The Impact of Zoning on Cities and Their People

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Background

It is usually difficult to uncover why things are the way they are. In the city, it is far less difficult—at least at large scales. Zoning law (often just called "zoning") dictates the built (and unbuilt) environment within a city. Zoning refers to the regulations that a city enacts to control what is built where and how it is used. It is one of the greatest forces to shape the urban environment. Proper zoning can help a city thrive and operate efficiently while being pleasant to live in, while poor zoning can be financially and humanly unsustainable. Zoning controls how and who can live in certain places and what those places are like. Zoning can enable or restrict industry and thus control the demands on many sectors of infrastructure. Zoning affects a city and its people above and beyond simple restrictions on the use of city land.

At a high level, zoning law is the mechanism by which governments can control the built environment. The applicable zoning regulations vary according the what zone of land they are specified for. Usually, regulations apply to categories of zones, e.g., residential zones, commercial zones, industrial zones. According to The World Bank (n.d.), zoning law takes the forms of zoning maps which delineate the types of zones across a region and textual regulations which detail definitions and the specific rules for different zone classifications, as well as any exceptions in certain locations. Further, there are various tools by which zoning regulates the use of zones. One is use—this denotes what happens on the land depending on the category of zone. Another is floor-area-ration (FAR)—this is literally the ratio between the amount of

floorspace in a building and the lot the building sits on; it is generally a good metric to define the intensity of use on a lot. There are many other tools, but these are good representative examples.

Modern zoning as it exists in America, is derived from early zoning laws from Germany (Spencer Gardner, 2017). Pahl-Weber et. al. (2008) outlines the history of zoning regulations in Germany as they take place in the eras of prewar, early 20th century, and postwar. Prewar regulations in the Prussian state were sparse. The first substantial legislation was written 1794. It gave foundational rights of landowners to build on their land, change buildings on their land, and defined public-use land in terms of streets and public square. The next significant development came in 1875 with the passing of the Building Line Act, following the industrial revolution (where the built environment increased dramatically). There were still no comprehensive zoning regulations, but the act established levels of authority to regulate the use of land.

Spencer Gardner (2017) writes on the Strong Towns website that the first zoning ordinance int America took place in 1885 in Modesto, California. It banned washhouses in parts of the city. American zoning was tinged with racial and socioeconomic discrimination from the beginning. That Modesto ordinance was likely targeted at the Chinese immigrants that were strongly associated with those washhouses. This kind of de facto discrimination is common, even today. Zoning authority has been legally challenged before and one significant decision was the supreme court siding for the Village of Euclid in Village of Euclid v. Ambler Realty Company, in favor of zoning. This 1926 case is used as precedent for the US government's power to enforce zoning regulations. (Village of Euclid v. Ambler Realty Company, n.d.) An important trend in American zoning is the conflict between needs for affordable housing and living spaces and the

rise of exclusive single-family-housing zones, which are increasingly being seen more as costly and socially problematic (Muskaan Arshad, 2021).

Pahl-Weber et al. (2008) continue to describe modern German zoning law development as it takes place after the Second World War, what follows is an abbreviated account of that history. Entering the early 20th century, German legislation was in chaos due to war and political conflict. Very little development happened on the front comprehensive legislation until 1933 when the Ministry of Labor of the Third Reich attempted to establish a German building code but failed due to war and the Reich's collapse. The Reich Office of Regional planning did amend past laws, though. After the war, the focus of building/zoning laws were on building back. This led to the Rubble and Reconstruction Acts. After the establishment of the Federal republic of Germany in 1949, the Building Procurement Act was passed in 1954 to handle the distribution of land and the Federal Spatial Planning Act was passed, becoming the foundation for a comprehensive zoning law through amendments assed in 1998. Most recent changes to building law have been to expand zoning authority to include the close-maritime environment and adhere to European Union standards.

The underlying purposes of zoning law is minimizing the nuisance and promote the health, safety, and general welfare of the people it serves (Spencer Gardner 2017). Over time, best practices to achieve these goals have evolved. Throughout the 20th century, zoning laws were passed to support suburban single-family housing and automobiles, as these were seen as the best ways to advance zoning goals and offered a way for implicitly discriminate against people unable to afford low-density housing (Muskaan Arshad 2021). This topic will be addressed further, but suffice it to say that these focusses served to prioritize the power and preferences

of people with systematically more wealth. Zoning best practices have evolved significantly since then to address discrimination and the single-family trend. Two focusses have been to increase city density and increase the diversity of uses within a zone. David Roberts with Vox (2017) writes about the importance of density and its beneficial effects on people living there. Higher density cities have lower housing costs, are more environmentally sustainable through decreased energy use, and put less demand on the city's infrastructure, all while making places happier and healthier. The overlap between different kinds of non-conflicting uses (e.g. residential and commercial, not industrial and recreational) is called mixed use and it is described by Luis Zamorano and Erika Kulpa (2014) writing for the World Resources Institute. They show how mixed use zoning and development decrease the use of cars while by improving access to service and that this kind of development can have positive effects on health, the environment, and the economy. The general focus of modern is to regulate sustainability and equality to improve cities.

Differential Impacts of Zoning

Zoning maps are only the top layer of zoning. Within every zone there is detailed documentation that outlines many more requirements for each given lot within the zone. As mentioned, one of these regulations can be the FAR (floor area ratio), but it can go far beyond that to include minimum setback (how far back the building must be from the street), minimum parking requirements, limitations on the density of housing or how many families can live in a single building, height limitations, even minimum assessed property values. The list of possible

regulations is enormous. Many of these regulations have some sort of justification that ties into zoning's original purposes—to prevent public nuisance and improve public health—but many of these can be used to cause or result in differential impacts on people's health and socioeconomic situation.

Maya Brennan, Emily Peiffer, and Kimberly Burrowes (2019) describe how people of color and/or ethnic minorities are often the worst affected populations. They specify that the mechanism is regulations that either specify density directly, regulate minimum lots sizes, or limit multi-family residence will increase the prices of the homes they effect. This would be ok if there were simply cheaper places to live of equal quality. Problems arise because these zoning rules are often instituted to prevent specific groups of people from living in certain areas and simultaneously forcing them to live in areas where these rules don't exist, which correlate to worse locations and property. These less heavily regulated areas are often those close to highways, industrial zones, landfills, etc. Living in these areas has measurable effects on health, including worsened asthma, negative birth outcomes, among many others. This kind of zoning creates a filter effect where those that can afford not to live there, don't. Wealth is concentrated and amenities, economic opportunities, and political power are hoarded. Poorer, more loosely zoned areas have less access to quality education and job opportunities, which reinforces generational obstacles to building wealth, owning property, and improving health. Local economies need socioeconomic diversity, and it is not sustainable for poorer people to travel long distances to work where there are jobs (Lens & Monkkonen, 2016).

Discriminatory zoning has a cyclical impact on the people who live in affected zones. It is harder to build wealth in those areas, thus those groups are poorer. The laws most affect those with

the least money, which means people of color, ethnic minorities, and anyone who falls beneath the threshold of wealth where they are forced to live in an aggressively regulated area. It is hard escape and harmful to stay. Ultimately, poor zoning systems can have drastic impacts on populations that live within, particularly those with less money, including every population who systematically falls within that category.

Political and Moral Implications of Zoning

Overt discrimination via zoning has mostly subsided in America, but cities everywhere (though in the United States particularly) still use zoning as a tool to shape the demographic distribution of the city. Zoning regulations often remain as they were written for long periods of time. Thus, if zoning laws were once passed in an obvious effort to discriminate against people of a certain race, that zoning will continue to exist. The effects of old zoning rules can last generations (Maya Brennan, Emily Peiffer, and Kimberly Burrowes, 2019). To begin to pursue racial and socioeconomics equality through zoning, laws must be changed. It is far more difficult to oppose a change a law than to put a new law into effect. (Howard, 2012) Opposition to zoning changes will purport to oppose unsightly development, increased traffic, or overgrowth (Daniel Herriges, 2020).

Daniel Herriges (2020) with Strong Towns Even writes that even if concerns might be valid in some instances, the result will still be the same: racial and economic inequality. These concerns simply indicate a need to develop other infrastructure systems and building designs in parallel to higher density, lower cost housing. Herriges says that another correlation to housing density

and inequality is the fiscal costs and returns to a city. Higher density (and multiuse) zoning generally returns positively while low density, large, single-family lots generally cost a city money. This is because, although the tax revenue per person is lower in apartments or multiplexes, the revenue per square foot can be around twice that of low-density development and the demand on infrastructure expansion and maintenance is lower. This results in a relationship where high density housing “subsidizes” low density housing, meaning that disproportionately large numbers of generally poorer, non-white people pay for the largely more wealthy, whiter people to live in safer, more pleasant, and systemically advantageous areas.

Examples of Zoning in Bonn, Germany

In Bonn, Germany, it is possible to see many zones in a small area and observe how they affect their respective environments. By examining a zoning map beside maps of different demographic distributions, it’s possible to see predictable correlations.

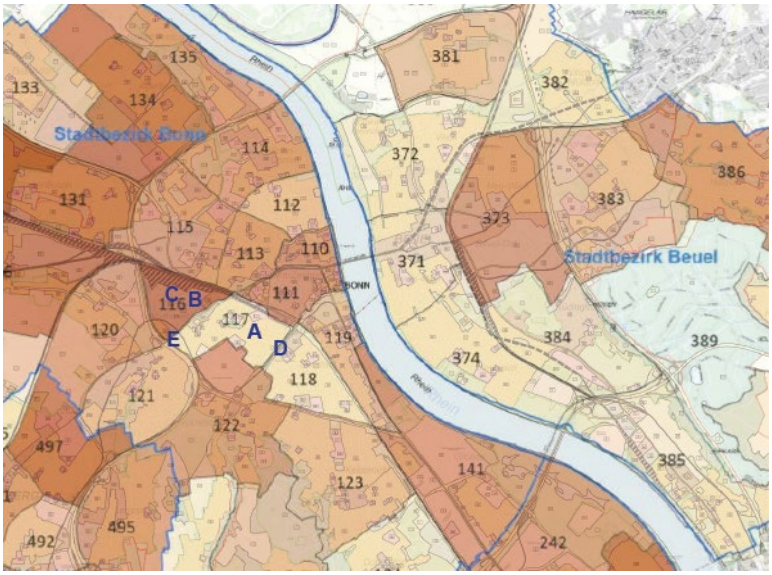

Image 1 — Map of immigrant concentration (darker means more immigrants) overlayed with zoning map of Bonn (Both maps published by the City of Bonn, 2022)

Residential Area (**A**)

Image 2 — Baumschulalle & Agrippinenstraße

A large area surrounded and interrupted by different zoning areas containing mostly medium density housing.

There were lots of cars parked along the street and very little walking space. There were also single-space parking garages and scattered bikes (no bike parking). Most buildings were 4 stories with a mix of old brick and new stucco façades. There were no ground floor businesses. Some building had courtyards/atriums, but there were very few street trees. There were street lights about 50’ apart and some solid waste in the gutters.

Mixed Construction Area (**B**)

Image 3 — Jonas-Cahn-Straße & Karl-Frowein-Straße

A small area between residential and commercially zoned areas and next to a freeway. It is mostly medium-high density housing with businesses interspersed.

There was lots of construction nearby the place where observations were taken. There were lots of parked cars on the sidewalk, but also lots of sidewalk space. It seemed like most

residences in the area were separated from businesses, although commerce increased the closer the buildings were to Endnicher Straße, with some ground level businesses there. Most residential of buildings were built with atriums and stucco façades while businesses were easily distinguishable—usually made with brick. There were lots of streetlights along the street.

Commercial Building Area (**C**)

Image 4 — Immenburgstraße & Karlstraße

A large commercially zoned area, it's three sides are surrounded by freeways or large roadways. It spans approximately 600m and contains large industrial and small consumer businesses as well as Bonn's solid waste incinerator.

There seemed to still be homes in this zone with businesses on the lower floors. It was surprising to see residences next to the incinerator, stores, and a strip club. The residential façades were mostly new with stucco, though there was one brick one. There was lots of sidewalk space, even with parking. There were large trucks driving next to cyclists on the street.

The industrial buildings were not loud, ugly, or odorous, though there was a faraway noise of a saw.

Special Construction Area (**D**)

Image 5 — Sternwert Bonn (from Google Street View)

A very small, isolated zone that is mostly used by educational institutions in the midst of a residential area.

The area was difficult to find among all of the residences because it blends in. This is likely intentional and/or a result of the zoning regulation. The façade and construction of the buildings there is the same as that everywhere else on the street, except, there is a small courtyard with bike parking and space for more garbage cans, a small sign, and closed external shutters. There was very little space to walk on sidewalks. A women came by in a white van to move the garbage cans on the street. In this small zone there were many institutes very close to one another, but not seemingly affiliated.

Comparison Between Adjacent High- and Low-Density Residential Zones (**E**)

Image 6 — Endenicher Straße; Survey area [need better way to refer to different non-zoning zones] 116 (high immigrant population, left) and 117 (low immigrant population right)

In Bonn, demographic distributions correlating to zoning is observable on Endenicher Straße, where there are two zones with very different populations comprising them, and observable differences between environments where they live. One survey area (116) is a residential and commercial zone directly adjacent to a commercial zone and between two throughfares. This zone has a higher concertation of immigrants [citation]. It is within view of the highway, Bonn's waste incinerators, and industrial buildings. One can hear the highway, and the industrial vehicles and sound spill over into the neighborhood. Compared to the other survey area (117), which is in a residentially zone with fewer immigrants, there are observable differences. It is difficult to see any signs of industry or sanitation and it is quieter. It is close to small shops and a park with a bike path. While the two neighborhoods are noticeably different and the argument can be made that the former is worse to live in, in this instance, Bonn gets more right than wrong. In the neighborhood with more immigrants, there is substantial greenspace and tons of bike parking. Even though it is possible to hear the highway, the birdsong is louder and

one of the closest buildings in the industrial zone is a grocery store. The buildings are higher density, but that just makes the housing more affordable. There is a difference between housing that is affordable because some concessions have been made and zoning law made specifically to promote wealth inequality while sacrificing minimum health and livability standards.

Examples of Zoning in Other Cities

Cities around the world have different approaches to zoning. By examining how each approach affects a city's citizens, it's possible to get a better understanding of what might make best practices.

Amsterdam

Amsterdam, the capital of the Netherlands, is large city of 862,987 residents (as of 2019) (*Facts & Figures | I Amsterdam*, n.d.) on land area of 63 square miles. This may seem rather small, but the population density works out to 13,684 people per square mile (*Fakten Und Zahlen | Amsterdam*, n.d.). Amsterdam is projected to grow between 0.6% and 0.7% every year until 2026 and has an average annual income of $43,719 (*Amsterdam Population 2022 (Demographics, Maps, Graphs)*, n.d.). When people think of Amsterdam, it's likely that many would think first of its canals, bicycles, and nightlife. This is a problem to the people that actually live and work in the city. Tourism is a disruptive force that makes life worse for residents by creating a monoculture of tourist centered businesses, excessive noise during the night, and mistreatment of the city. Amsterdam is taking some of the most aggressive actions

of cities around the world to curb tourism for the sake of its residents. Those actions include implementing no drinking zones, digital and physical campaigns, and, notably for zoning, a ban on tourist related shops in the city center. (Welle (www.dw.com), n.d.) All tourist centered companies within the city center established after 2017 will be forced to relocate upon expiration of their building agreement and no new ones can move in. People have argued that this zoning plan is discriminatorily illegal and argued that it will cause property values to decrease. The Council of State ruled that this was a legal action and that the benefits to residents would out way the costs to business (*Amsterdam Allowed to Ban More Tourist Shops in City Center*, n.d.).

Great Britain

While most zoning is handled on the local municipal or regional level, it is possible for zoning law to be influenced by higher orders of government. This very thing could be happening in Great Britain. The United Kingdom of Great Britain and Northern Ireland is not a city, rather 4 countries and many territories that operate with both central and local governments. Great Britain is the island in the British Isles that contains the countries Scotland, Wales, and England. (Aaron O'Neill, 2021) Great Britain does not practice zoning. Unlike many developed countries, Great Britain operates a system of discretionary permitting. That is, every project must be handled individually through the bureaucracy. Discretionary permitting is inefficient and unpredictable. Great Britain is experiencing a housing shortage and many blame discretionary permitting. They argue that the system incentivizes less construction and higher prices because

of the uncertainty and hassle associated with the permitting process. The zoning proposition is intended to allow for freer development and lower prices. The public has raised concerns over the solution because it offers no immediate relief to those that are in desperate need of housing, while lowering prices for those that can afford to wait. (Jonn Elledge, 2020) Also, the way that zoning is proposed would eliminate requirements that dictate a specific percentage of development be affordable housing. Also, other countries (specifically the US) that have implemented zoning still have expensive and sparce housing. Some statistics seem to show that correctly implemented zoning would actually be immediately beneficial and the current permitting system exacerbates stagnation. Laws that have allowed for reuse of office buildings as apartments have allowed for some 60,000 new homes, but the quality of those homes can be abysmal. But right now, there are more than a million home that have been permitted since 2009 that remain unbuilt because the system incentivizes developers to hoard land. (Feargus O'Sullivan, 2020) There is no overwhelmingly good option and no apparent decision has been made since the debate started in 2018.

Lexington, Kentucky

Lexington, Kentucky is a mid-size city of 322,570 people as of 2020 (*U.S. Census Bureau QuickFacts*, n.d.) and a land area of 283.6 square miles, making it the 2nd largest city in Kentucky. It has an average household income of $83,111, and a 16.81% poverty rate, and contains the University of Kentucky (*Lexington, Kentucky Population 2022 (Demographics, Maps, Graphs)*, n.d.). In the past, it has been a typical example of a North American city with all

the accompanying urban sprawl, single family zoning, and large swaths of car-centric commercial area. In a normal growth scenario, this style of development leads to an economically unsustainable city with a shortage affordable housing. Lexington has been experiencing a substantial increase in population and is expected to grow by 40,000 people by 2025. Recently, it has been changing course to accommodate for a growing population and generally improve the city (Nolan Gray, 2017). One thing the city has done is institute an urban growth boundary (UGB). The point of a UGB is to intentionally limit the sprawl of a city with legislation and encourage better, high density, development withing the UGB. However, the city still lacks the zoning changes that are necessary to permit optimal development inside the UGB. (Nolan Gray, 2017) In 2018, it took a step in the right direction by "upzoning" a portion of city land that was zoned for low-density retail, permitting multifamily housing and social businesses while curbing a slew of requirements that would have prevented those new kinds of development from succeeding. This change in approach for Lexington will be making the city more friendly to more diverse (in all senses, but especially socio-economic) inhabitants (Nolan Gray, 2018). This includes both those that are projected to come to the city in the coming years and those who already live there. These changes will result in a more affordable and more pleasant place to live and work.

Conclusions and Recommendations

The investigation associated with this project has led to the conclusions that zoning is an incredibly powerful tool to shape people's life and, critically, it can be done right. Living in the

United States inspires pessimism on a variety of fronts, zoning being one in particular. Envisioning the prototypical American city shows a highway into a desert of parking lots dotted sparsely with businesses, surrounded by single family homes, and off in the corner, a poorer, high-density neighborhood. This kind of city is financially unsustainable, poor for the wellbeing of its citizens, and is entrenched with inequality. But, there are places—like Bonn, Germany and Amsterdam, The Netherlands—that use zoning to improve people's lives. By changing a map and reconsidering the regulations about where and how certain people can live or work, a city can revitalize neighborhoods and improve people's mental and physical health. Zoning can be used to enforce equality rather than being an obstacle to it. There has been progress to improve zoning law–in places like Lexington, Kentucky—and there needs to more, specifically in the United States.

The paradox of zoning is that it is such a bland, boring, legal topic, but it has immeasurable effects on people. While people care about the effects of zoning, the gritty details of the laws that can make a livable and sustainable neighborhood aren't talked about as much as they should be. Because so much of zoning reform involves changing previous laws, those that speak out and oppose change have an outstandingly loud political voice and the homefield advantage—it's far more difficult to change law than to create it and the politicians that have the most influence over law are accountable to those who already live in the in places where zoning needs to be changed, not the people who would live there in the future. This power dynamic needs to change to make more cities efficient, healthier, financially stable, and livable by increasing density, promoting walkability, and enforcing socioeconomic diversity. The changes need to come from the bottom up. Central governmental authority can be useful, but

it is responsible for the current situations in many places and is liable to exacerbate harm. Before bottom-up reform can happen, people need to have power and people need to use the power to actuate change. This means people need to be educated first about the systemic inequality that exists, then how other places have achieved success. There are correct answers to these problems, all that needs to be done is to learn about them and contextualize them to locales.

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