

Subject:

Comment on your plan

From: Richard Dokas

Sent: Thursday, September 18, 2025 1:03 PM

To: Planning <Planning@a2gov.org>

Subject: Comment on your plan

I have spent a lot of time reading the results of zoning in cities. I focused on cities the size of our own rather than ones that are much larger because the dynamics in the latter are more complex. One such town is Ramapo NY, a slightly larger city to ours. What caught my attention was they have a 4 decade up-zoning study. This was a community where both the city and residents were pro-growth. The major reason they decided to up-zone was to lower housing cost; however, even after 4 decades that wasn't the result. Not surprisingly, the main problems they ran into were related to infrastructure water and sewer. They had sewer overflows from storms which led to a payout of a multimillion lawsuit from downriver towns. One of the water problems was fire-fighting due to low water pressure. There is an account of a fatal nursing home fire where firefighters had to run hoses for $\frac{3}{4}$ of a mile for water.

https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Ffurmancenter.org%2Ffiles%2FThe_Case_of_Ramapo__New_York_508.pdf&data=05%7C02%7Cplanning%40a2gov.org%7Cfd5b18381a9346db073b08ddf6d540f0%7C48afa58563754170b9d1e9c568bb92f3%7C0%7C0%7C638938118103669630%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIslIAiOiJXaW4zMilslkFOljoitWTFpbCIsldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=wjX%2B%2Br9f8IeuPqkQFUsArZlgRk4rRfWQ0dN3l6qtkL4%3D&reserved=0

When I compared our proposed changes to others like Boulder, ours is far more radical because of the reduction of input residents will have to new construction. When you look at the results of up-zoning in similar size cities, it becomes apparent that there are successes and failures. The successes happen because either a local company is interested in providing affordable homes to their workers like what happened in Springdale, Arkansas with Tyson, or when cities become involved by helping to fund the building of townhouses. We could do that here in A2 and more easily than in other cities, because we already have the infrastructure in the form of the Ann Arbor Land Trust. The advantages are obvious, people living there are actual owners and build equity rather than apartment dwelling, which is extractive by removing money from the community. Townhouses fit into neighborhoods - apartment buildings have a much harder time. Rather than being luxury dwellings, they are more modest in construction, and therefore are more affordable. At this point, we still haven't seen an up dated map, nor the data of a study which shows all these commuters will move here, refuting the Washtenaw Housing study that shows they won't. How are you going to protect trees? Finally, I keep asking where is the protection from shading solar panels.

Richard Dokas

4th Ward

**Learning from Land Use Reforms:
Housing Outcomes and Regulatory Change**

Learning from Land Use Reforms: The Case of Ramapo, New York

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Abstract

A slew of state and local governments are currently reforming zoning to increase housing production, especially of dense “missing middle” configurations. Yet not all efforts to reform single-family zoning are new. For instance, the suburban town of Ramapo, New York has continuously loosened development rules over the span of almost four decades, providing an unusually long timeline for a case study of zoning reform. This paper uses quantitative and qualitative data to assess the impact that zoning reform had in Ramapo. The case shows that the introduction of multifamily zoning—even in “built out” suburban neighborhoods—can spur the large-scale production of new housing units, while “gentle density,” like accessory zoning laws, may have more limited effects. The town’s experience also demonstrates the importance of infrastructural investment to serve new housing supply, especially when added in suburban areas. It also shows that, at least in an unusually pro-growth political environment, discretionary review and parking requirements do not automatically hinder housing production.

Introduction

By some appearances, Lenore Avenue is an unremarkable suburban street. Trees shade the road, sidewalks are intermittent, and through traffic is blocked. The houses on Lenore Avenue appear conventional as well. Styles typical of New York’s Rockland County—like ranches and split levels—predominate. Yet, some houses on Lenore Avenue are much bigger than the others. At first glance, these three-story homes could be the type of new construction dwellings derisively referred to as “McMansions.” Looking closer however, it is clear that not all of these homes are single-family. Some of the buildings have parking lots out front and an unusually large number of doors and mailboxes—clear indicators that this is actually a multifamily building. Even properties which appear almost exactly as single-family dwellings are also, according to town records, classified as multifamily dwellings.

Lenore Avenue is a typical block in the Monsey section of the suburban town of Ramapo, New York. It is located within the R-15C district, a zoning designation created by the town board in response to a demand by the growing ultra-Orthodox Jewish population in the area for flexibility towards denser housing configurations. Since its creation in 1986,

the R-15C district has expanded and the rules governing properties in the zone have been progressively loosened. Today, a maximum of six units are permitted on a 10,000 square foot lot within the R-15C district—twelve on a double lot. Collectively, these decades of zoning reforms have had a profound impact on the Monsey area: creating a unique quasi-urban neighborhood in the heart of suburban New York.

The R-15C district is an unusually advanced example of the type of zoning changes that planners and policymakers argue should occur across the country. As the housing affordability crisis has spread, a growing number of experts and politicians have called on governments to loosen restrictive single-family zoning requirements to allow for a more diverse mix of housing options.¹ State and municipal governments have passed a slew of zoning liberalization measures in response.² These policy shifts are driven by the hope that, by allowing construction of the type of small multifamily options (often known as “missing middle housing”) currently precluded in most American communities, governments might increase housing supply and drive down costs.

Contemporary zoning reform efforts have a clear parallel with the policy changes that Ramapo has pioneered for almost four decades. Yet, Ramapo’s zoning reforms are also distinct from current efforts in two ways. First, most of the contemporary zoning policy shifts are ongoing experiments, grounded in assumptions about how developers will respond to supply and demand. By contrast, Ramapo’s R-15C district is an “actually existing” empirical case study, providing a window into how housing markets and the real estate development industry respond to reform over a period of decades. Second, most contemporary zoning reforms—like Minneapolis’ celebrated triplex law—have been pursued by urban municipalities. By contrast, Ramapo is a middle-ring suburb constructed along the familiar midcentury pattern of single-family homes, separation of uses, and a disjointed street grid. It thus provides a window into how the low-density suburban built environments that dominate the American landscape might evolve when zoning rules are changed.

1. Solomon Greene and Ingrid Gould Ellen, “Breaking Barriers, Boosting Supply How the Federal Government Can Help Eliminate Exclusionary Zoning,” *Urban Institute*, September 2020, https://www.urban.org/sites/default/files/publication/102963/breaking-barriers-boosting-supply_o.pdf

2. Emily Badger and Quoctrung Bui, “Cities Start to Question an American Ideal: A House With a Yard on Every Lot,” *The New York Times*, June 2019, <https://www.nytimes.com/interactive/2019/06/18/upshot/cities-across-america-question-single-family-zoning.html>

In this paper, I analyze Ramapo’s zoning reforms to shed light on how zoning policy interacts with neighborhood change in a real-world case. I use a mixed methods approach, triangulating quantitative data analysis with archival research and qualitative interviews, to show how policy change in Ramapo has affected neighborhood character, land use composition, housing markets, and infrastructure. There are four major parts to the paper. In the first section, I compile a detailed timeline of the town of Ramapo’s zoning policy changes in the Monsey area. I show the branching permutations of zoning and try to trace the housing configurations that each zoning policy change spurred. In the second section, I analyze the impact that zoning change had on housing production. Using parcel level data, I look at how subdivisions, land use classifications, and units changed in the years following zoning change. I then aim to isolate the effect of zoning changes on land use and unit production using difference-in-differences analysis.

In the third section of the paper, I try to provide an overview of the challenges and opportunities that accompanied neighborhood densification in Ramapo. I look at the expected drawbacks of added density on the town’s infrastructure, and briefly address the fraught local conversation (also a national one) about the relationship between dense housing and affordability. Finally, in the last section of the paper, I discuss what other communities can learn from Ramapo’s experience legalizing multifamily dwellings—both in terms of what kind of production might be expected, and in terms of what externalities may follow. I settle on four key lessons that emerge from the empirical record, (1) that in some markets, multifamily zoning will be significantly more conducive to housing production and land use change than the “gentlest” forms of density like permitting accessory dwelling units and two- or three-unit buildings; (2) that zoning changes may be more attractive to builders if the laws allow the new units to be sold as condominiums, at least in suburban settings; (3) that densification requires extra infrastructure investment if undertaken in a suburban environment; and (4) that in an unusually pro-growth suburban jurisdiction, discretionary review and parking requirements did not necessarily hinder housing production.

Section I: Zoning History

Ramapo, New York is one of five “towns”³ in suburban Rockland County. Located about thirty-five miles northwest of New York City, the town covers an expansive geographic area, a large portion of which is protected land in Harriman State Park. The unprotected portion of the town is diverse in character, including older villages developed during the Industrial Revolution, swathes of mid-20th century subdivision style development, and exurban areas subject to large lot zoning. In the center of Ramapo, located between the older villages of Spring Valley and Suffern, is the area known as Monsey. Over the past forty years, a dramatic densification effort has transformed one portion of Monsey into a quasi-urban space. The area is now a predominately multifamily neighborhood with a population density closer to New York City than to the rest of Rockland County—an anomalous built environment at the heart of an otherwise ordinary suburban area.

Early Years: Anti-Growth Pioneer

Although today Monsey is dense and quasi-urban, 100 years ago the whole town of Ramapo was mostly rural. This changed in the 1950s and 60s, when the construction of the New York State Thruway and the Tappan Zee Bridge linked the area with New York City. These federal infrastructure investments, combined with “white flight” from the cities, spurred rapid growth in Ramapo. The town grew over 100 percent between 1960 and 1970,⁴ triggering a strong anti-growth backlash. First, in 1966, the town of Ramapo eliminated as-of-right multifamily zoning within its borders.⁵ Then, in 1969, town authorities went further. The town implemented a points-based growth management plan which tied building permits to infrastructure investment. This innovative plan was upheld in the 1972 case of *Golden v. Ramapo*—setting a national precedent for performance zoning schemes.

Ramapo’s government pursued a largely anti-growth line throughout the 1970s. Yet, at the same time, small pockets of informal multifamily housing began to emerge. This informal density was especially (although not exclusively) found in Monsey, parts of which were

3. Towns are a meso-level jurisdictional category in New York State that carries land use decision making power for all areas that are not further incorporated into villages.

4. U.S. Census Bureau, “U.S. Census Bureau QuickFacts: Monsey CDP, New York; United States,” accessed October 2022, <https://www.census.gov/quickfacts/fact/table/monseycdpnewyork,springvalleyvillagenewyork,rocklandcountynewyork/PST045222>.

5. Stuart Meck and Rebecca Retzlaff, “The Emergence of Growth Management Planning in the United States: The Case of *Golden v. Planning Board of Town of Ramapo and Its Aftermath*,” *Journal of Planning History*, vol. 7, no. 2, May 2008, pp. 113–57.

populated by a growing number of ultra-Orthodox Jews.⁶ In the middle of the century, a small number of Hasidic Jews relocated from Brooklyn to Ramapo.⁷ These groups settled in portions of Ramapo that had previously housed summer “bungalow colonies” for Jewish residents of New York City.⁸ One sect, the Skver, moved en masse, forming their own village, New Square, on the edge of Ramapo in 1961. Another sect, Vizhnitz, settled in central Monsey, forming their own village, Kaser, in 1991.

Over time, a diverse mix of religious Jews followed these pioneers to the suburbs, creating a burgeoning religious Jewish community composed of both Hasidic and non-Hasidic sects.⁹ The community began to grow rapidly, driven by natural population growth and continuous migration from Brooklyn. Eventually, these forces compounded to induce a housing shortage in the ultra-Orthodox community. Exceptionally high demand was met with an artificially constrained amount of supply, since religious requirements require families to walk to synagogue on the Sabbath and therefore restrict housing choice geography.¹⁰ Some families responded to the shortage by illegally converting their single-family homes into multifamily ones, a practice that eventually expanded to include newly built houses too.^{11,12} For at least a decade, the town government looked the other way on informal conversions, with some officials alluding to an unofficial “amnesty” policy.¹³ However, as conversions spread to include new construction, a ferocious backlash from secular town residents emerged, with hundreds of residents organizing in civic associations to oppose multifamily buildings.¹⁴

The Creation of the R-15C District

As the illegal “conversions” controversy spread, Ramapo’s town government struggled to come up with an effective solution. Some elements of the town bureaucracy counseled crackdowns, like the town building official who said at the time that “in certain areas of Monsey the legal house is the exception...it must be stopped or we’ll have an absolute slum.”¹⁵

6. Khurram Saeed and Laura Incalcaterra, “Illegal Homes House Many, Are Difficult to Counter,” *The Journal News*, March 2001.

7. Jerome R. Mintz, *Hasidic People: A Place in the New World*, Harvard University Press, 1992.

8. Shevy Hollander, “What’s in a Street Name?” *Monsey View*, August 2017.

9. Joseph Berger, *The Pious Ones: The World of Hasidim and Their Battles with America* (Harper Collins, 2014).

10. Mintz, *Hasidic People: A Place in the New World*.

11. Richard Laudor, “300 Residents Protest Multi-Family Homes,” *The Journal News*, June 1980.

12. The Adar Homes development is one example. This was a group of ostensibly single-family homes that anti-growth citizen activists organized to block, on the grounds that the development was constructed purposely to allow for immediate conversion into multifamily dwellings.

13. Linda Sanderson, “Drainage, Housing Issues Stir Anger,” *The Journal News*, January 1978.

14. David Rifkin, “The Law Must Be Obeyed,” *The Journal News*, July 1980.

15. Marc D. Allan, “Multifamily Housing Violations Run Rampant,” *The Journal News*, September 1986.

Others, especially elected officials, favored accommodation, arguing that the town should “recognize the lifestyle already established there.”¹⁶ Eventually, the town board floated a proposal to formalize some extralegal construction by creating a multifamily district. Anti-growth residents were scandalized, since many had also moved from Brooklyn, to, in the words of one activist, “get away from what this downzoning¹⁷ [sic] is bringing back to us.”¹⁸ They mobilized to block zoning reforms, threatening to form villages to take land use regulatory power back from the town government if they did not prevail. NIMBY civic activists also turned to the courts. Their legal efforts were successful in 1981, when the State Supreme Court threw out the town’s first attempt at multifamily zoning.¹⁹

In 1986, a new town supervisor, Herbert Reisman, was elected, promising “a more harmonious Ramapo.”²⁰ Reisman again took up the multifamily issue, launching a housing taskforce which ultimately called for the town to try again on multifamily zoning.²¹ This recommendation was partially a response to the growing political clout of the ultra-Orthodox community.²² However, the town’s move wasn’t purely a result of ultra-Orthodox political pressure. As the “harmonious” language implies, the town board was also inspired by a philosophical belief in pluralism, expressed in the idea that government should accommodate alternative “lifestyles.” This framing found its way into the legal text of the multifamily zoning law itself, which spoke of the law as accommodating “specialized households” with distinct “social and cultural needs.”²³

Specialized “lifestyles” aside, not all residents of Monsey (and especially not all residents of Ramapo) welcomed multifamily dwellings. The new multifamily proposal poured fuel on the fire of village formation efforts, ultimately spurring the creation of five new jurisdictions: Wesley Hills, New Hempstead, Montebello, Airmont, and Chestnut Ridge.²⁴ This time however, anti-growth advocacy and lawsuits were not enough to block the multifamily law. The town board officially altered the zoning code at the end of 1986, creating a new “R-15C” (“c” for “conversion”) zoning district in a portion of Monsey previously zoned R-15.

16. David Colton, “Monsey Residents Protest Multiple Housing Plans,” *The Journal News*, October 1979.

17. Confusingly, at this time in Ramapo “downzoning” was used to refer to zoning changes that would allow for more intensive uses (what is normally called “upzoning” today).

18. Richard Laudor, “300 Residents Protest Multi-Family Homes,” *The Journal News*, June 1980.

19. David Colton, “Judge Throws out Ramapo Zone Change,” *The Journal News*, July 1981.

20. Kathy Dow, “‘More Harmonious Ramapo’ Task Force Sets Its Sights on Town’s Future,” *The Journal News*, April 1985.

21. Ibid.

22. Kim Fararo, “Ramapo Hopes Time Is Right for Multi-Family Zoning,” *The Journal News*, June 13, 1986, p. 11.

23. Town of Ramapo, “Local Law No. 7 - 1986,” Ramapo Town Zoning Code, vol. 10–2004, April 2007.

24. Marc D. Allan, “Ramapo Homeowners Want out of Proposed Multi-Family Zone,” *The Journal News*, September 1986.

Under the old R-15 zoning, single-family homes were allowed on 10,000 square foot lots (the vast majority), with two-family homes allowed on lots larger than 20,000 square feet. In the R-15C zone, property owners were granted the right to convert their single- or two-family home into a three-unit dwelling. This 1986 code update was the starting gun for what would become a 40-year zoning liberalization process in central Monsey.

Additional Changes, Additional Controversies

The 1986 creation of the R-15C district was a milestone for multifamily zoning in Ramapo. However, the specific rules that governed development in the zone continued to be loosened over time. First, in 1987, the maximum floor area ratio (FAR) permitted in the district was bumped slightly higher.²⁵ Next, in 1991, fees were lowered and conversions were made subject to administrative review, rather than planning board approval.²⁶ Then, in 1992, the zoning code was amended to allow for the construction of new 3-family homes in the R-15 district, rather than just conversions.²⁷ This change paralleled the creation of a new Hasidic dominated village, Kaser, in one portion of Monsey, which altered its zoning to allow even denser configurations.²⁸

Despite the town's zoning reforms, informal densification continued throughout the 1990s.²⁹ The controversy over multifamily housing also continued unabated. Some residents accused the town of looking the other way on housing and quality-of-life violations in the Monsey area, claiming that "garbage-strewn streets, torn-up lawns, parking on both sides of the narrow streets, and increased bus traffic leave one with a negative image of Ramapo."³⁰ Others, including town officials, felt differently. Recognizing the intense need for housing within the ultra-Orthodox enclave, they counseled that the town needed to continue to accommodate additional density, in order to "provide housing that in effect would meet those [religious Jewish] needs but still maintain some semblance of safety."³¹

25. Town of Ramapo, "Local Law 1," Ramapo Town Zoning Code, vol. 10–2004, April 2007.

26. "Apartment Fee Set," *The Journal News*, June 1991.

27. "Zone Change Would Allow 3-Family Homes in Ramapo," *The Journal News*, March 26, 1992.

28. Tim Henderson, "Village of Kaser Proposes High-Density Housing Plan," *The Journal News*, June 1991.

29. Steve Lieberman, "Residents Tackle the Rental Crunch," *The Journal News*, February 1996.

30. Iris Kramer, "Letter to the Editor: Ramapo Must Stop Looking the Other Way," *The Journal News*, May 1999.

31. Kate Boylan, "Ramapo Planner Finishes Last Term," *The Journal News*, July 1997.

In 2000, the town launched a master plan update, hoping to strike a balance between the continual need for affordable housing, especially among ultra-Orthodox Jews, and the fears of many non-Orthodox residents that density threatened their “quiet way of life.”³² The town was spurred to act, in part, by the passage of the federal Religious Land Uses and Institutionalized Persons Act (RLUIPA) that same year. That law destabilized the balance of power between municipal officials and ultra-Orthodox developers, by granting religious organizations powerful new tools to challenge local zoning.³³

The consultants hired by the town to create the master plan were initially critical of the type of ad-hoc growth that had been permitted in the R-15C zone. The first draft of the town’s new comprehensive plan, released in 2002 and updated in 2003, called for the conversion district to be replaced by official multifamily zones, with additional density tempered by conservation and open space acquisition in more rural parts of town.³⁴ However, the final version of the plan, adopted in 2004, took a different tack. It retained the R-15C district and even expanded its borders.³⁵

The plan also recommended introducing accessory units to parts of Ramapo. In the R-15C district, one accessory unit was allowed per parcel in certain areas. Given required setbacks, this unit was usually attached to the primary dwelling. This meant that a three-unit home in the R-15C district could now become four.³⁶ The town board also created a new zoning district, called R-15A. R-15A retained the original R-15 zoning in terms of bulk, but allowed one accessory unit per parcel. Initially, all of the R-15 zones in the town were meant to turn into R-15A. However, following controversy, R-15A was applied only to two sections of Monsey. This created the three types of R-15 zoning seen in central Monsey today.³⁷ One portion retains the original R-15 zoning, which permits single-family homes on 10,000-square foot lots, semi-attached single-family homes on 15,000 square foot lots, and two-family homes on lots above 20,000 square feet. Another portion is designated R-15A, which differs from the R-15 rules by allowing one accessory unit per parcel. The final portion is designated R-15C, which allows more intensive multi-unit development.

32. Blair Craddock, “Crowd Protests 144-Unit Triplex Housing Project,” *The Journal News*, July 2001.

33. In direct response to RLUIPA, the town also created four separate “adult educational zones” to accommodate kollels, or Jewish higher learning institutions, with attached multifamily housing dorms (Local Law 9 - 2004).

34. Brian Brophy, “Community View: Explaining Ramapo’s New Master Plan,” *The Journal News*, November 2002.

35. “Town of Ramapo, New York - Town of Ramapo Comprehensive Plan (Jan 2004),” n.d., <https://www.ramapo.org/page/town-of-ramapo-comprehensive-plan-jan-2004-39.html>.

36. Town of Ramapo, “Local Law No. 10 - 2004,” November 2004.

37. The comprehensive update also introduced new MR zoning districts that allowed for larger, more conventional multifamily dwellings. A few larger parcels in the Monsey area were eventually rezoned to this new MR zoning, but this was to facilitate more conventional new multifamily construction, not the conversion of existing, built-out neighborhoods. I therefore do not discuss MR zoning in this paper.



Recent History: Continued Modifications to the R-15C

With the passage of the accessory unit law, Ramapo allowed four-unit buildings in the R-15C area. However, development in central Monsey did not really take off until other rules were changed. First, in 2007, the accessory unit regulations were tweaked to allow one accessory unit per primary unit (rather than parcel) within “townhouse” style buildings in the R-15C zone. A parcel developed in such a style could now have six units in total, three primary units and three accessories.³⁸ The maximum allowable size of an accessory unit was also increased at this time. Then, in 2012, the town board voted to authorize separate ownership of accessory units and uncap the number of bedrooms allowed in an accessory unit.³⁹ This meant accessory units could now be included as condominium offers, with the units subject to resale restrictions meant to ensure affordability.

The 2007 and 2012 accessory unit modifications set off a boom in new construction in the R-15C zone. Developers increasingly purchased existing properties for demolition, constructing larger multifamily buildings in their stead. Parcels were also increasingly subdivided to allow for semi-attached multifamily buildings on double lots, each with four or six units and many offered as condominiums. Most of the new buildings constructed in the area were wood-frame or “stick built.” Developers almost always sought variances for new construction, rather than adhering to the zoning envelope. This was done in order to construct as close to the maximum envelope allowed by New York State building and fire code as possible. For example, builders might seek to exceed the maximum 35-foot height allowed (at that point) by the town zoning code in order to get closer to the 40-foot maximum height allowed in state building code for non-fireproof stick-built construction.

The large number of new units constructed in the area in the 2000s and 2010s fostered new types of land use controversy, which were heightened by anxieties about the town’s demographic transition. The decade was a time of significant political upheaval in Ramapo, with

38. Town of Ramapo, “Local Law 1,” Ramapo Town Zoning Code, vol. 10–2004, April 2007.

39. Town of Ramapo, “Local Law 1 - 2012,” Ramapo Town Zoning Code, February 2012.

controversy swirling around the East Ramapo School District in particular.^{40 41} The town government was also buffeted by a series of scandals during this time. In 2016, a town official (and former Zoning Board of Appeals member) was arrested, and the state temporarily took control of the town's buildings department.⁴² The dysfunction continued in April of that year, with the arrest of then town supervisor Christopher St. Lawrence on suspicion of corruption.⁴³ This was followed by the arrest of the town's former building inspector on allegations of fraud related to the processing of building permits.⁴⁴

In recent years, under the leadership of a new town supervisor, Ramapo's politics have stabilized. New construction has continued apace, and additional tweaks have been made to the R-15C zoning rules. In 2018, resale restrictions were removed from accessory units, allowing them to be sold on the open market.⁴⁵ This change came about because resale restrictions, which limited value appreciation, were allegedly hurting the ability of property owners to secure mortgages. In 2019, the maximum size of accessory units was increased again.⁴⁶ Then, in 2020, the town altered the R-15C zoning code to allow developers to merge individual parcels into larger lots and construct more standard multifamily buildings.⁴⁷ So far, only a few projects have made use of this new "large lot overlay." However, it represents a remarkable culmination to Ramapo's zoning story—an example of just how far the town has traveled from its past as an anti-growth pioneer to its contemporary status as one of the most permissive municipal land use systems in the New York City metropolitan area.

40. Ramapo is divided between two school districts, the Suffern Central School District and the East Ramapo Central School District. As the town grew increasingly ultra-Orthodox, public school funding in the East Ramapo district, which had grown to serve an almost exclusively Black and brown public school population, was deprioritized in favor of services for yeshivas, leading to the imposition of a state fiscal monitor; see Amy Sara Clark, "East Ramapo Schools Under State Supervision," *Jewish Telegraphic Agency*, June 18, 2014, <https://www.jta.org/2014/06/18/ny/east-ramapo-schools-under-state-supervision>. More recent litigation alleges that the East Ramapo school board's electoral system is discriminatory towards the public-school population since at-large seats guarantee the board is dominated by the private-school (yeshiva) parent population; see Ari Feldman, "Judge Rules East Ramapo School District Disenfranchised Black and Latino Voters," *The Forward*, May 26, 2020, <https://forward.com/news/breaking-news/447322/east-ramapo-judge-rules-violation/>.

41. Jonathan Bandler, Steve Lieberman, and Richard Liebson, "Ramapo Nears Breaking Point: Special Report," *The Journal News*, January 13, 2017, <https://www.lohud.com/story/news/local/rockland/ramapo/2017/01/08/ramapo-ny-breaking-point/95369994/>.

42. Steve Lieberman, "Ramapo Eyes Firm to Run Planning, Zoning after Inspector Arrested," *The Journal News*, September 2016, <https://www.lohud.com/story/news/local/rockland/ramapo/2016/09/23/ramapo-firm-zoning-building/90900422/>.

43. Benjamin Weiser and Mary Williams Walsh, "Ramapo Town Supervisor Arrested in Federal Fraud Case," *The New York Times*, April 2016, <https://www.nytimes.com/2016/04/15/nyregion/ramapo-town-supervisor-arrested-in-federal-fraud-case.html>

44. Steve Lieberman, "Anthony Mallia - Facing 188 Felony Counts - Terminated as Ramapo Building Inspector in Pact," *The Journal News*, June 2017, <https://www.lohud.com/story/news/local/rockland/2017/06/29/anthony-mallia-facing-188-felony-count-terminated-ramapo-building-inspector-pact/438189001/>

45. Town of Ramapo, "Local Law No. 7 - 2018," Ramapo Town Zoning Code, December 2018.

46. Town of Ramapo, "Local Law No. 4 - 2019" Ramapo Town Zoning Code, February 2019.

47. Town of Ramapo, "Local Law No. 5 - 2020," Ramapo Town Zoning Code, August 2020.



Figure 1: Timeline

- 1986** R-15C zoning district is established.
- 1987** R-15C maximum FAR increased to .4.
- 1991** R-15C zone modified to allow conversions as-of-right subject to administrative approval.
- 2001** R-15C zone modified to allow new construction 3-family residences, not just conversions.

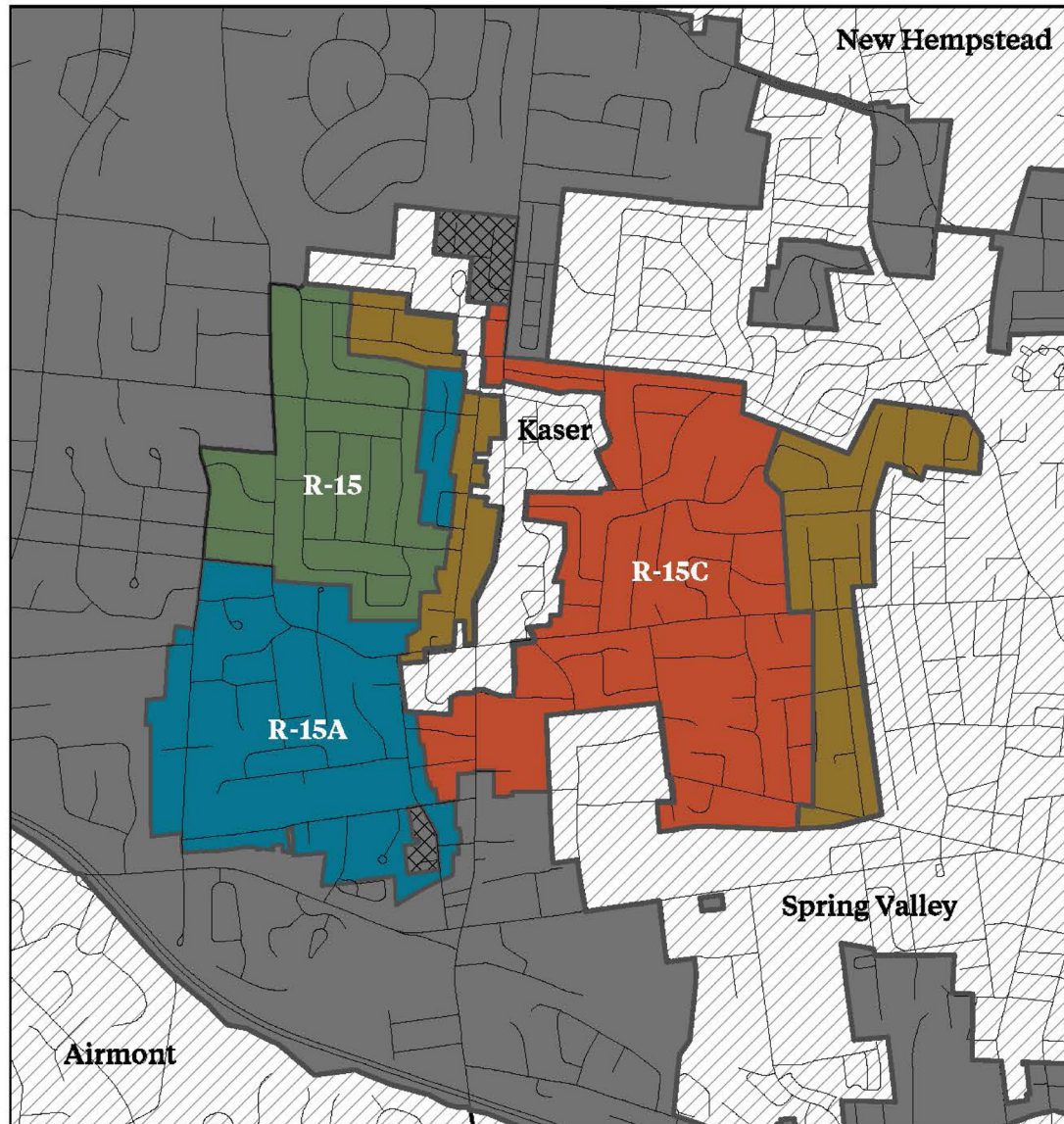
Side setbacks reduced to 10 feet.
- 2004** Ramapo master plan approved. New plan expands R-15C zone and creates R-15A zone.

Accessory apartments legalized in R-15C and R-15A. Accessory units are only allowed in owner-occupied homes and must be between 600 and 1000 sf.
- 2006** Maximum roof height in R-15C increased to 40 feet.
- 2007** ADU law modified to allow one accessory unit per principal unit within the R-15C district, as long as the development is townhouse style.

Maximum size of accessory dwellings increased to 1100 square feet.
ADUs are limited to 2-bedrooms.
- 2012** ADU law modified to remove owner occupancy restrictions and allow accessory units be available for purchase, subject to resale affordability restrictions.

Maximum size of accessory dwellings increased to 1200 sf and two-bedroom restriction removed.
- 2018** Resale affordability restrictions removed from accessory units in R-15C district.
- 2019** Maximum size of accessory dwellings increased to 1500 sf.
- 2020** New “large lot” use category introduced in R-15C to incentivize merging lots.

Figure 2: Map of Central Monsey



Zoning Districts

- R-15C (1986 rezoning)
- R-15C (2004 rezoning)
- R-15C other
- R-15A district
- R15 district
- Unincorporated Ramapo
- Independent Villages

Figure 3: Photographs of R-15C development



Section 2: Housing Production

The R-15C zoning district unleashed a wave of development that transformed Ramapo. Between 1970 and 2019, the two census tracts⁴⁸ that most closely overlap with the R-15C area went from having a population of 2,900 people to a population of more than 16,000 people—a stunning 456 percent increase.⁴⁹ Those two tracts had a population density of more than 22,000 per square mile according to the 2015-2019 five-year American Community Survey estimate, far closer to New York City (which as of 2020 had a population density of about 29,000 per square mile) than to the rest of suburban Rockland (which as of 2020 had a population density of 1,950 per square mile). Of course, part of this high population density figure is related to the exceptionally large size of most ultra-Orthodox families. Yet, even the number of households per square mile is more akin to an American city than to similar middle-ring suburbs.⁵⁰

Monsey’s tremendous growth is clear in census data. However, such data tells us only about changes at the community level. It can’t tell us where precisely change occurred, nor what caused it. Accordingly, in this section I augment census data with parcel-level land use data from 1986, 2006, 2012, and 2021 to get a more precise sense of land use change.⁵¹ I look to answer two questions about residential densification using this parcel level data. First, I explore a set of descriptive questions about how land use change progressed: which parcels turned from single-family to multifamily housing, what number of parcels turned over, etc. Second, I ask a causal question about the role of policy change in spurring densification.

Parcels and Subdivisions

Central Monsey was already largely “built out” by the 1970s. Yet, despite this, the number of parcels in the R-15C area increased dramatically following rezoning. In 1986, the initial rezoned area (which I label “core R-15C”) contained approximately 620 parcels. By 2006, the number of parcels in that initial rezoned area had grown to approximately 760, and by 2021 there were approximately 1,090 (see Table 1). This increase was the result of the subdivision of existing lots, especially the division of older “parent parcels” into fractions as part

48. Using the 2010 Census tract boundaries. For the 2020 Census, central Monsey’s tract boundaries were redrawn and about four tracts now correspond with the area.

49. U.S. Census Bureau, “U.S. Census Bureau QuickFacts: Monsey CDP, New York; United States,” accessed October 2022, <https://www.census.gov/quickfacts/fact/table/monseycdpnewyork,springvalleyvillagenewyork,rocklandcountynewyork/PST045222>.

50. These tracts have slightly more households per square mile than Baltimore, Maryland and slightly fewer than Pittsburgh, Pennsylvania.

51. Data from 1986 was collected manually using archived assessment records. Data from 2006 and 2012 was from the Rockland County Department of Planning. Data from 2021 was from PropertyShark, a private-sector real estate research company. See methodological appendix for more details.

of condominium offerings. Between 1986 and 2021, the number of single-family parcels in the core R-15C zone declined from 530 to only about 150, while the number of multifamily parcels increased from 0⁵² to over 710 (see Table 2). The portion of central Monsey that was excluded from the initial rezoning in 1986, but added into R-15C after the 2004 master plan update (an area I label the “R-15C exclusion” zone), showed the same trend—just on a delay. Here, the number of single-family parcels was relatively stable until 2006, after which single-family parcels also declined while multifamily ones increased.

Land Use Change

The proliferation of multifamily parcels in the R-15C zone gives some indication of how development proceeded over time. However, because of extensive subdivision (and condo parcelization), parcel quantities might inflate the magnitude of change in an experiential sense. For example, if a block initially had ten single-family parcels, three of which converted into six-unit condominiums, the overall change in parcel composition would be dramatic: the block would go from having ten parcels, all of which were single-family, to having 25 parcels, 18 of which were multifamily. Yet, at the scale of the street, that change might not feel as dramatic. After all, only three of the ten original lots would be multifamily, and most of the street would look the same.

To measure on-the-ground change it is therefore helpful to look at land use change at the “parent parcel” level: that is, at how the individual plots of land that existed in 1986 changed over time. By this measure, the change from single-family to multifamily in the R-15C district is still quite dramatic. Only 27 percent of parcels in the core R-15C zone that had been single-family in 1986 remained wholly⁵³ single-family by 2021, while about 38 percent of parcels that had been single-family in 1986 had at least one multifamily dwelling by 2021 (see Table 3). As might be expected, vacant parcels densified at an even faster rate. An estimated 49 percent of parcels that were vacant in 1986 in the core R-15C zone had a multifamily dwelling on them by 2021. By contrast, only six percent of vacant parcels had a one-family home on them, indicating that after the zoning change the incentive to build new single-family homes practically disappeared.

52. In terms of legal designation, as unpermitted multifamily conversions likely existed.

53. “Wholly” because in some instances a single-family parcel would be subdivided. One new lot would remain single-family, while a two-, three-, or multifamily dwelling would be constructed on the other new lot.

The dramatic conversion of one-family parcels into multiunit properties seen in the R-15C zone was not replicated in the R-15A zone (the area of central Monsey that was rezoned to allow one accessory unit per parcel). More than 70 percent of one-family properties in the R-15A area stayed that way after the area was rezoned, and only 12 percent of homes that were one-family in 1986 were two-family by 2021. Even vacant parcels in the R-15A district were more likely to become one-family dwellings than any other use—showing that, within the accessory zoning area, one-family construction continued even after zoning was altered.

Unit Change

From a land use perspective, the character of the R-15C district changed dramatically following zoning reform, while the R-15A accessory zone changed much less. But what of units? Measuring unit change is not as easy as measuring land use change because publicly accessible land use data in Ramapo does not include unit counts for multifamily properties. For the purposes of this study, estimates were created using a manual “windshield survey,” private sector data counts, and a set of conservative assumptions for properties where data was missing (see methodological appendix for more details). These caveats aside, the picture that emerges is one of robust unit production in the R-15C district—and much more sluggish production in comparison areas.

In the core R-15C zone, housing units increased from an estimated 560 in 1986 (pre-rezoning) to an estimated 2,250 in 2021—a growth rate of about 300 percent in 35 years (see Table 4). Growth was almost as much in the R-15C exclusion area, the parts of Monsey that were rezoned to R-15C in 2004. Unit counts were relatively stable between 1986 and 2006 in that area prior to rezoning. However, housing production exploded once the area was rezoned to R-15C—going from an estimated 440 units in 2006 to over 1,350 by 2021. By contrast, far fewer units were created in the R-15A zone (which was rezoned to allow for one accessory unit per parcel) and the R-15 area (which was never rezoned). I estimate that about 300 new units were created in the R-15A area since 1986, or a growth rate of 89 percent over those 35 years (see Table 4). The R-15 zone grew even less. I estimate that fewer than 80 new units were created in the area between 1986 and 2021, reflecting a 26 percent growth rate over those same 35 years.

Difference-in-Differences

Descriptive statistics about parcel subdivisions, land use, and housing units give a sense of the variable rates of neighborhood change between districts. However, they do not provide a causal explanation for the change. Urban change is constant, and not all the densification that occurred in a certain district necessarily stems from zoning reforms. Difference-in-differences regression provides one way to get a more precise measure of change that isolates the impact of the policy itself. In the method, change is measured over-and-above what might be expected to have occurred otherwise, given preexisting trends. This is done by comparing a “treated” area that received a change with an “untreated” comparison area (akin to a control) that did not receive treatment. Both areas are compared before and after the point of treatment, with the untreated area providing a proxy for how growth would have proceeded in the treated area absent the treatment.

In order to generate reliable results in a difference-in-differences model, the treatment area and the comparison areas should demonstrate “parallel trends” prior to the policy change treatment. This is meant to ensure that the untreated area is indeed an accurate reflection of what would have happened in the treated area if the treatment had never occurred. After testing for parallel trends (see methodological appendix), I performed two difference-in-differences regressions. Both models measure the impact of two treatments. The first treatment is the shift from existing R-15 zoning (single-family zoning with two-family homes allowed on large lots) to R-15C zoning (multifamily zoning with four to six units allowed on a single lot) and the second treatment is the shift from R-15 zoning to R-15A zoning (the same as R-15, but with an additional accessory unit allowed per lot). The R-15C exclusion area is selected because it is the portion of R-15C that “jumped” directly from single-family zoning to multifamily zoning when the area was rezoned in 2004. Parcels in the core R-15C zone are not included in this model, so the model only measures the impact of changes that were undertaken at the same time.

The data for the difference-in-differences models is a cross-sectional dataset of parent parcels with four measurement years: 1986, 2006, 2012, and 2021. 1986 and 2006 are defined as pre-treatment years and 2012 and 2021 are defined as post-treatment years (see methodological appendix for more details). The use of four periods gives a more conservative estimation than simply comparing before and after (see Table 5). Two different regressions were run, with two different dependent variables. In sum, then, the two models are

measuring four effects: the effect of R-15C multifamily zoning on parcel subdivisions; the effect of R-15A accessory zoning on parcel subdivisions; the effect of R-15C multifamily zoning on units; and the effect of R-15A accessory zoning on units.

In the first model, the dependent variable is the number of one-family parcels. This model thus measures the impact of the two different zoning changes on the number of one-family parcels, with “parent parcels” as the unit of analysis. The coefficient for treatment 1 (multifamily R-15C zoning area after rezoning) in the one-family parcels model is $-.371$ with a 95 percent confidence interval of $[-.431, -.312]$ (see Table 6). This indicates that multifamily zoning change induced about .37 less one-family parcels per parent parcel than would otherwise be expected given preexisting trends. The coefficient for treatment 2 (accessory R-15A zoning area after rezoning) is $-.11$, 95 percent CI $[-.172, -.051]$. This means accessory zoning led to about .11 less single-family parcels per parent parcel than would have otherwise been expected.

The second difference-in-differences model measures the impact of the same two zoning changes on the number of units. Treatment 1 is again the effect of shifting from existing R-15 zoning to R-15C zoning (multifamily zoning with four units plus allowed on a single lot) and treatment 2 is again the effect of shifting from R-15 zoning to R-15A zoning (one accessory unit allowed per lot). The coefficient for treatment 1 (multifamily R-15C zoning area after rezoning) in this model is 1.445 , 95 percent CI $[1.262, 1.629]$ (see Table 6). This indicates that multifamily zoning change induced about 1.4 new units per parent parcel on top of the unit growth that would otherwise have been expected given preexisting trends. The coefficient for treatment 2 (accessory R-15A zoning area after rezoning) is $.299$, 95 percent CI $[-.112, .485]$ (see Table 6). This means accessory zoning induced .3 more units per parent parcel on top of the unit growth that would otherwise have been expected if no zoning changes had been made. The far more modest coefficients of treatment 2 compared to treatment 1 highlight the same finding as the descriptive data: that accessory laws alone induced more modest unit production, while Ramapo’s multifamily zoning laws spurred more dramatic unit growth.

Table 1: Number of Parcels

	Parcels		
	1986	2006	2021
R-15C (core)	620	760	1093
R-15C (exclusion)	391	408	732
R-15A	329	330	327
R-15	365	381	394

Notes: Number of parcels per zoning district over time, showing increase in parcel subdivisions within rezoned areas
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcel2019; Ram_buildings (Rockland County GIS portal); PropertyShark

Table 2: Number of Parcels by Land Use Type

		Number of Parcels by Land Use Type					
		Vacant	One family	Two family	Three family	Multifamily	Institutional
R-15C (core)	1986	68	530	16	0	0	7
	2006	32	346	147	91	98	23
	2021	61	153	108	58	713	32
R-15C (exclusion)	1986	34	354	3	0	0	2
	2006	17	316	46	5	4	4
	2021	37	133	36	24	502	10
R-15A	1986	31	312	13	0	0	8
	2006	23	302	33	3	4	9
	2021	31	243	55	9	57	16
R-15	1986	30	299	0	0	0	0
	2006	3	319	2	0	0	4
	2021	2	309	9	2	5	3

Notes: Land use classifications per parcel per zoning district over time, showing decrease in single-family parcels over time
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcel2019; Ram_buildings (Rockland County GIS portal); PropertyShark

Table 3: Land Use Change for Parent Parcels, 1986-2021

		Land Use Change for Parent Parcels 1986-2021					
		Vacant in 2021	One Family in 2021	Two Family in 2021	Three Family in 2021	Multifamily in 2021	Institutional in 2021
One Family in 1986	R-15C (core)	8%	0.27	15%	8%	38%	5%
	R-15C (exclusion)	7%	0.33	9%	4%	44%	2%
	R-15A	6%	0.70	12%	2%	6%	3%
	R-15	1%	0.94	3%	0%	1%	1%
Vacant in 1986	R-15C (core)	6%	0.06	24%	11%	49%	4%
	R-15C (exclusion)	21%	0.26	6%	6%	38%	3%
	R-15A	21%	0.48	9%	3%	9%	9%
	R-15	3%	0.90	0%	0%	3%	3%

Notes: Land use classifications per parent parcel between 1986 and 2021 by zoning districts. Shows how parcels that were classified as either vacant or one-family in 1986 were classified in 2021. The shift in classifications for the two R-15C areas are particularly notable.
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcels2019; Ram_buildings (Rockland County GIS portal); PropertyShark

Table 4: Units

	Units			Change 1986-2021	% Change 1986-2021
	1986	2006	2021		
R-15C (core)	562	1373	2248	1686	300%
R-15C (exclusion)	360	439	1358	998	277%
R-15A	337	391	636	299	89%
R-15	299	323	377	78	26%

Notes: Change in units per zoning district over time.
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcels2019; Ram_buildings (Rockland County GIS portal); PropertyShark;
manual windshield survey via Google Streetview

Table 5: Change Estimates

	Estimates of Parcel and Unit Change		
	Naïve Estimate	Before/ After Estimate	Difference-in- Difference Estimate
Multifamily Zoning			
One Family Parcels	-0.57	-0.535	-0.371
Units	2.62	2.381	1.445
Accessory Zoning			
One Family Parcels	-0.19	-0.221	-0.112
Units	0.82	0.586	0.299

Notes: Naïve estimate represents the change in means between 1986 and 2021 for the treatment area. The before/after estimate is the difference between the change in means between 1986 and 2021 for the treatment area minus the change in means in the control area for the same period. The difference-in-differences estimate is the change in means in the treatment area over the change in means in the control area, using four cross-sectional measures (1986, 2006, 2012, and 2021).
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcels2019; Ram_buildings (Rockland County GIS portal); PropertyShark;
manual windshield survey via Google Streetview

Table 6: Difference-in-Differences Estimates

Difference in Difference Estimates						
One Family Parcels	coefficient	std. error	t	p	95% conf. interval	
Post zoning reform	0.012	0.023	0.540	0.589	-0.032	0.056
R-15C exclusion zone (multifamily zoning)	-0.082	0.022	-3.820	0.000	-0.125	-0.040
R-15A zone (accessory zoning)	-0.099	0.022	-4.530	0.000	-0.142	-0.056
treatment1 (R-15C*post)	-0.371	0.031	-12.170	0.000	-0.431	-0.312
treatment2 (R-15A*post)	-0.112	0.031	-3.600	0.000	-0.172	-0.051
N	4343					
r squared	0.128					
adjusted r squared	0.127					
Units	coefficient	std. error	t	p	95% conf. interval	
Post zoning reform	0.128	0.069	1.850	0.064	-0.007	0.263
R-15C exclusion zone (multifamily zoning)	0.076	0.066	1.160	0.248	-0.053	0.206
R-15A zone (accessory zoning)	0.055	0.067	0.810	0.415	-0.077	0.186
multifamily treated (R-15C*post)	1.445	0.094	15.450	0.000	1.262	1.629
accessory treated (R-15A*post)	0.299	0.095	3.140	0.002	0.112	0.485
N	4,343					
r squared	0.186					
adjusted r squared	0.185					

Notes: std.error is an abbreviation for standard error, while conf. interval refers to confidence interval

Source: Ram_landuse2006, Ram_landuse2012, Ram_parcels2019; Ram_buildings (Rockland County GIS portal); PropertyShark; manual windshield survey via Google Streetview

Section 3: Policy Challenges

The creation of the R-15C district clearly spurred a major increase in housing production in the Monsey area. Yet, what were the implications of this rapid growth on the town's social and physical environment? The potential for negative consequences of development are known to anyone who has attended a public meeting: some neighbors fear increased traffic; others complain about the loss of environmental features; and still others lament that new development is just plain ugly. Missing from the standard public meeting is the fact that housing production also carries with it positive externalities, the most basic of which is an (expected) mitigation of housing costs as new supply comes on line. The following section analyzes these externalities, using qualitative evidence gleaned from archival sources and semi-structured interviews. I start by investigating some of the challenges that accompanied the development boom in central Monsey, especially as regards public infrastructure and the aesthetics of the built environment. I then discuss the impact of the zoning change on affordable housing discourse in the area.

Infrastructure

As central Monsey densified, concern often centered on the capacity of public infrastructure to accommodate growth. In interviews, critics of development questioned whether the public sewers, water supply, or street grid of the town—all initially built on assumptions of more limited suburban style development—could handle increased usage. More sympathetic observers countered that infrastructure in Ramapo has been strained for decades—yet the town had managed to make enough improvements to continue to function and attract new residents. Tracing the cause of infrastructure strain is no easy task. Not all issues can be traced back to development, let alone the specific development in the R-15C district. Nonetheless, the historical record does provide some indications about the relationship between infrastructure strain and development. Reviewing that record reveals a mixed story: investment has not kept up with population growth in certain realms, like sewage and water capacity, while other systems, like the road network, appear to have proven more resilient.

At the time of the 2004 master plan update, the capacity of Ramapo's sewage infrastructure to accommodate new development was already in question.⁵⁴ Unfortunately, some of these fears came to pass. New Jersey residents living downstream of Ramapo filed a multimillion-dollar lawsuit against the sewer district that serves the town, successfully proving in court that the local sewer plant had overflowed into the Upper Saddle River multiple times between 2006 and 2010. These discharges were tied to capacity issues, both during storm events and on regular days. Some observers (including the local newspaper) connected the problem with "overdevelopment" in areas like the R-15C district.⁵⁵ Despite subsequent investments in capacity, emergency sewage discharge occurred again in 2022, which environmental activists also connected with "extensive development in the area."⁵⁶ Whether the problems were explicitly tied to the specific development in the R-15C zone is unclear. However, the sewage overflows do highlight the need for additional investment to keep up with usage.

The town's water pressure is a related capacity issue. Concern about water pressure in the town took on new urgency following a fatal fire in 2021 at a nursing home in the village of Spring Valley. One firefighter lost his life battling the blaze (firefighters are volunteers in Ramapo—another suburban holdover) as did one resident.⁵⁷ This fatal fire raised concerns first and foremost over lax building inspections in Ramapo.^{58,59} However, it also highlighted the water system in the town. The hydrant nearest the complex did not have adequate water pressure to fight the blaze, and firefighters were forced to stretch hoses from almost two-thirds of a mile away at the closest functioning pump.⁶⁰ Following the tragedy, state officials launched an inquiry into Ramapo's water system. As with sewers, many observers

54. "Town of Ramapo, New York - Town of Ramapo Comprehensive Plan (Jan 2004)."

55. Laura Incalcaterra, "Judge Deciding Rockland Sewer Agency Penalties," *The Journal News*, May 2014, <https://www.lohud.com/story/news/local/rockland/2014/05/08/rockland-sewer-agency-violated-clean-water-act-says-judge/8858197/>

56. M. Castelluccio, "Raw Sewage Spills into the Saddle River—Preserve Ramapo," *Preserve Ramapo*, May 2022, <https://preserve-ramapo.com/raw-sewage-spills-into-the-saddle-river/>

57. Steve Lieberman, "Evergreen Fire: Officials Frustrated as State Report on Water Pressure Lingers; the Latest," *The Journal News*, November 2022, <https://www.lohud.com/story/news/local/rockland/2022/11/08/evergreen-fire-rockland-water-pressure-investigation-lingers/69627069007/>

58. The fire also preceded another major fire at an illegally constructed grocery store in Monsey. Firefighting is also made more difficult in Ramapo by a preponderance of informal units. Multiple interview participants accused the town of turning a blind eye to the potential for additional illegal units during the permitting process, such as by approving plans showing additional doors or basement kitchens that might indicate future subdivision into more units than permitted.

59. Steve Lieberman and Peter Kramer, "A Ramapo Supermarket Racked up Dozens of Building Violations and Then the Fire Struck," *The Journal News*, April 2021, <https://www.lohud.com/in-depth/news/investigations/2021/04/21/ramapo-backs-mottys-scofflaw-fight-over-railroad-land/7090849002/>.

60. Peter Kramer and Steve Lieberman, "Water Pressure Probe Launched by State into Spring Valley Fatal Fire," *The Journal News*, April 2021, <https://www.lohud.com/story/news/local/rockland/spring-valley/2021/04/07/state-psc-launches-investigation-into-low-water-pressure-fatal-fire/7129092002/>.

drew a connection between the town’s multifamily development boom and water issues, with one state assemblymember arguing that the inquiry needed to focus on “how our water infrastructure is being taxed by development decisions.”⁶¹

The town’s street grid is a third piece of infrastructure that is often described as being over capacity. In qualitative interviews, even relatively pro-development participants complained about traffic. However, unlike sewage and water capacity, there is less evidence tying increased density to traffic in central Monsey. At the time of the 2004 master plan update, traffic on the two arterial roads that flank the R-15C zone, Route 59 and Route 306, was already a major issue. Annual average daily traffic (AADT) counts averaged about 20,000 and 18,000 on the two stretches of Route 59 that were closest to the R-15C district and about 11,000 and 14,000 on the stretches of Route 306 closest to Monsey. However, these counts represented something of a peak. Since the mid-2000s, traffic on both roads has actually declined: traffic counts on Route 59 in 2021 measured around 15,000. This decline is surprising considering the thousands of new housing units constructed in the vicinity of the two roads. However, it might be because the new inhabitants of multifamily units are far less likely to own cars than the suburban norm. In 2020, 25 percent of respondents in Monsey did not have access to a vehicle, compared to only 6 percent in Rockland County as a whole.⁶² While both Route 59 and Route 306 are still considered congested,⁶³ it seems clear that dense development has not exacerbated traffic in the way that might be expected given the relative dearth of public transit in the Monsey area.

61. Ibid.

62. U.S. Census Bureau, “U.S. Census Bureau QuickFacts: Monsey CDP, New York; United States,” accessed October 2022, <https://www.census.gov/quickfacts/fact/table/monseycdpnewyork,springvalleyvillagenewyork,rocklandcountynewyork/PST045222>.

63. Mike Spack, “Traffic Engineering Briefing: When Is a Road Congested? | MikeOnTraffic,” *Mike on Traffic*, September 2017, <http://www.mikeontraffic.com/when-is-a-road-congested/>

Aesthetics

The physical appearance of the built environment is another area of concern in Ramapo—mentioned frequently in qualitative interviews and in the archival record. Aesthetic concerns may seem trivial compared to the pressing issue of water pressure, sewer capacity, or even traffic. Yet, struggles over design are a key component of Ramapo’s land use history—appearing almost immediately upon the creation of the R-15C district and escalating as more and more of central Monsey was rebuilt.⁶⁴ Ramapo’s zoning code includes requirements for “landscaping and screening” in the R-15C district and grants the local government the right to make aesthetic evaluations of new construction on the basis of “compatibility” during discretionary review.⁶⁵ Despite these safeguards, qualitative interviewees frequently cited aesthetic issues as one of the downsides of densification.

Some of the aesthetic issues in central Monsey are built into the “converted” nature of the R-15C district. Development within central Monsey has occurred on a lot-by-lot basis, so a single block in the area is liable to contain a mix of typologies. The cascading set of land use changes in the area has also led to a few different rounds of building and rebuilding, with new construction six-family buildings sitting next to standard high-ranch single-family homes or converted (and expanded) former single-family homes. Developers’ tendency to subdivide lots also means that homes are typically graded at different levels. This can exacerbate the sense of height difference on a block and, according to some observers, creates runoff challenges.

Parking is another aesthetic issue in the district. While the town of Ramapo progressively loosened bulk and use restrictions in central Monsey, parking regulations have remained essentially unchanged. One parking space is mandated per unit (both primary and accessory) within the R-15C district, in addition to one space per “nontransient roomer or boarder.”⁶⁶ As a result, new multifamily construction requires a fairly large number of spots. Since developers in Monsey tend to build right next to the required side setback (or seek a variance to build even closer to the property line), this parking is generally provided in the front of the building. This means that parking typically covers the entirety of the front yard, with little space left for trees or landscaping.

64. Alan Snel, “Ramapo Approves Architecture Board,” *The Journal News*, May 1986.

65. “Town of Ramapo, NY: Chapter 376 Zoning,” Town of Ramapo, NY Code, n.d., <https://ecode360.com/11858832>.

66. Ibid.

Affordability and Fair Housing

One of the town's primary motivations in crafting the R-15C district was to create additional affordable housing options for the rapidly growing population of central Monsey. This was based on an assumption that new multifamily development would create additional housing options and temper price escalation in a high demand environment—assumptions fully grounded in the policy literature as well as in the basic economic model of supply and demand. However, the relative affordability of new construction has been a major point of contention in Ramapo. In interviews, a number of civic activists contended that the new housing supply in Monsey is not truly affordable—especially not the condominiums constructed in the wake of the 2012 rule change that allowed accessory parcels to be sold as separate units. These debates are further complicated by the complex demographic landscape of the town. Social justice oriented civic groups, including the local chapter of the NAACP, argue that most new construction in the area is built for, and exclusively marketed to, ultra-Orthodox buyers.⁶⁷ They thus question whether housing options (even if they are affordable) ultimately benefit the full spectrum of the town's population.

Determining a causal relationship between housing supply and housing cost is outside of the scope of this research. However, since affordability is one of the most hotly contested issues in Ramapo, it is still worth providing some basic information about it. Unfortunately, even a rudimentary assessment of housing affordability in Monsey is hampered by a dearth of reliable pricing data. Census data on housing costs is self-reported and private sector pricing data for the area is partial at best, since many of the property sales reported in Monsey are done through direct personal transactions and registered as token \$1 sales between family trusts.⁶⁸ This brief discussion is not meant to resolve this question of how best to perceive the affordability of these units, much less to disentangle the contributions of supply and demand to their pricing, or the causal impact of the R-15C district's development on housing costs. It is meant only to provide valuable context for understanding the type of development underway and the unique context of housing supply in Ramapo.

67. Robert Brum, "Monsey Mega-Developer: Don't Assume It's Orthodox-Only," *The Journal News*, August 11, 2016, <https://www.lohud.com/story/news/local/rockland/ramapo/2016/08/11/monsey-mega-developer-not-only-orthodox/88446550/>.

68. Rental prices are also opaque: apartments marketed to ultra-Orthodox families are often advertised in different channels than for the standard market, by word of mouth, free circulars available at stores, or in ultra-Orthodox online forums.

What information can be drawn from sales data and from anecdotal evidence drawn from local real estate advertisements shows evidence to buttress both arguments made in Ramapo: that new units provide affordable options that wouldn't otherwise exist in such a high demand environment and that affordable options are inaccessible to large portions of the greater Ramapo population. On the one hand, the R-15C district successfully spurred the creation of hundreds of multifamily "missing middle" options. Condos in multifamily buildings in the area generally sell for less than single-family homes in the same zone, and the multifamily zoning changes also spurred the creation of many more rental options than otherwise would exist. Moreover, in most years, sale prices (normalized by the number of units in a sale) are lower in the R-15C district than in surrounding areas of Monsey that do not allow for multifamily buildings, although there is some indication that the zones are growing more similar over time (see Figures 4 and 5).

On the other hand, in recent years housing costs in the Monsey area have far exceeded those of Rockland County as a whole (see Figures 4 and 5). Large new condominiums with five or six bedrooms in central Monsey can sell for close to \$1,000,000—obviously far outside even the most generous definition of affordability.⁶⁹ Soaring demand from the ultra-Orthodox community has also spilled over into other areas, including the relatively low-income and racially-diverse village of Spring Valley, located just east of Monsey. Developers have expanded condominium construction there, leading to accusations of gentrification, racism, and fair housing violations (and counter-accusations of antisemitism).^{70,71} For example, in 2013, the local chapter of the NAACP filed a lawsuit against one new Spring Valley development alleging that units were exclusively marketed to ultra-Orthodox buyers.⁷² This lawsuit was settled in the plaintiffs' favor in 2017, highlighting the legitimate frustration of some residents about just how affordable, and accessible, new housing supply in the area really is.

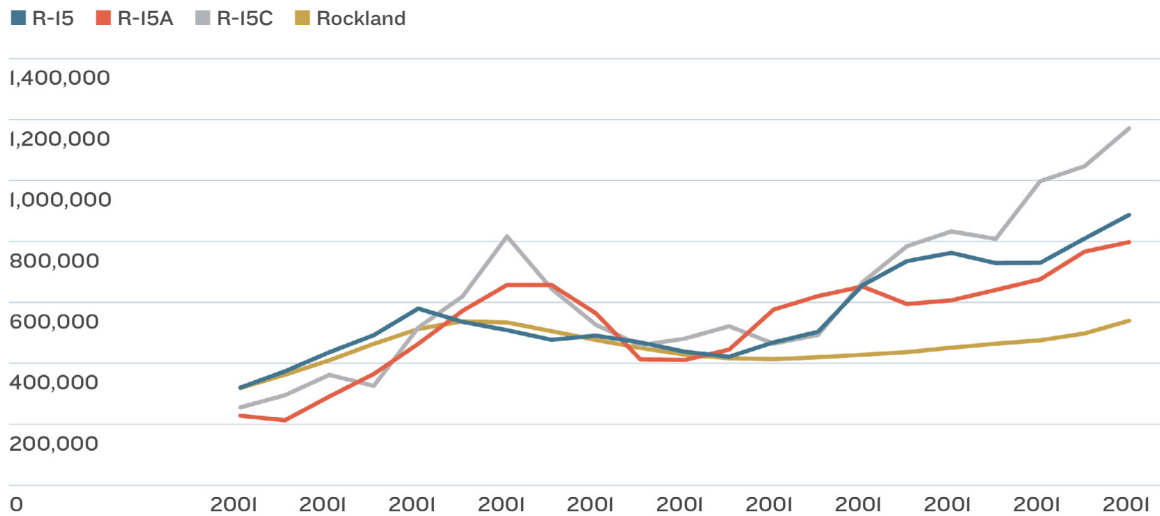
69. Zillow, Inc., "Monsey NY Real Estate - Monsey NY Homes For Sale | Zillow," Zillow, accessed April 3, 2023, <https://www.zillow.com/monsey-ny/>.

70. Bandler, Lieberman, and Liebson, "Ramapo Nears Breaking Point: Special Report."

71. Robert Brum, "Monsey Mega-Developer: Don't Assume It's Orthodox-Only," *The Journal News*, August 11, 2016, <https://www.lohud.com/story/news/local/rockland/ramapo/2016/08/11/monsey-mega-developer-not-only-orthodox/88446550/>.

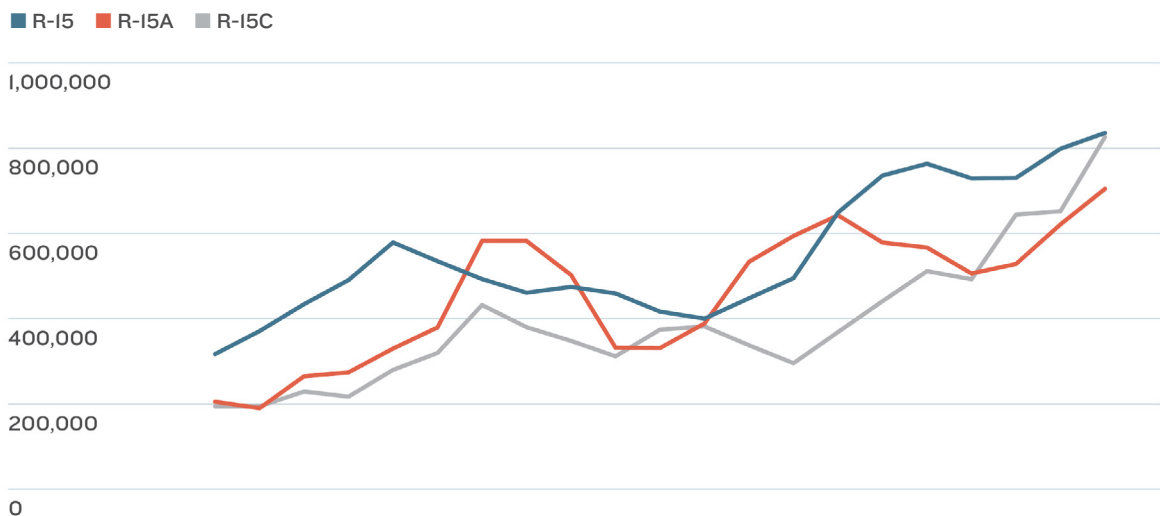
72. Steve Lieberman, "NAACP, Park View Settle HUD Housing Discrimination Case in Spring Valley," *The Journal News*, February 21, 2017, <https://www.lohud.com/story/news/local/2017/02/21/naacp-housing-discrimination-hud/98188652/>.

Figure 4: Average Sale Price by District, 3-year moving average



Notes: Average sale price per zoning district is average for sales over \$20,000. Apartment buildings are excluded. Rockland County data is home values not sale prices, included only for reference
Source: PropertyShark; Zillow Home Value Index

Figure 5: Average Sale Price by District, per unit basis, 3-year moving average



Notes: Average sale price per zoning district is average for sales over \$20,000. Unit price is sale price divided by number of units in the property.
Source: PropertyShark

Section 4: Learning from Ramapo

Ramapo provides a multi-decade window into what can happen to the land use, housing market, and neighborhood character of a suburban community that pursues zoning reform. Its extended timeline holds a host of lessons for other communities, many of which are just starting to contemplate the types of reform that Ramapo pioneered decades ago.

However, it is important to acknowledge that our ability to learn from Ramapo is hindered by some of its unique qualities—indeed, by the same qualities that make it an important place to learn from. Ramapo is an “extreme” case in at least two dimensions.⁷³ The first dimension is cultural. The built transformation of central Monsey has been accompanied by the transformation of the wider town of Ramapo into what might be best characterized as an ultra-Orthodox Jewish “ethnoburb.”⁷⁴ This entanglement between demographic and physical change makes it difficult to parse which outcomes in the case are specific to the unique social conditions of the community (i.e. its predominantly ultra-Orthodox character) and which outcomes stem from more universal forces or conditions (like a high-demand housing market). The second dimension is political. The town government of Ramapo is exceptionally pro-growth and the electorate includes a formidable ultra-Orthodox voting bloc laser focused on increasing the housing supply for their community. This impedes generalization between Ramapo and other places, since pro-growth advocacy is still quite rare in other suburban locations (even with the emergence of the YIMBY movement) and few local governments are subject to the type of pro-supply pressures that Ramapo is under.

73. Bent Flyvbjerg, “Five Misunderstandings About Case-Study Research,” *Qualitative Inquiry* 12, no. 2 (April 1, 2006): 219–45, <https://doi.org/10.1177/1077800405284363>.

74. Wei Li, *Ethnoburb: The New Ethnic Community in Urban America* (University of Hawai’i Press, 2009).

As a result, Ramapo is only directly analogous to a small set of communities: a handful of other ultra-Orthodox suburbs, certainly, and perhaps also other extreme cases of pro-growth politics and high population growth like oil boomtowns. Yet, more typical communities still have much to learn from the Ramapo case. For one, Ramapo can serve as a theoretical “best case” (or worst, depending on one’s perspective) for how densification might proceed in a high-demand environment with a pro-growth planning regime. Ramapo provides a rare window into the long-term effects of densification policies under “ideal” pro-supply political conditions, akin to what is called a “reasonable worst case development scenario” in environmental planning. Ramapo can also serve as a sort of “falsification test” for certain theories about zoning reform, that is, as a test showing what is, and what is not, necessary for a suburban place to transform into a denser environment. Even where suburbs reach urban levels of density, they may do so in their own, suburban way. Ramapo provides a window into what that might look like.

Proceeding in that light, what are the lessons of land use reform in Ramapo? First, Ramapo’s accessory unit laws triggered only modest change, even in a high-demand and pro-growth environment. Instead, it was the upzoning of existing neighborhoods to multifamily zones that triggered widespread change. Second, laws allowing for condominiums appeared important in providing an attractive housing product to builders in Ramapo, and may be important in other suburban settings as well. Third, the Ramapo case shows that densification requires extra infrastructure investment if undertaken in a suburban environment. And fourth, in Ramapo’s exceptionally pro-growth (and suburban) context, it appears that discretionary review and parking requirements did not necessarily hinder housing production.

To elaborate, the primary lesson from Ramapo is that zoning reform can trigger meaningful new construction. However, the Ramapo case indicates that, even under an extremely pro-growth planning system, ordinances that allow only small increases in the permitted number of units per parcel provide only gradual unit growth over time. The creation of the R-15A district (the section of Monsey that allows one accessory unit per parcel) and the first twenty years of the R-15C ordinance (which allowed dwellings to be converted into up to three units) both triggered only minor land use changes. In contrast, reforms which eventually allowed four- and six-unit properties on a single lot in the R-15C district (and eight and twelve units on a double lot) triggered the production of thousands of new units. This was especially true after multifamily properties were authorized to be parceled out as condominiums. Whether because of constraints related to financing or because

of resident preferences to own their own home, removing residency requirements and allowing accessory units to be sold as condos proved significant. Together, the multifamily reforms and the lifting of condominium restrictions resulted in wide scale land use change: the majority of parcels switched to multifamily use after those changes and developers practically ceased to construct single-family (or even two- and three-family) homes within the multifamily zone.

This research does not allow for a definitive answer as to why larger multifamily development proved more successful at increasing supply than accessory unit laws and conversions. For example, did the building typology allow for unit types more attractive to buyers or lower production costs for developers? Were the additional profits that could be generated by one or two additional units insufficient to prompt existing owners to sell? The answers to these questions would help guide other jurisdictions in assessing whether the more limited production of accessory dwelling units and triplexes reflected local conditions or something more generalizable. Even so, it serves as a reminder that certain land use reforms focused on the “gentlest” forms of additional density may fail to generate substantial production, even in extremely high-demand and pro-growth environments.

The Ramapo case also demonstrates that decades of sustained development carries costs. The town’s suburban infrastructure, especially the suburban sewer and water system, have not always been able to handle urban densities, especially without substantial (and costly) upgrading. Further, the Ramapo case shows that multifamily construction in a high-demand environment does not guarantee affordability. While multifamily units may be affordable compared to what prices would have been otherwise, they are not necessarily accessible to the full spectrum of the community. These point to the importance of complementary housing and planning policies.

Lastly, the R-15C district also sheds some intriguing light on the processes that are, and are not, necessary for a place to transform. This is where Ramapo’s use as a falsification test comes in: a place that shows that certain widespread assumptions about zoning reform may not hold under all conditions. For example, conventional wisdom holds that discretionary review processes hold up development and constrain housing production.^{75,76} Yet, in Ramapo, developers actively seek variances—preferring the flexibility (and extra building

75. Catie Gould, “Why Communities Are Eliminating Off-Street Parking Requirements—and What Comes Next,” *Land Lines*, October 2022, <https://www.lincolnst.edu/publications/articles/2022-10-shifting-gears-eliminating-off-street-parking-requirements>.

76. Ben Metcalf et al., “Four Tools for Stimulating Economic Recovery Through New Homebuilding,” *SPUR*, June 2020, <https://www.spur.org/news/2020-06-23/four-tools-stimulating-economic-recovery-through-new-homebuilding>.

capacity) of a site-specific variance despite the costs in terms of time and fees. The aesthetic review process in Ramapo, another type of discretionary review, also has not precluded rapid development.⁷⁷ And neither have parking requirements. It follows that, under certain political conditions, eliminating discretionary review, or even parking requirements, may not be as important for housing production as institutional reforms that alter the speed and ease of discretionary review. This is not to say that discretionary reviews do not tend to add cost and uncertainty to the housing production process; rather, it is a reminder that the impact of discretion is also a function of whose discretion is being exercised.

Other communities, especially those built on the same midcentury suburban model as Ramapo, should take heed of the lessons of the Ramapo case. Ramapo’s zoning reforms show that, with the right institutional framework and housing market, single-family tract housing developments can be upgraded to become much denser neighborhoods. The R-15C district in particular shows that single-family neighborhoods are not necessarily “built out.” Municipalities can induce the production of large amounts of “missing middle” housing if they are bold enough to legalize true multifamily buildings. Yet, municipalities should enter these efforts cognizant of the special challenges that dense housing brings when constructed atop existing suburban infrastructure. These downsides are far from insurmountable—and are no excuse for inaction. Yet, they are real, and responsible policymakers should ensure that densification proceeds along with the requisite infrastructure upgrades and housing affordability policies necessary to sustain safe and just residential environments.

Methodological Appendix

Parcel Dataset

The quantitative data for this paper was compiled from a variety of sources. It is organized around four cross-sectional periods: 1986, 2006, 2012, and 2021. Land use data from 2006 and 2012 came from land use shapefiles available through Rockland County’s open data portal. These shapefiles classify each parcel by the land use that existed in the year in question. Land use data from 2021 came from the private sector data provider

77. Although, as relayed in section three, the aesthetic review board was seen as a rubber stamp by some in the community.

PropertyShark. I downloaded parcel level data in PropertyShark for each address within the central Monsey area (which included land use classifications) and then matched it with the relevant parcels using the Town of Ramapo’s 2019 parcels shapefile.

The 2006, 2012, and 2021 datasets all included full land use classifications. However, no such data existed for 1986. Instead, I imputed land use data for 1986 using a 1986 buildings shapefile from Rockland County. I cross-checked this data with 1986 assessment rolls available on microfilm at the Rockland County archive and assigned parcels that were listed in 1986 as non-homestead, or owned by a congregation or nonprofit, as having an institutional classification. I assigned parcels with no building on them as vacant. All other parcels were assumed to be residential given the zoning district. However, after this was done, the question of whether a building was one- or two-family remained (since the initial residential zoning for the area allowed for two-family homes on oversized lots). I therefore, flagged properties that had a building on them circa 1986 and were over 20,000 square feet in size (the minimum lot size for a two-family dwelling in the ’86 zoning). If these properties were classified as one-family in the 2006 land use shapefile then I assumed that they were also one-family in 1986. However, if the oversize property was listed as two- or three-family in 2006 then I cross-checked with property deeds (available for some parcels on PropertyShark). As long as I didn’t find a deed that indicated single-family use subsequent to 1986, I assumed these 34 properties were two-family in 1986.

The unit measurements required more imputation and assumptions than the land use classifications since the multifamily land use classification contains properties with different numbers of units. To calculate units, I first used the land use data at the four time periods. This was relatively straightforward for most land use classes: I assumed a two-family parcel contained two units, three-family property contained three units etc. However, properties with over four units are listed only as belonging in a multifamily land use class. Therefore, I implemented a more complex set of assumptions to determine approximate unit counts for multifamily properties. First, I conducted a manual “windshield survey” (via Google Maps) of the 436 properties listed as multifamily in 2021. Many multifamily buildings in Ramapo include large address signs listing the number of (legal) units, and others include formal multi-unit mailboxes. In such cases, I inputted a manual calculation for the number of units.

However, many other properties did not include clear indications of units and were more ambiguous. For the remaining properties I next turned to PropertyShark data. I inputted unit counts from PropertyShark where that data was available. This still left a couple hundred properties that were listed as multifamily but where I did not have manual estimates or where PropertyShark did not include unit counts (see table 7). Some of these properties had a multifamily parcel count higher than three, because the property had been “condoed” or subdivided into condo parcel fractions. For these properties, I imputed the number of units as the number of these parcel fragments. However, this still left close to 250 properties that did not have manual count, a PropertyShark count, or a parcel number equivalent to a multifamily condo (see table 7). For these properties, I assumed four units. This was a conservative assumption of the lowest possible number of units that would qualify the property as multifamily. This makes for a conservative unit estimation, since some of these unassigned multifamily properties likely contain six units (the maximum allowed in a “townhouse style” construction).

All land use and unit data were aggregated at the “parent parcel” level. Parent parcel essentially means the original platted parcel as it existed in 1986. Normalizing the four datasets at the parent parcel level allowed me to compare change over time at a standardized unit. This was important to capture parcel-level change, since subdivisions and split lots are a common feature of development in the area. For example, a single one-family parcel in 1986 might, by 2012, include one two-family parcel and one three-family parcel, with five units overall. Lastly, before performing the final data analysis, I removed two outlier areas. The first was an area near the village of Kaser that was rezoned to R-15C in 2001 and redeveloped as a large multifamily complex. The second was a vacant parcel in the R-15C “exclusion” area (i.e. the area rezoned to R-15C in 2004) that was redeveloped as a single 132-unit complex. These parcels were removed in order to establish more accurate counts of the type of land use change that could be expected on a more typical, 10,000 to 20,000 square foot suburban lot.

Difference-in-Differences Models

Difference-in-differences regression was used in the paper to try to deduce what land use and unit change could be traced specifically to the impact of rezoning, by measuring change over and above what would be expected otherwise. The limited amount of public data meant that I only had four cross-sectional measures: 1986, 2006, 2012, and 2021. This data limitation presented a problem given that the most important zoning reforms proceeded over a period of time ranging from 2004 to 2012. First, in 2004, the areas were

rezoned for greater density; then in 2007, an accessory law was expanded to grant even more units in the R-15C district; and then in 2012, accessories were allowed to be sold on the open market. Due to this ambiguity, and factoring in the lag time of construction, I labeled 1986 and 2006 as pre-treatment years and 2012 and 2021 as post-treatment years. Assigning 2012 as a “before year,” while theoretically justified given that it was the culminating year of the period of zoning reform, would have produced much higher estimates in terms of units. However, I settled on assigning 2012 as a post-treatment year in order to create a more conservative estimate, with one within-the-reform-period year (2006) assigned as a pre-treatment year and one within-the-reform-period year (2012) assigned as a post-treatment year.

The difference-in-differences models contained estimates for the impact of two different “treatments,” both administered first in 2004. The first treatment was multifamily zoning (which was first “given” to the R-15C exclusion area in 2004; with the “dose” increased by the 2007 and 2012 accessory reforms). The second treatment was accessory zoning (first given to the R-15A area in 2004; with the “dose” increased by the 2012 reforms). Parcels in the core R-15C area (the initial zone, created in 1986) were removed from the sample to measure only areas that were affected by the 2004 changes. This left 4,343 observations, representing parent parcels in the three areas (R-15C exclusion, R-15A, and R-15) during the four time periods. There were two models, the first with a dependent value of one-family parcels and the second with a dependent variable of units. The models measured both treatments (R-15C and R-15A) together, according to the following specification:

$$DV = \alpha + \beta Post + \beta R15c + \beta R15a + \beta treatment1 (Post * R15c) + \beta treatment2 (Post * R15a) + \epsilon$$

Difference-in-differences models work on the assumption that the treatment and control groups display “parallel trends” prior to treatment. The first indication of parallel trend comes from census data, which shows that the census tracts that were the closest proxy for the R-15C, R-15A, and R-15 zones moved in close tandem prior to 1990 (the first census year after the creation of the “core” R-15C district in 1986) (see Figure 6). This finding gave confidence that, at least theoretically, these areas of Monsey were historically similar prior to the commencement of zoning reform. However, the difference-in-difference models do not measure the impact of the 1986 change. Instead, they measure the impact of the 2004 changes that rezoned small portions of the R-15 zone to R-15C (the area I term the

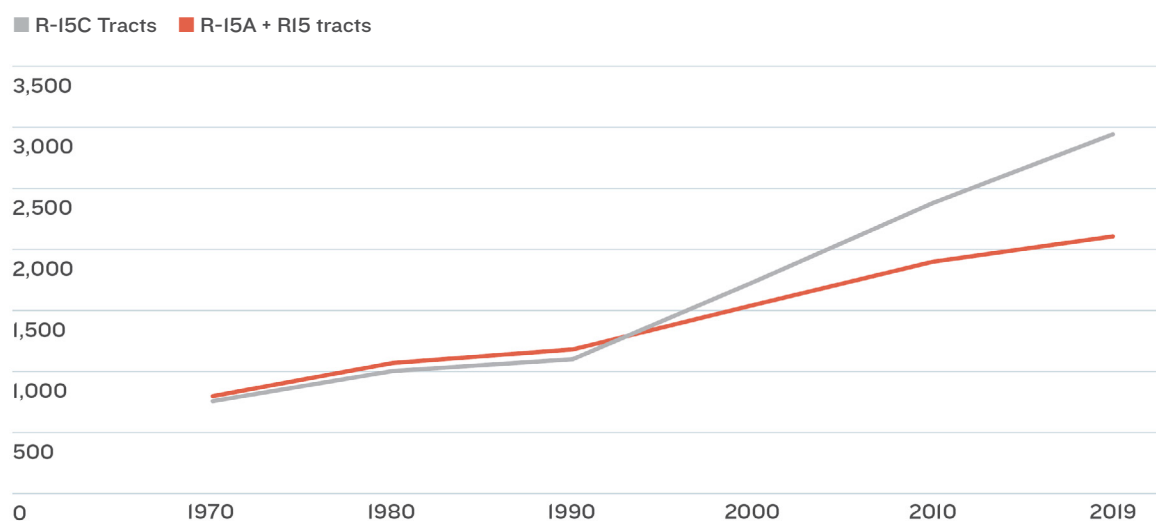
R-15C “exclusion” zone) and rezoned another portion of R-15 to the new R-15A designation. The R-15C exclusion area is a small and geographically fragmented area which does not overlap clearly with any census geography (see map). However, the R-15C exclusion zone—along with the R-15 zone and the remaining portion of Monsey that stayed R-15—all display parallel trends prior to 2006 within the parcel dataset (see Figures 7 and 8). As would be expected for the parallel trend assumption to hold, the R-15C core area diverges from the other areas immediately after 1986, while the R-15C exclusion area stays broadly congruent with the R-15A and R-15 until the 2012 reading. Together, this gives meaningful assurance that the areas of central Monsey all “behaved” similarly prior to zoning treatment.

Table 7: Unit Count Imputations for Multifamily Properties

	2006	2012	2021
parent parcels w/ manual or Property Shark count	0	0	125
parent parcels with multifamily parcels > 3	15	145	101
parent parcels with multifamily parcels < 3, imputed as 4	23	81	248
total	38	226	474

Notes: table showing how unit counts were assigned to parcels, and the assumptions built into the count
Sources: manual windshield survey via Google Streetview; PropertyShark

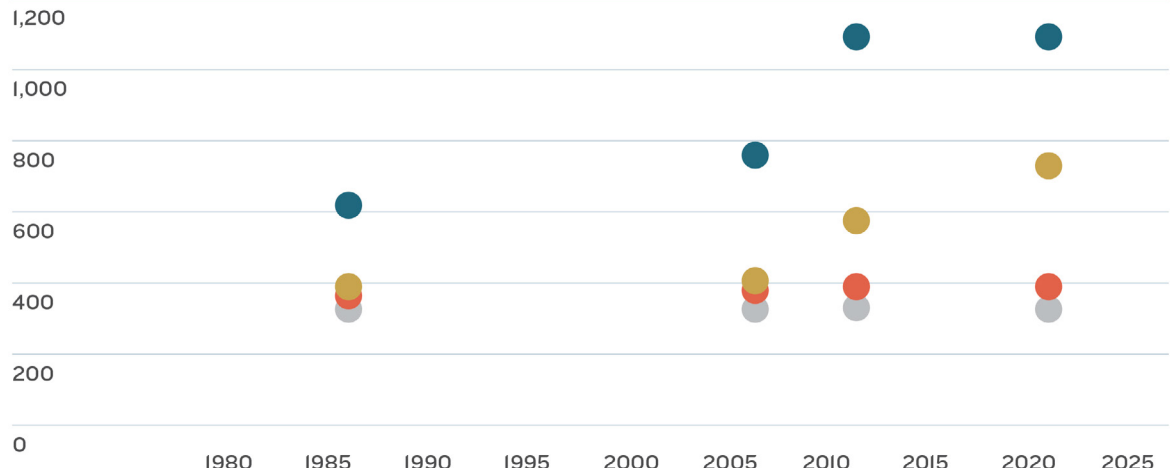
Figure 6: Units Parallel Trend



Notes: Census unit counts normalized to 2010 census tract boundaries. 2010 tracts 121.02 and 121.05 correspond roughly with R-15C zoning district. 2010 tract 121.03 and 121.06 correspond roughly with R-15 and R-15A areas.
Source: 1970, 1980, 1990, 2000, and 2010 Census; American Community Survey 5-year 2015-2019; accessed via Social Explorer.

Figure 7: Parcels, Parallel Trends

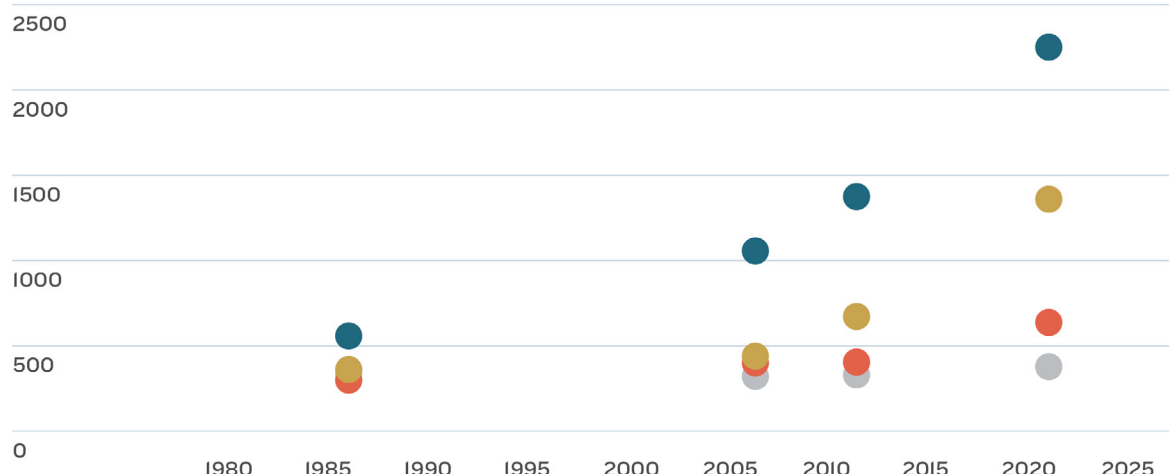
● R-I5C core ● R-I5 ● R-I5A ● R-I5C exclusion



Notes: Number of parcels per zoning district over time, showing the four cross sectional years of the difference-in-differences models.
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcel2019; Ram_buildings (Rockland County GIS portal); PropertyShark

Figure 8: Units, Parallel Trends

● R-I5C core ● R-I5 ● R-I5A ● R-I5C exclusion



Notes: Number of units per zoning district over time, showing the four cross sectional years of the difference-in-differences models.
Source: Ram_landuse2006, Ram_landuse2012, Ram_parcel2019; Ram_buildings (Rockland County GIS portal); PropertyShark; manual windshield survey via Google Streetview



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