

**Rule – Rationale – Effect:  
Investigating government influence on the US built environment  
1850 to the present**

**Comprehensive Paper #1: “ GOV ”**

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## Introduction

Since the mid-1800s, the federal government has exercised a new and growing role in land use regulations. Many of the federal actions initially targeted sanitation concerns and mitigated rampant infectious disease and congestion issues associated with the overconcentration of populations in cities (Perdue et al. 2003). Later, government actions targeted economic policies to grow the economy following the Great Depression.

The culmination of these actions catalyzed a shift in population from urban to suburban. Affluent whites moved to the urban periphery into new single family housing while less affluent people and people of color remained in the central cities or older suburbs. Regulations separated people by race and class into residential developments with disconnected land uses, and poor quality construction (Sies and Silver 1996; Talen 2012). Regulations spatially separated residential, commercial and manufacturing land uses such that each use had its own place, initially designed to solve poor urban health conditions and later to protect private property. More recently, new developments consume increased amounts of land. Between the years of 1970 and 1990, land consumption outpaced population growth in every metropolitan area regardless of overall population growth. For example, during this period the population of metropolitan Milwaukee, Wisconsin increased by three percent, while the amount of land consumed increased by 38 percent (Cieslewicz 2000).

The structural shifts in population and built environment directly impacted residential travel behavior. The cumulative effect of these policies fostered reliance on the automobile. They influenced where people live and work and how they select their travel modes to meet their daily needs. More recently, researchers are becoming aware of the built environment's contribution to growing rates of overweight, obesity, and obesity-induced chronic diseases.

A century later, rules formulated under an entirely different set of urban conditions have increasingly lost their relevance for today's urban conditions. As the problems of inadequate sanitation and infectious disease were brought under control by the mid-1930s, standards originally intended for health and safety, (e.g., separation of land uses) need revision (Ben-Joseph 2005). Moreover, regulations once established to mitigate infectious disease through land use regulations are now understood to contribute to chronic disease America's overweight and obesity challenges. Other areas such as modern street network designs, are increasingly recognized as making streets less safe (Marshall and Garrick 2011).

The loss of relevance of rules occurred for a number of reasons. They may occur when standards intended for health and safety “overstep their bounds and lose grounding in objective measures of goodness or a connection with the original rationale for their existence” (Southworth and Ben-Joseph 1997, page3). This is what has become of street standards—the residential environment is shaped by untested, yet enduring standards that are not questioned and are part of a rigid framework that is closed to change (Southworth and Ben-Joseph 1997 ). In a recent survey conducted by the US Government Accounting Office, 53 percent of counties and 35 percent of cities indicated that sprawl was a high or very high concern (Knaap et al. 2000).

To regain the relevance of land use regulations, planners need to reconnect rules with motivations and outcomes. While much has been written about the effects of government policy, there has been relatively little empirical research on their effects on urban form (Ben-Joseph 2005; Knaap et al. 2000; Schwietermann and Caspall 2006). Existing literature in the area addresses various aspects of the subject either as isolated case studies, involving such topics as building codes, or in general terms, focusing for example on the economic impact of standards and regulations on infrastructure development (Ibid). The lack of attention may also reflect a possible underestimation of the overall influence of standards on form and spatial quality (ibid).

The paper does not assume that government policies carry sole responsibility for the development patterns of the past 50 to 100 years. There is much in the popular culture that favors rural, pastoral landscapes. The tack of this paper is that the regulatory environment catalyzed the depopulation of cities based on biased and limited knowledge. These policies have put the health and vitality of cities in jeopardy and favored certain groups over others. It is important, therefore, to consider the impacts of existing policies before trying to adopt new ones to mitigate the dominant land use patterns (Knaap et al. 2000).

## Purpose

Any effort to address consequences of federal regulations begins with understanding the historic context, the institutions and regulations that have created and maintained the dominant land use patterns in this country. Researchers and planners often neglect to thoroughly understand how prior and current regulations create barriers to resolve existing and emerging issues of climate change, public health, and safety. It is important to recognize that some existing codes and policies may have outlived their usefulness or may not take into

consideration multiple competing interests. For instance, while one policy may have eased traffic congestion, it may come at the expense of accessibility or safety. The enduring legacy of the indirect federal role on the American landscape complicates efforts to mitigate the unintended health, social, and environmental consequences of conventional land use regulation. Before any meaningful measures can be taken to change prevailing techniques, an understanding of the breadth and depth of these actions must be explored.

As such, this paper first reviews key governmental land use interventions during the period of 1850 to present. Regulations of particular interest are limited to those with spatial impacts on the built environment, specifically how rules shaped the distribution of population across cities and the arrangement of neighborhoods. Next, the paper documents national trends in land use change that happened in parallel with the federal regulatory environment although through the popular culture. National trends are reviewed as the federal regulations did not develop in isolation from the predominant cultural trends, but rather occurred in response to the needs of the day. Indeed, some of the major legislation of the times were supported by planners and the general public. Federal regulations were both a response to and driver of changes. National trends are loosely defined by how the evolution of built environment was received by the popular press, visionary writers, etc. Finally, the paper describes a preliminary evaluative approach to investigate historic impacts of outdated regulations.

Several lessons relevant to the planning field may be gained from an exploration of federal policies related to land use: 1) Identify the breadth of influences in land use by the government; 2) Explore and evaluate the rationales behind the federal involvement; 3) document the effects of these policy actions; and 4) Help prioritize efforts to mitigate the longstanding impacts of federal involvement. This review research paper may provide insight for communities and planners hesitant to change traditional planning mechanisms.

## **Key land use drivers**

This paper begins with a summary of the institutional drivers and national land use trends between the mid-1800s and the present day. The drivers were selected based on my interpretation of the literature on this era. The federal government played an important though rarely acknowledged role that functioned as a catalyst for the mass post-WWII development. The rise of a powerful real estate lobby, which developed out of a partnership of developers, transit owners, utilities, and local government, spurred on federal involvement in land use in the

1920s (Hayden 2003). Government actions affected homeownership, mortgage lending practices, and were indirectly responsible in part for decay in the cities. Other policies separated land uses systematically through the adoption of Euclidean zoning and institutionalized untested neighborhood and street guidelines (Jackson 1987). Some of these regulations were racially motivated or class-based in nature and disproportionately impacted economic opportunities of some. Many of the regulations in place are no longer relevant and complicate efforts to mitigate a number of contemporary issues such as chronic health, safety, climate change, and civil society engagement.

### ***Early efforts in land use regulations pre- 1900s***

New York City tenement conditions from the turn of the last century spurred on much of the impetus for imposing land use controls. The plight of the urban underclass of New York City of the late 1800s and early 1900s could be likened to the setting of a Dickens' novel. "The tenement-house population had swelled to half a million souls... in what is still the most densely populated district in all the world, China not excluded, it was packed at the rate of 290,000 to the square mile, a state of affairs wholly unexampled" (Riis, 1914). The in-migration of poor residents into cramped living quarters with inadequate sanitation and ventilation created situations ripe for the spread of infectious diseases. Congestion, smoke from burning coal, and animal waste made many streets notoriously unpleasant and unsanitary places (Schwieterman and Caspall 2006).

Up until the mid-19<sup>th</sup> century, American cities were completely unplanned, determined by the market with virtually all services provided privately (Perdue et al. 2003). The main problem with the way cities were developing was that landowners were able to construct buildings of any height, size, purpose, and location without regard to the neighbors (Talen 2012). Original attempts to mitigate these challenging conditions such as in the New York Code of 1916, created a plan to prevent over intensive development through a limited degree of segregation (Ibid.).

Sanitation, safety regulations and nuisance laws marked early efforts in land use regulations. Doctors led the first efforts at more comprehensive city planning primarily focused on prevention of infectious disease (Perdue et al. 2003). Private cesspools and runoff from manure-covered streets frequently polluted surface water and groundwater supplies. One



period advertisement marketed the suburban home as “delightful, cool, bracing, invigorating. No malaria, coal soot, smoke, dust or factories” (Jackson 1987).

Safety rules regulated building materials and building heights to prevent and control fires. They banned the construction of wood exterior houses in central cities due to fire hazard, which disproportionately affected lower income populations and people of color. Nuisance laws were developed to limit the location of noxious trades, confining slaughterhouses and tanneries to certain areas of town, later becoming the basis for zoning regulations. Rules limited liquor distilling to prescribed distances away from the city hall (Talen 2012). As an example of an early nuisance law, the 1692 Commonwealth of Massachusetts assigned allowable locations for slaughterhouse and other objectionable uses. These rules and regulations were characterized by being narrow in scope, designed to solve measurable problems with physical results.

Prior to zoning, deed restrictions controlled everything from setbacks to outbuildings in minute detail often used to maintain higher economic classes. The New York State Tenement House Act of 1867 required fire escapes and window for every room. Subsequent acts in 1867 required windows that access source of fresh air and light, and in 1887 interior toilets. Early efforts in land use control, while primitive by modern standards, helped the public and regulatory bodies to realize the value of regulatory responses to private land-use decisions (Schweiteman and Caspall 2006).

### ***Euclidean zoning***

No rule-making efforts have had as much impact on the American built environment as zoning (Talen 2012). Current zoning practices grew out of early efforts in New York City and adopted from Europe. Ancient Rome, 17<sup>th</sup> -century London, and 19<sup>th</sup>-century France all instituted regulations whereby uses varied by location (Ibid). Germany first developed zones of land for different uses and intensity in the late 1800s. By 1909, England had adopted the German system through their First Town Planning Act, which ultimately influenced the U.S. (Ibid).

The legal basis for zoning was justified, according the Supreme Court ruling, in that population deconcentration and separation of uses was thought to improve public health, safety, morals, and welfare of its citizens (Euclid v. Ambler 1926). Conventional wisdom suggested that the separation of uses would reduce the hazards to public health and safety thus improve residential living conditions. The welfare of citizens was enhanced by separating incompatible uses, protecting sensitive environmental resources from inappropriate

development, and facilitating the orderly and efficient utilization of urban infrastructure (Moore 1978; Boyer 1983).

A review of early impressions of zoning suggests that land use regulations were much needed and that some saw zoning regulations as an approach to solving the conditions of early 20<sup>th</sup> century cities. The lack of regulation in cities had created chaotic conditions, contributing to an early exodus of the wealthy out of the cities as early as the 1920s (Talen 2012). Lack of regulation was creating disinvestment in central cities, and early advocates of zoning believed that “waste on a large scale was inevitable,” and that “chaotic conditions caused workers to travel daily too far from home (Bassett cited in Talen 2012, p26). Advocates of zoning were similarly as fervent as reformers of sprawl are today. Order was intended to prevent “ a premature and avoidable spread-out of the city” and simultaneously help the business district develop “compactly and promptly” (Bettman 1925, 90 – in Talen 2012, 24). Supporters thought that neighborhoods should have the right to protect themselves against “greed, pollution, and speculation” (Bartholomew, cited in Talen 2012).

Contemporary impressions of zoning have changed dramatically. Some have argued that today’s zoning regulations come at the expense of civic life (Calthorpe 1993; Kunstler 1996). The separation of land use and hierarchical street networks have been argued to reduce social interaction as people are less likely to engage socially in automobiles. Others have argued that zoning sharpened social inequities and increased housing values (Asabere and Huffman 1997). Zoning has the potential to isolate lower income households into lower class neighborhoods and develop what some call a culture of poverty. Finally, some researchers have expressed concerns about increased car dependence and related pollution (Ewing et al. 2002). Moreover, Euclidean zoning has been actively criticized for its inflexible, narrow focus and “blunt” approach to land use (Baker et al. 2006).

### ***Home Owners Loan Corporation***

The early 1930s brought about a number of federally enacted housing policies with lasting land use effects, intended to ease some of the financial hardships and help grow the economy brought about by the Great Depression. Democratic and Republican policy makers offered up competing visions for housing programs that ranged from a focus on individual homes on separate plots to multifamily housing and complete communities with necessary public amenities. Multifamily housing alternatives and their full costs accounting of development (i.e.

providing amenities, parks, etc.) were deemed too expensive and drew the ire of Senator McCarthy for ostensibly promoting Socialist or Communist values (Hayden 2003). Republican efforts focused on individual housing and lots ultimately won approval, yet were criticized for not accounting for the full physical or social costs of individual homes on separate plots of land served by roads, sewers and parks (Ibid.).

Policy makers settled on The Home Owners Loan Corporation (HOLC), an initiative to refinance tens of thousands of at-risk mortgages between the years of 1933 and 1935 that resulted from the economic collapse of the Great Depression. The HOLC introduced and perfected equal-payment, and fully-amortizing loans that departed significantly from the previous common requirements of either purchase in full, high interest rates, or large down payments. However, the HOLC held strong assumptions about housing stock and neighborhoods. They viewed housing stock as existing on a continuum where the natural progression of an area of homogeneous stock would gradually fall into decline (Jackson 1985). Housing stock cycled down to families of lower income as the neighborhood aged. Implicit in their view were negative attitudes toward the city that were racially and ethnically biased. It reduced the barrier of home ownership by reducing down payments and extended mortgage payment to 20 years. Systematized appraisal methods helped to raise the level of appraisal methods, although with a number of strings attached.

The HOLC systematized appraisal methods with the use of a neighborhood classification system (TABLE 1). The HOLC ranked neighborhoods on a scale of 1 to 4 (or sometimes with letter grades A through D) whereby “1” comprised the newest and most homogenous in residential composition down to “4”, comprised of the oldest, least homogenous, and in their perspective, the least desirable neighborhoods. For a neighborhood to be classified in category 1, the population consisted of professional and business men. For a neighborhood to qualify in category 1, was understood to not comprise of any Jews or African Americans. Several accounts suggest that any neighborhood that comprised of any Jews or African Americans may be downgraded to the next category (Talen 2012). Black neighborhoods were summarily classified as “4”. For more on the racial ramifications of federal government actions see Jackson (1985) and Silver (1984). The particularly onerous part of the regulation disallowed mortgages to be refinanced in neighborhoods with classifications of 4 and most threes (Talen 2012). Redlining, the practice of demarcating areas where loans will not be approved, served as a de facto segregation tool whereby white professional were able, or some may argue ‘forced’, to move to

the newly growing suburbs. This may represent the first time that rules explicitly undervalued neighborhoods that were dense, mixed or aging and codified. The HOLC's neighborhoods classification system profoundly impacted the homeownership market through 1970, far outlasting the two-year loan refinancing program that ran out of funding. The HOLC played an

TABLE 1: Homeowners Loan Corporation classification of neighborhoods

Classification		Description
1 <sup>st</sup>	Green	New and homogenous in residential composition, in demand
2 <sup>nd</sup>	Blue	Still desirable – had reached their peak
3 <sup>rd</sup>	Yellow	In decline
4 <sup>th</sup>	Red	Lowest

important role in the evolution of land use planning. While decision making based on race and ethnicity was not unusual during this time frame, the HOLC did make it a central component of the valuation. The lasting impacts of the HOLC were not so much related to its actions, but from the lasting influence its decision-making process had on other institutions (Talen 2012). HOLC appraisal methods were adopted by the Federal Housing Administration including the practice of 'Redlining', which continued through 1970 by the Federal Home Loan Bank Board.

### ***Federal Housing Administration***

Another source of enduring land use implications concerned policies established by the Federal Housing Administration. The US government established the Federal Housing Administration (FHA) in 1934 to regulate the terms of mortgages and rates of interest that it provided. The primary goal, however, was to create jobs in the construction industry, hit particularly hard by the depression (1/3 of all unemployed were associated with the construction industry.) FHA's actions were to insure long-term mortgage loans and borrowed the procedures established by the HOLC (Hayden 2003). Rules laid out by the FHA also established minimum standards for home construction. These rules were designed to revive home building, stimulate homeownership, and reduce unemployment. However, the rules helped turn the building industry against the minority and inner-city housing market. After the collapse of the banking system during the Great Depression, few people were able to secure mortgages and only those at high interest rates and short terms. FHA's new lending practices increased the number of

people able to afford the down payment and amortizing mortgages extending terms to up to 30 years.

### **Indirect impacts of decision**

There were several notable impacts of the FHA policies. While it helped grow the economy, increased access to home ownership, there were numerous negative externalities of the legislation. FHA insurance went to new residential developments. It favored construction of single family developments over multifamily residents at a ratio of between 4 to 1 and 7 to 1 over the years. Moreover, large majorities of homes insured were in the suburbs (Jackson 1985). FHA programs hastened inner-city decay through reducing middle class families. While not explicitly anti-city, it did favor new suburban development. Loans for building restoration were for shorter terms and smaller amounts, therefore it was easier to buy a new home than modernize an existing. Similarly, federal tax code permits greater tax benefits for new construction than for improvement of existing buildings, thereby shortening the useful life of buildings and perhaps encouraging greenfield development. Thus the government subsidizes an acceleration in the rate which economic activity is dispersed to new locations (Jackson 1985). In reflecting on this subject, Jackson states that it is “hazardous to condemn a government for adopting policies in accord with the preference of a majority of its citizens” (Ibid.).

### ***FHA’s Street network design***

One of the more notable influences the government had on the built environment came with the release of the FHA’s Technical Bulletins No. 5 and 7 in 1936 and 1938, respectively. The bulletins endorsed the street network first endorsed by Charles Stein and Henry Wright in their interpretation of the English Garden City in Radburn, New Jersey. Following the critiques of Stein, Bulletins 5 and 7 described the gridded street network as “monotonous with little character or appeal, uneconomical and a safety issue” (Southworth and Ben-Joseph 1997). Radburn was one of the first developments to challenge the traditional grid system. Stein and Wright introduced superblock structures (Ibid.). Streets were laid out in a hierarchical manner with the liberal use of cul-de-sac streets. One of the main intents of the design was to limit the through movement of traffic on most residential street and shift them to collector roads and arterials. The publications endorsed hierarchical streets layouts like those used by Stein in Radburn that minimized through traffic.

During the FHA's fifteen years of existence, the FHA played a role in the production of over 22 million properties (Ibid.). Their design principles became accepted practice for developers and began to be included in many zoning regulations. In effect, the federal government drove land use decision in determining the road network types that got built at the local level (Marshall 2009). These design guidelines were largely untested even after the Institute of Transportation Engineers (ITE) adopted hierarchical street designs in the early 1950s. One of the few technical studies that evaluated the performance of hierarchical street networks, found significantly lower number of crashes when compared to grid layouts, though it paid little consideration of key factors that perhaps obviate the findings (Ibid.).

### ***Federal Highway Administration***

While perhaps less directly attributable to any one neighborhood feature, efforts by the Federal government in highway development have had profound implications for the growth of the economy but also in the outward movement and reliance on the automobile. The Federal Highway Acts of 1916 and 1956 moved the government toward a transportation policy that benefited private vehicular travel (Jackson 1985). These acts profoundly impacted rates of decentralization of urban developments. Increased accessibility decreases the advantages of the central city for residents and firms.

Other influential actions of the federal government include the lopsided and minimal allocation of funding to public transit than to highways. The US also taxes gasoline at much lower rates than other nations, and spends considerable sums to maintain oil access from the Middle east. In part as a result of these federal policies, automobile drivers in the United States pay about 73 to 88 percent of the cost of automobiles use (Knaap et al 2005). The FHA created the best highway system in the world and in turn the worst mass transit in the world (Ibid.).

The material reviewed above suggests that policies of the federal, state, and local governments can and will have influence on the spatial pattern of urban growth in the United States. Though it is difficult to assess their relative influence, some policies are clearly more influential than others (Knaap et al. 2005).

### **National Trends**

While this paper has largely focused on federal initiatives as drivers of change, it would be remiss to not consider contemporaneous impressions of the city. Contemporary writers of the era had both its supporters of urban places and detractors, but on the whole, the majority were

more in favor of suburban and rural locations. The location of manufacturing centers in U.S. cities was one of the reasons cities were less favorably regarded in the U.S. in comparison with European, South American and Asian counterparts (Jackson 1985).

Most working class people wanted to move away from airless, unhealthful tenements in the polluted centers of industrial cities, if they could afford to do so (Hayden 2003). The changing ethnic compositions in older neighborhoods as waves of European, Eastern European, and Southern Europeans migrated to the United States increased distaste for cities (Jackson 1985). Frank Lloyd Wright expressed his views of city life in his book, *When Democracy Builds*, in which he imagined a society in which the city was decentralized, expansive, and supported by ubiquitous personal car transportation (Wright 1945).

It is difficult to parse out the drivers of the anti-urban sentiment, and it is not the intent of this paper, however, there were a number of factors at play in the development of the majority desire for rural and suburban development. Concerns about public health efforts established the dominant view about health and cities. By the early 20th century, it was established orthodoxy that cities and urban concentration were unhealthy. This view was reflected in the aesthetics of the City Beautiful movement as well as in the social agenda of many in the housing reform movement. It is also reflected in the zoning ordinances that took hold in the 1920s. The ordinances separated neighborhoods for residential, business, and industrial uses and specified building heights, setbacks, and density of use (Perdue et al. 2003).

## **Framework to analyze historic built environment regulations**

In the current planning regulatory framework, rules and objectives are disconnected or more importantly, rules and physical outcome, which has undermined good urbanism (Talen 2012). Planning practitioners uphold rules they care little about and defend them against a public that is largely apathetic to them. This in turn reduces the legitimacy of the planning field. There is little discussion of the reasons for their widespread adoption in the realm of city planning and design. What are the purposes of the different regulations? What prompted their creation? First approach is to make connections to reality. Before adopting new policies designed to arrest or mitigate sprawl, it is wise to consider the effects on urban form of policies currently in place, an area of study with relatively little empirical research (Ben-Joseph 2005). Without addressing the underlying causes of existing policies, there are likely to fail or have undesirable side effects (Knaap et al. 2005).

This section develops an evaluative approach to understand the current regulatory landscape influencing the built environment. Understand the breadth and scope of government and the how complexly they are intertwined. It provides insight into how municipalities could find low-hanging fruit to mitigate the impacts. Ben-Joseph (2005) suggests three areas in which one can evaluate design standards: 1) Origins and diffusion; 2) Performance and outcome; and 3) Transformation and opportunities. Alternatively, Talen expresses similarly as evaluating rule, rationale, and effects of regulations (TABLE 2).

TABLE 2: Evaluative approach for investigation land use regulations

Evaluation Component	Guiding Questions
Origins and Diffusion	<p>What were the motivations behind the regulations when they were first generated and adopted?</p> <p>Who were the parties involved in the decision making?</p> <p>How are they disseminated, practiced, and enforced?</p>
Performance and Outcomes	<p>What did the rules become?</p> <p>How relevant are the rules for today's environment?</p> <p>What impact do urban standards have on the 3 E's (economy, environment, equity)?</p> <p>How are design standards viewed by those who administer them and those who abide by them?</p> <p>What criteria should be used to measure success, and to determine if standards should be changed or eliminated?</p>
Transformation and Opportunities	<p>What are the implications of restructuring standards?</p> <p>What processes and tools can foster change?</p>

Source: (adopted from/inspired by Ben-Joseph 2005; Talen 2012)

### ***Origins and diffusion***

A useful beginning to any evaluation, is to understand how design standards were originally generated and adopted. Many of the regulations in existence are approaching antiquity and planners have forgotten the original motivation for their adoption (Talen 2012; Ben-Joseph 2005). Approaching this question requires uncovering layers of information to reveal the heart



of the matter. Some of the regulations have been revised over the years, for instance, gradual increases to minimum lot size or road widths, and will require developing a considerable history to understand the motivations.

First, the stated rationale for the regulation of interest needs to be identified and the context in which the decision was made needs to be explored. For instance, some stated rationales may be different than the underlying motivations. To understand the underlying motivations, information could be gathered from a variety of sources. For state and local initiatives, some information could be collected on motivating factors of rules from comprehensive plans and archival documents including newspaper articles, editorials, and books from the era. A review of historic municipal codes would help identify the year of adoption and evolution of rules –e.g., changes in front setbacks or minimum lot sizes throughout time.

For national level actions (such as the several described above), original document review, written or documented testimony, etc. could help situate the motivations. More generally, newspapers of the time could be reviewed to identify contemporary themes such as tuberculosis epidemic, oil shortage, economic downturns, etc., that might frame the need for a particular policy. For city specific regulations, municipal building codes would provide the regulatory details, however, comprehensive plans, or testimonies from planning meetings, or archival print materials would provide better sources of information on motivations.

Second, who were the parties involved in the original decision making process? Disciplines have traditionally focused in their own area and not until last 15 or so years did we see much cross pollination of ideas. Highway engineers, among others, have typically just focused on moving automobiles efficiently. Concerns about externalities of their decisions, such as public health, community, even multi-modal planning, rarely make up their decision making criteria. Questions to be asked in investigating the origins of a particular regulation might include evaluating: 1) Which constituencies were represented? 2) What values were being espoused? 3) Were there dissenting ideas about the regulation as it was devised? For instance, as was described in the material above, due to the partisan nature of the decision about the HOLC, the composition of the regulations in the HOLC might have turned out different than otherwise.

Finally a third component of the origins and dissemination concerns how standards were disseminated. Research might entail an investigation of how local regulation coincided with national regulatory efforts. Much of the regulatory environment has been consistent

between states. Planners often talk about cookie cutter plans that are in part a fact of the complexity of planning and that many small municipalities do not have the capacity, expertise or financial, for more elaborate or place-based plans.

### ***Performance and outcome***

The second component of the evaluation framework that Ben-Joseph suggests concerns the use of performance and outcome measures. Performance-based land use regulation is becoming increasingly applied as a means to achieve efficiency and effectiveness in decision making (Baker et al. 2006). It has been used in an attempt to improve decision making in land use control, building regulations, and natural resource planning (Exner and Sawchuk 1996). These same measures used for current decision making could be applied for reviewing existing measures.

#### *What did the rules become?—How relevant are the rules for today's environment?*

A thorough review of existing rules that influence the built environment component might yield valuable insight as to their current functionality. Talen (2012) documents some of the intentions and outcome of zoning. To build on the initial component of the evaluation, one could compare what the outcomes were. For instance, zoning was intended to promote downtowns by limiting skyscrapers that block light and air. The results were less optimistic - zoning facilitated the spread of cities and has largely not promoted downtown cores (Ibid.).

This question builds on the concern of intent vs. outcome. Based on the two variables, one might be able to discern the usefulness of regulations for today's current conditions.

#### *What impact do urban standards have on the 3 E's (economy, environment, equity)?*

There is increased interest in evaluating projects based on a broader range of scales. Each of the three E's is purported to carry equal weight. One might measure the impact on all three E's to get a richer understanding about the impacts of regulations on the built environment. Many of the decisions in the field of transportation engineering, for instance, typically rely on relatively simplistic benefit cost analyses that typically don't capture such externalities related to health, environment, or equity costs that are impacted, though difficult to measure.

*How are design standards viewed by those who administer them and those who abide by them?*

There is much to be learned from those people in the trenches who work with codes, standards on a daily basis. Planning directors, if not zoning administrators might provide some insight into the matter. Surveying of practitioners with discrete questions might be a way to explore values and concerns of particular regulations.

*What criteria should be used to measure success, and to determine if standards should be changed or eliminated?*

In the abstract, this is a difficult question to answer. Criteria for use in evaluating different components of federal regulations are dependent on the variable of interest. For instance, there are a broad range of outcome measures that could be used for the transportation field.

Measures such as severe and fatal crash statistics for a given street network might be used; trip generation rates or VMT might be used to evaluate street networks. For a more complex issue such as investigating the outcomes of zoning regarding its intended outcome of providing for the health, safety and well-being of individuals, it may be more difficult and rely on a suite of measures, both qualitative and quantitative.

### ***Transformation and opportunities***

The intent of an exercise such as this is to affect change in the systems where predominant land use regulations have lost connection to their purposes they were once intended to solve. As such, Ben-Joseph provides several questions within which opportunities for transformation might be explored.

*What are the implications of restructuring design standards?*

First, it is important to recognize that some existing codes and policies may have outlived their usefulness or may not take into consideration multiple competing interests. For instance, while one policy may have eased traffic congestion, it may come at the expense of accessibility or safety. A comprehensive review of design codes and standards might yield a clearer understanding of where to prioritize change. Similar to the 'web of life' construct in the natural sciences where a change in one part of the natural order is likely to impact others up and down the food chain, regulations about the built environment may yield similar impacts on other components such as health, physical activity and social interaction.

*What processes and tools can foster change?*

An understanding of how design standards have evolved over time, the drivers of these changes, the motivations behind the standards, and how they affect our settlement patterns may provide several lessons relevant to the planning field. Finally, this review research paper may provide insight for communities and planners who may be hesitant to change the traditional planning mechanisms.

## **Conclusion**

The effect of government interventions in land use is undeniable. It is a part of a history that is too often forgotten, yet holds important implications for future efforts to remediate the environmental, health, and social externalities of the built environment. When viewed in their totality, the cumulative force of the externalities has a tremendous effect on the design of places that thus far has been unnoticed (Ben-Joseph 2005). Reviewing regulations to understand the differences between original intent with outcome may help to prioritize steps to rectify policies.

It is undoubtedly a monumental task to document the widespread regulations and distill the effects of the largely incremental measures. It would be naïve to think that people would immediately embrace these changes or that these changes would occur overnight, but there may be some hope that bringing light to some of the standards might spur long term changes that could mitigate the social, environmental, and health externalities of our status quo.

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