	Union	81%	86%	\$876	\$315,255	110

West Windsor	Mercer	90%	66%	\$2090	\$595,853	1116
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Livingston in Essex county has the potential to benefit from upzoning as the community is 86% zoned single-family residential and is 85% owner-occupied. Further, the community has a density of 2204, a median rent of \$2,811, and an average residential property value of \$710,652. The municipality has a population of over 30 thousand and is 14 square miles.

Mansfield in Burlington county has the potential for upzoning being zoned 80% single-family and 87% owner-occupied. The municipality has a low density of 392, a median rent of \$1,054, and an average residential property value of \$312,612. The municipality has a population of over 8 thousand and is 21 square miles.

Roxbury in Morris county has the potential to benefit from upzoning as the municipality is zoned 86% single-family residential and is 83% owner-occupied. The municipality has a density of 1092, a median rent of \$1,494, and an average residential property value of \$350,986. The municipality has a population of 22 thousand and is 22 square miles.

I chose Springfield in Union County as a municipality with the potential to benefit from upzoning because Springfield is 81% zoned single-family and 86% owner-occupied. Further, the municipality has a 110 density, \$876 median rent, and \$315,255 average residential property value. The municipality is 5 square miles large and has a population of 17 thousand.

My fifth case study recommendation is West Windsor located in Mercer County. West Windsor is zoned 90% single-family residential, is 66% owner-occupied, 1116

density, \$2090 median rent, \$595,853 average residential property value. The municipality is 26.27 square miles large and has a population of 28 thousand residents.

How to Upzone New Jersey?

The history of most New Jersey zoning decisions has been made by municipalities or juridical review. The proposed upzoning initiative will be a state program to be adopted by municipalities to initiate sustainable and affordable growth. The program will be able to help meet municipalities' affordable housing mandates.

The result of the several court cases known as the Mount Laurel Doctrine (1983) was that each municipality was required to build their *fair share of affordable housing* but the legislation include a loophole until 2008. This was known as Regional Contribution Agreements (RCA) where a municipality could pay for affordable housing in another community in the region, effectively paying their way out of building affordable housing in their own municipality. This was until a landmark legislative decision (Bill A-500) in 2008 that effectively closed this loophole and abolished regional contribution agreements (RCAs)⁴⁰. The success of this legislation is in part due to the efforts done by The Fair Share Housing Program in Cherry Hill, NJ. Upzoning has the potential to be utilized by New Jersey municipalities to meet their fair share of affordable housing needs.

Upzoning should be done by the municipality because in New Jersey zoning is done primarily by the municipality and zoning decisions are most appropriate at the municipal level. Each municipality has different land use needs and should be able to

⁴⁰ "Bill A-500: Our Advocacy." Fair Share Housing Center. <https://fairsharehousing.org/advocacy/bill-a-500/>.

adopt upzoning that will support their community housing needs. The municipal upzoning initiative could be utilized to help municipalities meet their affordable housing needs by increasing density within existing development. With this in mind, I choose to include information about each case study's relationship to affordable housing.

Transitioning New Jersey's suburban landscape towards a subtly denser, more sustainable, and affordable future for housing could dramatically benefit many communities. Upzoning has the potential to create healthier and happier communities in New Jersey that are able to accommodate growth equitably.

Conclusion

New Jersey's history and growth of suburbs have created many municipalities that are zoned almost entirely single-family. In New Jersey, zoning and land-use decisions are almost entirely that of the municipality which has given municipalities the opportunity to zone mostly single-family for the most financially beneficial outcome, known as fiscal zoning. As zoning regulates what can be built, mass single-family zoning has created homogenous communities that lack a diversity of housing opportunities. Those who can not afford to buy a residential home are excluded from the municipality's financial benefits.

This study explored the correlation between greater single-family zoning and higher municipal revenue. The hypothesis was that greater single-family zoning shares

would correlate with higher municipal revenue. All size regressions showed a positive and significant correlation between the two variables. The hypothesis was met but regardless can not solely determine the relationship between the two variables. The main limitation of this study and findings is the question of correlation vs. causation. Even if single-family zoning and municipal revenue are correlated, I don't know the reason why. Zoning and municipal finance are very nuanced and unique to each community and differ in this way. A municipality may zone primarily single-family to raise revenue or due to preference, within this study, I am not able to determine the why or municipalities' land-use decisions.

I explore upzoning as a potential recommendation to diversify New Jersey housing opportunities. As land-use decisions are primarily made at the municipal level, I recommend a state upzoning initiative that will be adopted at the municipal level with the ability to adjust to a given municipalities needs. Further, I outlined five communities that have the potential to benefit from upzoning. I choose these municipalities based on the percentage of single-family, the percentage of owner-occupied, median rent, average residential property value, and density. Further, the upzoning initiative would give municipalities the ability to adopt upzoning to help develop affordable housing that meets their affordable housing mandate. This study is only preliminary research on a topic that should be further explored within New Jersey housing and land use.

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Appendix

Regression 1a

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.156257							
R Square	0.024416							
Adjusted R	0.02268							
Standard Error	2825.573							
Observations	564							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	1.12E+08	1.12E+08	14.06536	0.000195			
Residual	562	4.49E+09	7983865					
Total	563	4.6E+09						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1495.534	228.3749	6.548594	1.31E-10	1046.962	1944.107	1046.962	1944.107
sf %	1644.053	438.3696	3.750382	0.000195	783.0103	2505.096	783.0103	2505.096

Regression 1b

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.706388							
R Square	0.498984							
Adjusted R Square	0.48527							
Standard Error	2050.586							
Observations	564							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	15	2294942356	152996157.1	36.38519905	2.62E-72			
Residual	548	2304285706	4204900.924					
Total	563	4599228062						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3255.588	586.367321	5.552131124	4.40343E-08	2103.786	4407.391	2103.786	4407.391
% single-family zoning share	988.3015	352.438748	2.804179513	0.005223388	296.0053	1680.598	296.0053	1680.598
area	4.0386	5.83795388	0.691783508	0.489366278	-7.42891	15.50611	-7.42891	15.50611
density	-0.00629	0.02132006	-0.294862204	0.768210817	-0.04817	0.035593	-0.04817	0.035593
workforce participation	-0.06395	0.03649175	-1.752362304	0.080270784	-0.13563	0.007734	-0.13563	0.007734
unemployed	0.652737	0.22889411	2.851698098	0.004512649	0.20312	1.102354	0.20312	1.102354
median rent \$	-0.0709	0.21402025	-0.331285863	0.740555213	-0.4913	0.349499	-0.4913	0.349499
avg residential property value \$	0.000599	0.0002851	2.1005744	0.036134663	3.89E-05	0.001159	3.89E-05	0.001159
# housing units	-0.01021	0.03706887	-0.275458887	0.783067542	-0.08303	0.062604	-0.08303	0.062604
% owner occupied	-2928.48	649.325553	-4.510039835	7.93322E-06	-4203.96	-1653.01	-4203.96	-1653.01
per capita taxable property value	0.00301	0.00021204	14.19456928	3.59906E-39	0.002593	0.003426	0.002593	0.003426
municipal budget per capita \$	-0.16709	0.02649004	-6.30775599	5.83793E-10	-0.21913	-0.11506	-0.21913	-0.11506
municipal tax rate	67.2338	135.702392	0.495450388	0.620480847	-199.327	333.7943	-199.327	333.7943
% African American	-11.336	9.90981799	-1.14391734	0.253157348	-30.8019	8.129866	-30.8019	8.129866
% Asian	-2.70999	11.2667487	-0.240529509	0.810009745	-24.8413	19.42132	-24.8413	19.42132
% Hispanic	-5.17184	8.83429277	-0.585427684	0.558501172	-22.5251	12.18138	-22.5251	12.18138

Regression 2a

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.079351							
R Square	0.006297							
Adjusted R	0.004528							
Standard E	2412.603							
Observatio	564							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	20728160	20728160	3.561139	0.059662			
Residual	562	3.27E+09	5820655					
Total	563	3.29E+09						
	<i>Coefficient</i>	<i>Standard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1003.801	194.9969	5.147779	3.65E-07	620.789	1386.812	620.789	1386.812
sf %	706.3406	374.2999	1.887098	0.059662	-28.8571	1441.538	-28.8571	1441.538

Regression 2b

SUMMARY OUTPUT									
<i>Regression Statistics</i>									
Multiple R		0.576957							
R Square		0.33288							
Adjusted R Square		0.314619							
Standard Error		2001.878							
Observations		564							
<i>ANOVA</i>									
		<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression		15	1.1E+09	73054556	18.22939375	2.29E-39			
Residual		548	2.2E+09	4007514					
Total		563	3.29E+09						
		<i>Coefficient</i>	<i>Standard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept		1274.473	572.4393	2.226391	0.02639379	150.0296	2398.917	150.0296	2398.917
% single family zoning share		610.6796	344.0672	1.774885	0.076471996	-65.1725	1286.532	-65.1725	1286.532
area		28.5606	5.699284	5.011261	7.30854E-07	17.36548	39.75572	17.36548	39.75572
density		0.019769	0.020814	0.949788	0.342638747	-0.02112	0.060653	-0.02112	0.060653
workforce participation		-0.06071	0.035625	-1.70425	0.088902159	-0.13069	0.009265	-0.13069	0.009265
unemployed		0.374588	0.223457	1.676331	0.094243679	-0.06435	0.813526	-0.06435	0.813526
median rent \$		0.14001	0.208937	0.67011	0.503070102	-0.2704	0.550425	-0.2704	0.550425
avg residential property value \$		0.000486	0.000278	1.747355	0.081135903	-6E-05	0.001033	-6E-05	0.001033
# housingunits		-0.00146	0.036188	-0.04048	0.967723885	-0.07255	0.06962	-0.07255	0.06962
% owner occupied		-1951.74	633.902	-3.07893	0.002181476	-3196.92	-706.567	-3196.92	-706.567
per capita taxable property value \$		0.002153	0.000207	10.40224	2.99641E-23	0.001747	0.00256	0.001747	0.00256
municipal budget per capita \$		-0.12063	0.025861	-4.66464	3.88947E-06	-0.17143	-0.06983	-0.17143	-0.06983
municipal tax rate		94.3566	132.479	0.712238	0.476620544	-165.872	354.5855	-165.872	354.5855
2021: % African American		-7.44583	9.674429	-0.76964	0.4418452	-26.4493	11.55768	-26.4493	11.55768
2021: % Asian		3.456929	10.99913	0.314291	0.753419496	-18.1487	25.06254	-18.1487	25.06254
2021: % Hispanic		3.007358	8.624451	0.348701	0.727447443	-13.9337	19.94839	-13.9337	19.94839

Regression 3a

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.189648								
R Square	0.035967								
Adjusted R	0.034251								
Standard Error	0.189136								
Observations	564								
ANOVA									
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>				
Regression	1	0.750055	0.750055	20.96731	5.76E-06				
Residual	562	20.1042	0.035773						
Total	563	20.85426							
	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>	
Intercept	0.472249	0.015287	30.8926	3.1E-123	0.442223	0.502276	0.442223	0.502276	
sf %	0.134363	0.029343	4.579008	5.76E-06	0.076727	0.191999	0.076727	0.191999	

Regression 3b

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.389414								
R Square	0.151644								
Adjusted R Square	0.128422								
Standard Error	0.179679								
Observations	564								
ANOVA									
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>				
Regression	15	3.162415	0.210828	6.53033014	5.99E-13				
Residual	548	17.69184	0.032284						
Total	563	20.85426							
	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>	
Intercept	0.196937	0.051379	3.833006	0.000141262	0.096013	0.297862	0.096013	0.297862	
% single-family zoning share	0.090621	0.030882	2.934446	0.003481442	0.02996	0.151282	0.02996	0.151282	
area	-0.00013	0.000512	-0.24529	0.806323389	-0.00113	0.000879	-0.00113	0.000879	
density	2E-06	1.87E-06	1.070741	0.28475734	-1.7E-06	5.67E-06	-1.7E-06	5.67E-06	
workforce participation	-2.4E-06	3.2E-06	-0.74208	0.45835496	-8.7E-06	3.91E-06	-8.7E-06	3.91E-06	
unemployed	5.39E-06	2.01E-05	0.268546	0.788380473	-3.4E-05	4.48E-05	-3.4E-05	4.48E-05	
median rent \$	5.89E-05	1.88E-05	3.139126	0.001785762	2.2E-05	9.57E-05	2.2E-05	9.57E-05	
avg residential property value \$	4.2E-08	2.5E-08	1.679721	0.093581634	-7.1E-09	9.1E-08	-7.1E-09	9.1E-08	
# housing units	2.41E-06	3.25E-06	0.741723	0.458572953	-4E-06	8.79E-06	-4E-06	8.79E-06	
% owner occupied	0.198176	0.056896	3.483138	0.000535161	0.086416	0.309937	0.086416	0.309937	
per capita taxable property value	6.4E-08	1.86E-08	3.446094	0.000612361	2.75E-08	1.01E-07	2.75E-08	1.01E-07	
municipal budget per capita \$	-7E-06	2.32E-06	-3.01828	0.002660404	-1.2E-05	-2.4E-06	-1.2E-05	-2.4E-06	
municipal tax rate	0.049563	0.011891	4.168228	3.56714E-05	0.026206	0.07292	0.026206	0.07292	
% African American	-0.00161	0.000868	-1.85119	0.06467961	-0.00331	9.82E-05	-0.00331	9.82E-05	
% Asian	0.00266	0.000987	2.694094	0.007274415	0.00072	0.004599	0.00072	0.004599	
% Hispanic	0.001406	0.000774	1.81689	0.069780112	-0.00011	0.002927	-0.00011	0.002927	