

# The Public Health Roots of Zoning

## In Search of Active Living's Legal Genealogy

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**Background:** Improvements in the built environment and changes in land-use policy are promising approaches to increasing physical activity among a largely sedentary population. Opportunities for walking and cycling as part of daily life are important to increasing physical activity and improving health. Yet, local zoning codes and related land-use regulations have made it difficult to create vibrant, mixed-use neighborhoods with well-connected streets and more compact development—the infrastructure necessary to support healthier rates of walking and cycling for transportation.

**Methods:** To better understand the dynamic nature of land-use law and policy, and how policymakers might accomplish zoning reform to encourage more physically active environments, this paper traces the public health roots of zoning through a family tree of land-use legal doctrines.

**Results:** Zoning and public health laws evolved from the same legal ancestors—the common law of public nuisance and the expansion of state police powers, both premised on protection of the public's health. When the U.S. Supreme Court approved zoning in the 1926 case of *Ambler Realty v. Village of Euclid*, it nominally recognized the health basis of zoning. But it went on to craft a new legal rationale focused more on protection of property rights and residential neighborhoods. Since *Euclid*, court decisions have given little consideration to the public health roots of zoning. Given an emerging body of research demonstrating the importance of walking-friendly environments and the deference shown by the courts to the passage of zoning laws, the courts are likely to support policymakers as they move to change zoning systems conceived long ago.

**Conclusions:** Legal, historical, and policy rationales support the modernization of zoning and land use policies that allow sensible mixes of land uses. Mixed land uses make walking an attractive alternative to driving and support a more physically active and healthy citizenry.  
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### Introduction: Making the Public Health Case for Reforming Zoning Policy

Despite the efforts of health professionals to encourage people to be more physically active, the United States is largely a nation of couch and mouse potatoes. Over the past few decades, there has been a steady decline in the numbers of adults who walk to work,<sup>1</sup> and children who walk to school.<sup>2,3</sup> In 2002, just 33% of individuals  $\geq$ aged 18 engaged in recommended levels of physical activity,<sup>4</sup> far short of the *Healthy People 2010* goal of 50%.<sup>5</sup> The consequences are increasingly difficult to ignore. Physical inactivity is

a risk factor for heart disease, cancer, cerebrovascular disease, and diabetes, all of which rank in the ten leading causes of death in the United States.<sup>5</sup> Moreover, physical inactivity is a risk factor for obesity.<sup>6</sup> In 2000, 31% of the adult population was obese and an additional 34% was overweight,<sup>7</sup> statistics leading public health officials to conclude that the problem has reached epidemic proportions.<sup>8</sup> Physical inactivity and poor diet are now estimated to have caused 400,000 deaths in 2000.<sup>9</sup> Without a correction of this trend, poor diet and physical inactivity are soon likely to surpass tobacco (435,000 deaths in 2000) as the leading actual cause of death.<sup>9</sup>

Walking is the most common form of physical activity for adults.<sup>6</sup> *Healthy People 2010* objectives for the nation include a target to increase walking trips of  $\leq 1$  mile to 50% of total trips and bicycling trips to 5% of total trips.<sup>5</sup> A growing number of public health experts, researchers, and policymakers view “active living”—a way of life that integrates physical activity into daily routines—as one of the most promising ways of increasing population levels of physical activity.<sup>10,11</sup> However,

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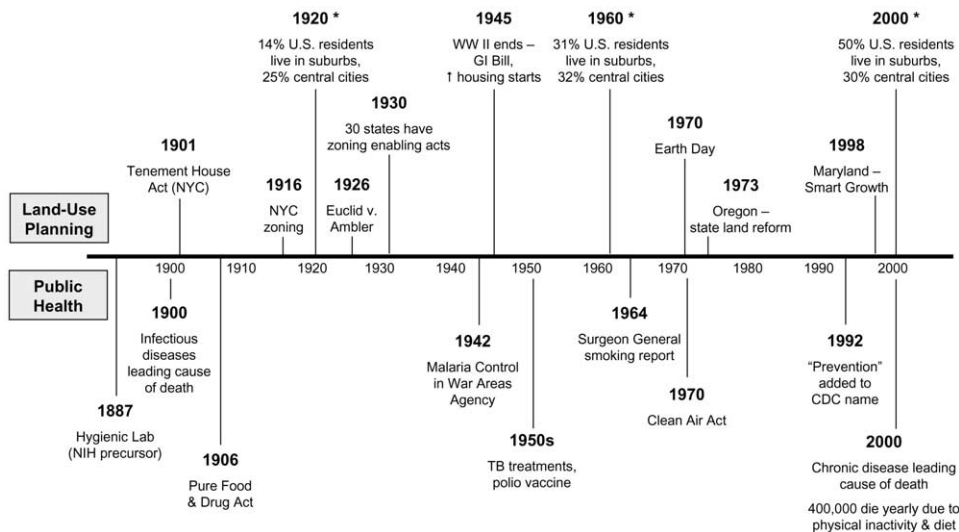


Figure 1. Public health and land-use planning milestones. \*U.S. Census.

active living requires places that support daily physical activity such as walking.

### The Built Environment and Physical Activity Connection

Recent data from transportation and urban design studies demonstrate that community design influences the amount of walking and bicycling that adults do. Residents in neighborhoods with higher residential density, greater street connectivity (traditional grid pattern as distinct from winding streets with cul-de-sacs), and more mixed land use (multiple kinds of land use in the same geographic area, as distinct from areas zoned exclusively for single purposes) tend to walk and ride their bicycles more for transportation purposes.<sup>12</sup> Residents of homes built before 1946 have been found to walk longer distances than residents of homes built since 1974.<sup>13</sup>

Zoning and various land-use regulations have encouraged the development of isolated subdivisions that depend on the automobile as the primary mode of transport. Relatively little new housing development is conducive to walking and bicycling despite a growing interest by the public and developers in more compact communities. A recent survey of developers found that 60% believe there is substantial market demand for alternative, mixed-use, pedestrian-friendly development.<sup>14</sup> A significant number of developers in the same survey, however, cited zoning regulations and other local ordinances as a major barrier to the development of such active living alternatives.<sup>14</sup>

### Zoning Code Reform that Promotes Active Living Environments

Enacted and administered by local government, zoning regulates the use of land and typically controls many of

the physical attributes of neighborhood and suburban development. Zoning divides land into districts or zones, and delineates the types of uses permissible within each zone. Zoning also dictates building height, minimum lot size, and density.<sup>15,16</sup> Traditional Euclidean zoning, named after the landmark U.S. Supreme Court case of *Ambler Realty Co. v. Village of Euclid*,<sup>17</sup> segregates residential from commercial and other uses, effectively making it impractical for many residents to walk or bicycle to stores and other destinations in the course of daily life. Even where zoning does permit mixed use, it often restricts the density required to support retail establishments. At the same time, many Americans work in homogeneous environments such as industrial parks and office campuses that do not encourage walking.

Experts in law, urban planning, and public health are increasingly calling for changes to zoning that will facilitate pedestrian-friendly development.<sup>15,18–22</sup> Organizations of state and local government practitioners are also exploring the latest techniques for reforming zoning, building, and other land use codes to promote more livable communities.<sup>23–25</sup> Despite these promising efforts, a formidable constituency of administrators and developers resist major changes to the institution of zoning. Moreover, the courts have constructed a body of law based on property interests and efficient land development procedures that, to this point, have made it difficult to change zoning. Therefore, meaningful zoning reform will likely require a cohesive legal rationale that relies on the broad authority of the state and local police powers, and leverages zoning's public health roots. In support of zoning reform, this paper provides public health policymakers and practitioners with such a rationale and illustrates zoning's public health roots through a family tree of land use legal doctrines.

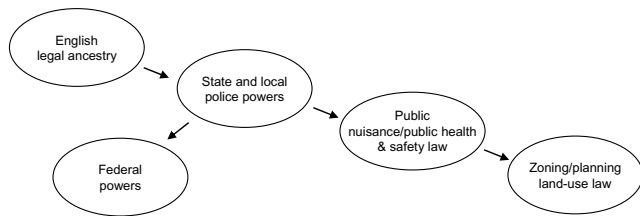


Figure 2. Police powers genealogy.

## Zoning's Legal Foundations and Public Health Ancestors

While legal scholars and practitioners have written volumes about zoning's history and its shortcomings, few have attempted to trace zoning's public health roots. We have constructed a family tree to help policymakers and practitioners understand the underlying legal rationales that can support active living community environments. By understanding the departures from those roots over time, and the immediate need to address obesity and chronic disease, we offer an emerging public health basis for zoning code reform. The following diagrams illustrate zoning's legal lineage. Figure 1 highlights the parallel public health and land-use planning milestones over the last century to provide context for legal and policy changes. Figure 2 illustrates zoning's public health ancestry in the law of public nuisance and the 19th-century expansion of state and local police powers. Figure 3 charts the evolution of zoning and its family of complimentary land use controls into a separate body of law based on the Supreme Court's landmark decision in *Euclid*.

### English Common Law

Active living's legal roots begin in Great Britain with English common law.<sup>26</sup> Common law encompasses the body of essential legal principles derived from judicial precedents, that is, judge-made law.<sup>15</sup> The public health foundations for existing land use controls such as zoning, along with modern environmental law can be traced back to the English common law of public nuisance. Nuisance law, then as now, prohibits one from using his property in such a way as to harm neighbors or the neighborhood.<sup>27</sup> A public nuisance generates impacts that adversely affect the health, morals, safety, welfare, or comfort of the public—well beyond the boundaries of adjoining or neighboring landowners. In a process sometimes labeled as “judicial zoning,” the courts decide on a case-by-case basis whether the activities adversely affect the neighborhood's health, safety, and welfare.<sup>15</sup>

Public nuisance law imposed limits on another body of common law—the law of real property—that also influenced zoning's development. Real property law establishes the fundamental principles of ownership, possession, and control of land.<sup>27</sup> Our constitutional jurisprudence has a long tradition of protection of

private property from minimal interference from government and other property owners. Today, courts continue to struggle with the inherent tension between property rights and the interests of the general public, as seen in the rise of private property rights groups challenging state and local regulations as unlawful “takings” prohibited by the 5th Amendment of the U.S. Constitution.<sup>27</sup> For America's first 100 years, the law of nuisance adequately resolved many disputes and policy conflicts over land use.

### Public Health, Sanitary Reform, and Urbanization

During the Industrial Revolution, the population and size of major cities in Europe and America grew explosively as people came to work in the steel, coal, and manufacturing industries.<sup>26</sup> Cities did not have the physical infrastructure or the policies to accommodate such rapid growth. The migration to cities, lack of sanitary infrastructure, and relocation of industry within residential areas created ideal conditions for a series of public health crises, such as tuberculosis and cholera. Health experts in the 19th century theorized that “miasmas” or “poor atmosphere,” resulting from urban accumulations of filth and foul smells, caused epidemic disease outbreaks.<sup>28,29</sup> Although medical understanding of infectious disease evolved during the latter half of the 19th century, the need for regulatory means to protect city dwellers continued. Interest in sanitation reform spurred interest on both continents in the development of legal measures to mitigate the adverse public health impacts of urban development and industrial uses.<sup>26</sup>

At the turn of the century, infectious diseases were the leading causes of death in the United States.<sup>30</sup> Crowded living conditions prevailed for poor residents of cities. Laws designed to address crowding and unsanitary conditions were passed, such as New York City's Tenement House Act of 1901 that set forth requirements for the construction and maintenance of dwelling units to increase light and air, and improve living conditions. Such public health laws were based on the powers of state and local governments to protect the health, safety, and welfare of the general public.

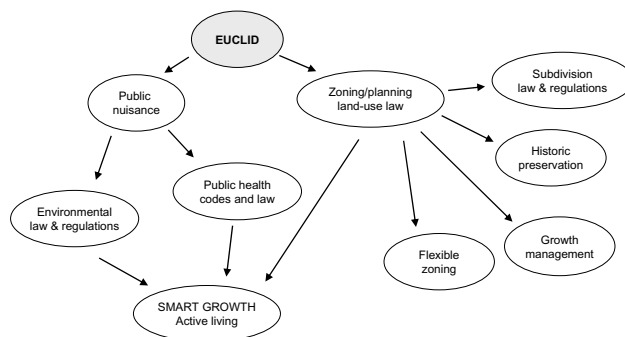


Figure 3. Land-use powers genealogy.

## State Police Power: The Public Health Grandfather of Zoning

Within active living's legal genealogy, zoning and public health laws share the same ancestors—the state and local police powers and the public health principles surrounding public nuisance jurisprudence. Building on the common law of public nuisance, early public health enactments indirectly regulated land uses by prohibiting certain activities that caused harm to the general public. Figure 2 traces the public health origins of the state police power until the Supreme Court's *Euclid* opinion effectively separated zoning and public nuisance law into two distinct legal families.

**Legal genesis of the state police power.** The modern legal foundation to regulate land use is based on the police power of state governments.<sup>16</sup> The U.S. Constitution reserves to the states those remaining powers that were not expressly given to the federal government. The states maintain extensive regulatory authority (commonly referred to as “police powers”) for the purpose of protecting the health, safety, morals, and general welfare of citizens. When the exercise of police power is challenged, the courts examine whether such state and local laws bear a reasonable relationship to the limited purposes of the police power.

As the police power evolved, the states delegated certain authority to local governments. Virtually all states have now delegated zoning powers to local governments through (1) state constitutions and statutes that grant local governments broad authority over municipal affairs; and (2) enabling statutes that empower local governments to enact zoning, subdivision regulations, and other land-use regulations.<sup>16</sup> Additional legal authority can be found in local city charters, ordinances, and policies.

**Expansion of the police power.** Throughout the 19th and early 20th centuries, state legislatures and local councils adopted new regulatory measures to protect public health from the adverse impacts of urbanization. Many of these police power laws governed a variety of public nuisances such as water and air pollution, the storage of explosives, and the emission of loud noises and bad odors.<sup>27</sup> State and local governments routinely declared these and other land-use activities as “public nuisances per se,” and courts consistently approved such measures to protect public health and safety.

The state courts and legislatures effectively melded the common law of public nuisance with the laws created under the police powers as both institutions sought to expand government's ability to protect public health and safety. Figure 2 follows this expansion of the police powers. Many of these laws foreshadowed the framework of zoning as they prohibited industrial and commercial businesses from operating within or near residential areas to protect the public's health from

excessive smoke, noise, and odors. By the early 20th century, most state courts allowed municipalities to regulate a host of land uses in the name of protecting public health.<sup>31</sup>

As cities grew, so did the number of noxious or incompatible land uses. Policymakers soon confronted the limits of legislatively declaring land uses as public nuisances. Each effort required specific findings that such land uses caused harm to the public health or general welfare. While broad court interpretations supported the flexible use of these public nuisance powers, there was a growing need for a more systematic strategy. The solution was to categorize land uses through a new regulatory device called zoning.

### *Ambler Realty v. Village of Euclid*—Zoning Separates From its Public Health Roots

Over the last 100 years, police powers have evolved into two distinct areas of land-use law, and both play critical roles in public health: (1) environmental/public nuisance, and (2) zoning and other land-use controls. The Supreme Court's landmark decision in *Euclid* signaled formal approval of zoning even though the Court partially premised its opinion on the public health principles of public nuisance law. Subsequent court decisions have further refined the zoning lineage by affirming its use to preserve property rights and the residential quality of life instead of pointing to its basis in public health.

**Zoning lineage.** The protection of public health lies at the heart of zoning. By locating industrial uses in areas of the city away from homes and other residential uses, and establishing minimum standards for the placement and design of structures (such as setback, bulk, and height regulations), zoning offered a regulatory scheme to address public health problems caused by urbanization. New York City pioneered the first comprehensive zoning ordinance in 1916 to alleviate the adverse health and safety conditions of urban life documented in exhaustive studies.<sup>32</sup>

Building on the framework of the New York City zoning ordinance, the U.S. Department of Commerce promulgated the Standard Zoning Enabling Act (SZA) that formalized the principles and structure of local government powers over land use.<sup>31</sup> The SZA made it clear that states could delegate their police powers to municipalities to adopt new zoning ordinances. Most zoning ordinances today still follow SZA's framework.<sup>16</sup>

**Dissecting the *Euclid* opinion.** *Euclid*, Ohio, is one of several inner-ring suburban cities that adjoin the City of Cleveland. At the time of the Supreme Court decision, the majority of *Euclid*'s 12 to 14 square miles was farmland and undeveloped acreage. With the expansive growth of Cleveland to its west, *Euclid* town leaders worried that

industrial uses would encroach on the rural and residential nature of their village. In November 1922, the village council adopted a comprehensive zoning plan for regulating and restricting the location of trades, industries, apartment houses, duplexes, and single-family homes, along with rules about lot area, size, and height of buildings. Ambler Realty owned a 68-acre tract of undeveloped land that would likely have become retail stores and industrial businesses. Since the new zoning ordinance restricted Ambler's land to primarily residential and community uses, the realty company claimed that the local law destroyed most of the land's value.<sup>17</sup>

The principal legal question was whether the ordinance was an unreasonable exercise of the police power that violated the constitutional guarantees of due process to protect property rights.<sup>17</sup> Writing for the Court, Justice Sutherland set the standards for reviewing Euclid's ordinance and all future zoning laws. First, land-use regulations "must find their justification in some aspect of the police power, asserted for the public welfare."<sup>17</sup> Second, "If the validity of the legislative classification for zoning purposes be **fairly debatable**, the legislative judgment must be allowed to control."<sup>17</sup> Before declaring a zoning ordinance unconstitutional, a court would need to find that "such provisions are clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare."<sup>17</sup> Since *Euclid*, federal and state courts have applied these legal rules in some fashion to test the validity of zoning and other land use controls.

Sutherland's majority opinion set forth two major legal rationales in favor of zoning: (1) the public nuisance jurisprudence developed by state courts, and (2) the benefit of separate residential districts to preserve and enhance the quality of residential life.

**Public nuisance and public health rationale.** The *Euclid* Court initially consulted the law of nuisance as a "helpful clue," but recognized that it could not legally justify zoning on nuisance principles alone.<sup>17</sup> Justice Sutherland relied on a series of state court decisions that approved regulations regarding the height of buildings, setbacks, and overcrowding. Most state courts had already found such local ordinances to be valid exercises of the police powers to protect public health and safety from the dangers of fire, collapse, and nuisances. Moreover, Alfred Bettman, one of the attorneys in the case, filed a "friend of the court" brief that set forth a persuasive public health rationale based on these local ordinances. The Court noted that relegating all industrial uses to certain districts would necessarily restrict or even prohibit some benign establishments within these districts, but that such a broad scope should not invalidate zoning's overall scheme of classifying uses.<sup>17</sup>

**Exclusive residential districts to protect the public welfare.** The closer question for the Court was the validity of *Euclid's* provisions that excluded apartment houses, businesses, and retail stores from residential districts, thereby creating exclusive residential districts. Unlike industrial uses, the public harm from these less intensive land uses was more difficult to identify and document. The Court relied on several state court decisions that found that the exclusion of commercial and business buildings from residential districts bore a rational relationship to the public's health and safety.<sup>33</sup>

Justice Sutherland sided with his state court brethren, concluding that Euclid's zoning would aid "the health and safety of the community by excluding from residential areas the confusion and danger of fire, contagion, and disorder, which in greater or less degree attach to the location of stores, shops and factories."<sup>17</sup> He found that apartment buildings created public nuisances based on the perceived problems (e.g., noise, traffic, overcrowding) that they were alleged to cause for single-family neighborhoods.<sup>17</sup> Justice Sutherland's strong language foreshadowed exclusionary zoning—the illegal practice of excluding low-income and minority residents under the guise of zoning's use classifications—that communities and courts still grapple with today.

### A Euclidian Postscript

While Justice Sutherland set forth a public health and safety rationale for zoning, from that point forward, court decisions have downplayed zoning's public health legacy. Legal scholars have confirmed that protection of property interests and the preservation of residential neighborhoods were the Court's primary legal rationale.<sup>34</sup> Why did the Court focus on the preservation of residential neighborhoods? Perhaps the Court was merely following the lead of the state courts, such as the California Supreme Court's approval of residential zoning in *Miller v. Board of Public Works* based on "the protection of the civic and social values of the American home. The establishment of such districts is for the general welfare because it tends to promote and perpetuate the American home."<sup>35</sup> The fact that Euclid was a suburban community confronting slightly different conditions compared with major metropolitan cities may explain in part the Court's reluctance to justify zoning solely on the basis of protecting public health. *Euclid* presented the Supreme Court with complex and novel legal issues—a case of first impression.

### The Post *Euclid* World: Zoning's Family of Land-Use Controls and the Development of Environmental Law

In many respects zoning has done its job. The exclusion of intensive industrial and commercial uses has undoubtedly improved the quality of life in many

communities. Zoning's reverence for single-family residential districts has likely protected property interests and promoted middle-class cultural values. Zoning is still subject to considerable tensions involving social and environmental justice, such as the disproportionate number of waste production and waste-disposal uses in districts bordering or including poor residential populations.<sup>36</sup> When it comes to protecting public health, the primary legal vehicles are environmental laws and public health codes. As environmental law has evolved into its own special area, zoning has grown further from its public health roots.

### **Zoning's Family of Land-Use Controls**

Within 20 years after *Euclid*, the courts, together with policymakers and scholars, began to discuss zoning's shortcomings; namely, a rigid structure for classification of uses and a relatively narrow scope. In response to these and other challenges, policymakers designed several strategies to infuse zoning's administration with flexibility, such as conditional use permits, performance-based zoning, and variances.<sup>16</sup>

Moreover, zoning's traditional framework did not address new issues, such as the exclusionary intent behind some ordinances, the process of developing large tracts of land, environmental and habitat protection, and the advent of suburban sprawl. As a partial response to these challenges, state and local governments adopted a series of statutory variations and enhancements. Authorized under the state police power, these additional land-use controls also have important implications for active living policy development. Figure 3 outlines just a few of zoning's extended family of land-use controls: subdivision regulations, growth management techniques, and historic preservation.<sup>16</sup>

### **The Environmental Lineage of Police Power**

One of the most significant developments in the post-*Euclid* era was the creation of environmental law. While "[b]oth environmental protection and land-use regulations are derived from the police power of the state to protect public health, safety, and welfare,"<sup>16</sup> environmental law responds more directly to the public health problems associated with the discharge of toxic pollutants into the air, water, and soils. Building on the common law principles of public nuisance, modern environmental regulation began with the passage of federal environmental laws during the early 1970s. These federal environmental laws still serve as the legal foundation for protecting the health of the environment and the public.

Over the years environmental laws have focused more on pollution and less on the underlying land uses. This has reinforced the separation of public health from land-use policymaking. The Supreme Court has

further noted the inherent limitations of environmental laws to regulate land.<sup>15</sup> Yet, more policymakers, legal commentators, and practitioners are recognizing the need for better regulatory integration between environmental and land-use law and policy. The critical question is "whether environmental regulation and land use regulation will merge in the 21st century or whether these two areas of the law will continue to overlap and conflict. Through the current smart growth movement, these previously separate areas of law are becoming inextricably intertwined."<sup>37</sup>

### **Reconstructing Zoning's Public Health Roots: The Promise of Smart Growth, Code Reform, and Active Living**

The current movement toward "smart growth" and active living represents an opportunity to reunite zoning with its public health roots. These recent trends could provide a more holistic legal and policy framework that can encourage zoning code reforms to support more physically active communities.

### **Smart Growth: Reconnecting Land-Use and Environmental Law**

Until the emergence of the smart growth movement in the 1990s, land use and environmental law have largely remained separate bodies of law. Smart growth is a term hard to define apart from the context in which it exists. On one level, smart growth and its close cousin, new urbanism, are reactions to the adverse impacts of typical suburban development on the environment and overall quality of life in many metropolitan regions. Smart growth does not seek to control growth but instead focuses on how growth occurs.<sup>38</sup> The national Smart Growth Network<sup>39</sup> has articulated ten fundamental principles to help define smart growth's objectives, ranging from conservation of open space to the promotion of compact, walkable neighborhoods. All of these principles have roots in either environmental law and policy or land-use law and policy; thus, smart growth provides an ideal vehicle for bringing together these two distinct legal areas.

### **Reforming Zoning and Land Development Codes Through Smart Growth and Active Living**

Zoning was born and grew up in a time dramatically different from today. Instead of overcrowding and the spread of fire and disease, American cities confront an array of health and economic challenges that Justice Sutherland could never have anticipated. Population declines and stagnant economies continue to plague many cities and, most recently, inner-ring suburbs, as market forces and government policies have redirected jobs and housing into outlying suburban and rural communities.<sup>37</sup> Zoning's separation of land uses cre-

ated vast suburban communities where routine daily trips to stores and schools must be done in automobiles. Walking to work or to school is often not a practical or safe alternative.<sup>37</sup> Most state and local governments still rely on the basic template of the standard zoning and planning enabling acts that were created 75 years ago, long before cable television, the computer, the Internet, and sport utility vehicles. Demographic and technologic change has “exposed the shortcomings of the early model planning and zoning enabling acts. The changes are not necessarily good or bad, but they reflect the needs and desires of a different generation.”<sup>37</sup>

Archaic zoning and cumbersome land development codes have now become major barriers to the design and construction of Smart Growth projects and more physically active communities. Proponents of both Smart Growth and active living have a common interest in reforming zoning and its family of land development codes and procedures. Infused in part by “new urbanist” architects and developers, a growing number of communities are devising new zoning codes and streamlining land development procedures.<sup>40</sup> Frustration with existing Euclidean zoning has even driven a few new urbanists to create their own Smart Code,<sup>41</sup> while other innovators have proposed form-based codes as a complement or perhaps even a substitute for zoning. “New Urbanist influenced ordinances represent the continued refinement of the zoning tool. The ordinances attempt to balance the need for flexibility with predetermined design requirements.”<sup>41</sup> For example, cities such as Milwaukee WI, Louisville KY, and Petaluma CA have imposed new regulations that govern development based more on building type and design and less on the underlying use.<sup>42,43</sup> Nashville TN modified its general plan and zoning codes by using a form-based approach as a way to preserve traditional neighborhood character.<sup>44</sup> All of these code innovations have in common the desire to promote more compact, mixed-use neighborhoods that are attractive places for walking.

### **Conclusion: Insights and Ideas from Active Living’s Legal Genealogy**

Our genealogic journey does not end here. Additional research—law, policy, and public health—is necessary to strengthen and refine the public health lineages in zoning’s family tree. Our historical analysis of the evolution of zoning is intended to support new thinking about a century old system of land use control that has become an institution in itself. Beyond the research and analysis, meaningful zoning reform will require public health professionals to advocate for changes to protect public health before state and local legislative bodies. Insights that should help policymakers and

practitioners make their case for zoning code reform in support of more healthy and active communities include the following:

**Zoning does have public health roots.** The protection of public health runs throughout zoning’s history and is central to the legal justification for zoning. Even zoning itself has special ordinances that regulate the location of certain unhealthy land uses (businesses that sell liquor and tobacco or provide adult entertainment) from places such as schools, parks, and residential neighborhoods.<sup>45</sup> Active living proponents can rely on zoning’s public health roots in making the case to reform state and local laws that promote more physically active environments.

**Changes in public health priorities favor changes in law and policy.** Physical inactivity, obesity, and chronic diseases are compelling public health problems in the 21st century. Zoning ordinances play a major role in the design and development of communities, and Euclidean-style ordinances often inhibit physical activity by prohibiting mixed uses. Laws that do not promote and protect public health demand scrutiny and change.

**Elasticity of police power.** State and local governments have broad authority to enact statutes and ordinances that protect public health and safety and promote the general welfare. In advancing their legal arguments for zoning reform, active living proponents can rely on the expansiveness of the police power, and the custom of the courts to exercise considerable deference to legislative judgments involving land use laws.

**Public health research in support of zoning code reform.** When making changes to existing land use policies, statutes, and ordinances, state and local officials need early access to the growing body of research that links physical activity with the built environment. Courts carefully consider scientific studies and social science research in determining whether proposed regulatory reforms are proper exercises of the police power. Active living research can play a critical role in support of both the policy change and legal rationales necessary to reform zoning and other land-use controls. Research is needed to refine our understanding and identify the mix of land uses and density most conducive to increased physical activity. Research can also help policymakers evaluate different types of zoning reforms and the change processes leading the reform.

**Further exploration of zoning’s family of land-use controls and development policies.** More legal and policy research is needed to thoroughly assess the public health dimensions of zoning and its closest relatives, such as planning, subdivision regulations, and dispersal ordinances. Many of these regulations,

such as large lot zoning, facilitate development that discourages physical activity. These complementary land use controls play a critical role in the design and construction of more healthy and active communities. New urbanist statutes and codes, such as transit-oriented development and form-based coding, are now leading the charge for land use change. Researchers should also explore zoning's interrelationship with a host of public and private policies that reinforce existing patterns of sprawl development, such as archaic banking practices that make it difficult to finance mixed-use projects and the fiscalization of local land-use decision making.

**Strategies of zoning reform.** Reforming the institution of zoning will demand coordinated and concentrated action primarily with state and local policymakers and development practitioners. Proponents of active living, including representatives of public health departments, professional associations, and regional and local advocacy groups will need to testify before state and local governments (e.g., legislatures, planning commissions, city councils, and county boards), and actively participate in regional and local land-use policymaking. Documenting the lessons learned from innovative communities and collecting model policies, programs, and codes that promote active living will provide practitioners with good examples they can transfer and adapt.

While zoning has a long public health lineage, the public health challenges of today demand meaningful zoning reforms. In response to these challenges, a few pioneering communities with vision are transforming their codes to create more compact, vibrant, and active places. We hope that this paper helps marshal the legal, historical, and policy rationales to support zoning innovations by even more communities.

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