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Evidence-Based Sign Regulation: Regulating Signage on the Basis of Empirical Wisdom

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The ability to succeed as a business is often dependent upon the ability of customers to find the business location and to attract “impulse” business by pass-by traffic. Business owners rely upon signage to attract customers to the place of business and to promote awareness of the business to pass-by traffic. This type of signage is referred to as on-premise signage as the signs are located on the same property as the business they are associated with. Studies have found a strong link between the presence of on-premise signage and the success of a business.¹ On-premise signs can take many different forms, from smaller wall or store-front signs located on a wall or façade of the building to large pole signs that are high enough to be seen from a long distance. The wide range of appearances for on-premise signs has led some local agencies to establish local sign codes or ordinances to regulate on-premise signs. These sign codes take a variety of forms, presenting various methods of regulating the location, size, and other features associated with on-premise signs. Such sign codes are often developed at the local level and may rely more upon the aesthetic preferences of those developing the codes in setting the parameters for new signs rather than scientific evidence.

With the adoption of the standard planning and zoning enabling legislation in the early 1900s, local government policy has typically been found to be legally defensible if it promotes the “general public health, safety, morals, and welfare” of a particular community. This standard is broad and has been used to justify a cacophony of local land use policies, including ordinances regulating signage. When called upon to review challenges to these regulations, courts find themselves attempting to discern if such regulations are arbitrary or capricious. Such findings are rare so long as there is at least some rational link between the proposed regulation and the problem it seeks to solve. Such determinations become more complex when they involve land use activities that are guaranteed some degree of heightened scrutiny as a result of constitutional protections, like those protected by the First or Fifth Amendment. This article focuses on the creation of evidence based standards for the regulation of signage, more particularly on-premise signs.

Since the advent of zoning, communities have attempted to regulate signage on grounds of health, safety, and/or welfare. These regulations have attempted to control a number of variables, including, but not limited to: sign size, letter height, luminosity, positioning, height, and construction materials. When challenged, most of these ordinances have been defended based on claims of traffic safety, i.e. signs that are “too big” are dangerous to drivers. While traffic safety may be a valid police power-supported concern, many sign codes have been successfully challenged given the protections afforded by the First Amendment to both commercial and noncommercial signs. This article suggests that communities should be allowed to regulate signage but only to the extent that the municipality can prove that the regulations are based on empirical evidence which supports the alleged safety concerns. In this paper, the authors describe their efforts to develop a model evidence-based sign code and a model example

of performance zoning with the intent of balancing municipalities desire to regulate signage with the right of business owners to identify and communicate with prospective customers.

In Section I, the authors describe the evolution of performance zoning. Section II focuses on current and future applications for performance-based codes. Section III describes the strengths of weaknesses of performance codes, as well as the possible legal challenges to which they are susceptible. Section IV outlines the contents of and justification for the Model Sign Code developed by research affiliates with Urban Design Associated based in Austin, Texas.

I. Overview of Performance Zoning

Performance zoning is based on the simple concept that “any use may be placed anywhere so long as it meets certain objective performance standards.”² Performance zoning arose out of performance standards initially designed to regulate uses in industrial districts beginning in 1951.³ In the regulatory context, performance standards are generally defined as “specif[ying] the outcome required, but leav[ing] the specific measures to achieve that outcome up to the discretion of the regulated entity.”⁴ In essence, performance standards establish a goal, and the regulated entity determines how to best meet the goal.⁵

In industrial districts, early performance standards or performance codes accommodated quickly changing technology and new building materials much better than conventional, prescriptive codes that became quickly outdated.⁶ Instead of requiring industrial buildings be constructed out of a particular type of material, regulators began requiring that construction materials meet standards of performance. For example, the material used had to be sufficiently fireproof to retain its strength and prevent transmittance of a fire of a certain temperature for a certain duration to be permissible.⁷ Industrial performance standards quickly became popular, and within twenty years their use was widespread throughout large cities in the U.S.⁸ Eventually, land use commentators began suggesting that performance standards could be used instead of use segregation outside of industrial districts, giving rise to the idea of performance zoning.⁹

Although sometimes referred to an alternative to traditional zoning, most performance zoning ordinances are typically designed to supplement, not replace, Euclidian zoning codes.¹⁰ For local land use practice, the greatest contribution of performance zoning has been to introduce performance standards into traditional zoning ordinances and subdivision regulations.¹¹ As

² Frederick W. Acker, Note, *Performance Zoning*, 67 Notre Dame L. Rev. 363, 364 (1991).

³ *Id.* at 370.

⁴ Cary Coglianese, Jennifer Nash, and Todd Olmstead, *Performance-Based Regulation: Prospects and Limitations in Health, Safety, and Environmental Protection* 55 Admin. L. Rev. 705, 709 (2003).

⁵ *Id.* at 709.

⁶ Acker, *supra* note 1, at 370.

⁷ *Id.*

⁸ *Id.* at 371.

⁹ *Id.*

¹⁰ Craig A. Arnold, *Planning Milagros: Environmental Justice and Land Use Regulation*, 76 Denv. U. L. Rev. 1, 118 (1998).

¹¹ John R. Nolon, *Golden and its Emanations: The Surprising Origins of Smart Growth*, 23 Pace Envtl. L. Rev. 757, 774 (2006).

applied to zoning, the concept of performance standards “call[s] for formulation of criteria that would define limits, it is hoped measurable, for the external effects of uses on other uses.”¹²

A. Primitive Standards and Precision Standards

There are two ways to categorize performance standards.¹³ One method is to distinguish between performance standards associated with new development, which typically include density, design, and natural resource protection, and standards associated with industrial uses.¹⁴ Industrial performance standards generally address nuisance related impacts of industrial uses, such as noise, odors, vibration, and pollution of air or water.¹⁵ The second and more prevalent method is to distinguish between primitive standards and precision standards.¹⁶ Primitive performance standards are rooted in the prohibition of negative externalities concept of common law nuisance. These standards guard against offensive odors, noise, noxious gases, vibrations, smoke and similar impacts extending beyond the property boundaries.¹⁷ An example of a primitive performance standard is one which prohibits land uses that emit an “objectionable level” of noise or odor.¹⁸ Primitive standards can be vague and, as a result, somewhat more difficult to enforce.¹⁹

In contrast, precision standards “are developed from scientific data and reflected in quantifiable measurements (e.g., limits on permissible decibel levels in designated octave bands per second or designated center frequency-cycles per second).”²⁰ Precision standards are based on scientific models, which makes them expensive to develop and implement.²¹ The higher cost of precision standards means the majority of performance standards can be best classified as primitive.²² However, there are numerous advantages to precision performance standards, despite the additional cost. Precision standards based on scientific data may be “less vulnerable to legal challenges because such requirements are clearly related to a rational state purpose.”²³ Scientifically-based standards are considered more accurate than zoning requirements that are founded on educated guesses, which run the risk of being flawed.²⁴ Precision performance standards are objective and as a result are less susceptible to abuse than primitive standards, which are typically more subjective.²⁵

¹² Douglas R. Porter, Patrick L. Phillips, and Terry J. Lassar, *Flexible Zoning: How it Works* 11 (The Urban Land Institute 1988).

¹³ Arnold, *supra* note 9 at 118.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Robert J. Blackwell, Comment, *Overlay Zoning, Performance Standards, and Environmental Protection after Nollan*, 16 B.C. Envtl. Aff. L. Rev. 615, 616 (1989).

¹⁹ Arnold, *supra* note 9 at 118.

²⁰ *Id.*

²¹ Bradford C. Mank, *Preventing Bhopal: “Dead Zones” and Toxic Death Risk Index Taxes* 53 Ohio St. L.J. 761, 780 (1992)

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.* at 781.

B. Kendig's Performance Zoning Model Ordinance

In 1980, Lane Kendig, a former County Planner for Bucks County, Pennsylvania, distilled various concepts of performance zoning into a proposed model ordinance.²⁶ By Kendig's own description, his proposed performance zoning ordinance "eliminates conventional zoning designations and replaces them with far fewer and more important district designations. The ordinance regulates all permitted uses of structures as a function of the particular, and frequently measureable, "by-products" that each use is likely to have."²⁷ In so doing, "performance zoning protects the environment and enables the developer better to utilize the site."²⁸ Despite Kendig's own classification, his proposal for performance zoning "echo[es] conventional zoning" and represents an impure or hybrid performance zoning ordinance.²⁹ Nonetheless, this proposed model ordinance has been widely adopted by numerous cities and counties nationwide as a form of performance zoning.³⁰ Because of its popularity as a basis for performance zoning ordinances, a review of Kendig's model is provided here.

Kendig's model performance zoning ordinance established eight zoning districts: agricultural, rural, estate, neighborhood conservation, development, urban core, heavy industrial, and holding.³¹ While the agricultural and rural districts are self-explanatory, the others warrant brief explication. The estate district was intended "to accommodate residential development opportunities for those who desire exurban, low-density, or estate living and are willing to live in more remote locations and assume the costs of providing many of their own services and amenities."³² The neighborhood conservation district was intended to prevent existing and under-construction neighborhoods from becoming nonconforming under the terms of the ordinance, while permitting future infill consistent with the character of the neighborhood.³³ The urban core district would "serve as a community focal point: either as a business and service center or as a transportation center in the form of a commuter rail stop."³⁴ Heavy industrial districts would accommodate very intense industrial uses that could not be made compatible through the use of performance standards.³⁵ Finally, the holding district was an interim classification that would provide transitional zoning in areas subject to an inter-municipal agreement addressing future land use.³⁶

Although the zoning districts are rather typical, Kendig proposed an atypically broad mixing of uses within each district. Instead of strict use restrictions, Kendig called for controlling uses and preventing nuisances through the application of performance standards in each district.³⁷ Kendig proposed regulating use and development primarily based on four

²⁶ Acker, *supra* note 1, at 372.

²⁷ Lane Kendig, Susan Connor, Cranston Byrd, and Judy Heyman, *Performance Zoning 3-4* (American Planning Association 1980).

²⁸ *Id.* at 91.

²⁹ Porter, *supra* note 11 at 16.

³⁰ Acker, *supra* note 1 at 372.

³¹ Kendig, *supra* note 26 at 100-115.

³² *Id.* at 113.

³³ *Id.*

³⁴ *Id.* at 114.

³⁵ *Id.*

³⁶ *Id.* at 115.

³⁷ Acker, *supra* note 1 at 372

performance standards: open space ratio, impervious surface ratio, density, and floor area ratio.³⁸ The open space ratio standard was intended to go beyond the private yard to benefit the community as a whole by establishing the character of the area, providing for recreation, and protecting natural resources.³⁹ Impervious surface ratio standards avoid adverse environmental impacts caused by limiting stormwater runoff, reducing water cycle disruption, and lowering urban heat buildup.⁴⁰ Kendig proffered that density, measured in dwelling units per acre, was “a direct measure of the impact of a given development on road systems, community facilities, schools, and services.”⁴¹ Similarly, floor area ratios could “provide the flexibility appropriate to the considerable diversity of nonresidential uses.”⁴²

Other, narrower performance standards addressed specific concerns. For example, bufferyards were “required to separate different land uses from each other in order to eliminate or minimize potential nuisances.”⁴³ Bufferyards were useful for providing barriers to access, noise, light and glare, and air pollution.⁴⁴ Bufferyard standards required particular distances, plant material, plant intensity, and land forms.⁴⁵ Kendig also provided specific performance standards for signs. The proposed ordinance provided a table of standards including “the maximum area of the face of the sign, the maximum permitted height, the permitted lighting source, and any additional requirements or specifications” for each of six permitted sign types.⁴⁶ For example, a class IV intensity commercial/entertainment use would be required to meet a B sign standard.⁴⁷ The B performance standards for free standing signs provides a formula for determining the maximum sign area, sets an eight foot height limit, and permits spot lighting.⁴⁸ Projecting signs subject to the B performance standard can be 12 square feet in area, 14 feet high, and use general lighting.⁴⁹ It is not clear how the particular performance standards for signs were developed or on what they are based, other than the indication throughout the proposed regulations that the standards are intended to minimize nuisances and other adverse impacts.

II. Current and Proposed Uses for Performance Zoning

One of the most common uses of performance zoning is to protect environmental resources. In this regard, it operates as a form of local environmental law.⁵⁰ In a system of performance zoning, the locality develops standards designed to protect the desired resource, and any proposal for development must meet the standards. In Bucks County, Pennsylvania,

³⁸ Kendig, *supra* note 26 at 25.

³⁹ *Id.* at 26.

⁴⁰ *Id.* at 27.

⁴¹ *Id.* at 28.

⁴² *Id.* at 29.

⁴³ *Id.* at 154.

⁴⁴ *Id.* at 46.

⁴⁵ *Id.* at 48.

⁴⁶ *Id.* at 177.

⁴⁷ *Id.* at 155. The application of intensity classes does not affect where a use can be located on a site, but regulates how the use can develop on the lot by implicating the performance standard that must be met for each intensity class in order to minimize nuisances. *Id.* at 154.

⁴⁸ *Id.* at 178.

⁴⁹ *Id.* at 178.

⁵⁰ Arnold, *supra* note 9, at 118.

performance zoning is used to protect prime agricultural land and natural resource lands through requirements that adjust new development to the natural land characteristics by linking allowed uses to the attendant adverse environmental impacts.⁵¹ Performance zoning standards can also be used with new development to ensure minimum open space ratios.⁵² Performance standards may be used to encourage the use of green roofing technology by specifying “an amount of on-site stormwater retention” with which each building must comply.⁵³ Similarly, green building performance standards may specify a minimum rooftop reflectivity requirement.⁵⁴

Performance zoning has been proposed as a tool to regulate and reduce nonpoint source water pollution.⁵⁵ A Queen Anne’s County, Maryland study recommended using performance standards to minimize natural cover loss and limit nonpoint source pollution through clustered housing and strategic agricultural activity placement.⁵⁶ Similarly, performance zoning can be used to protect water quality by establishing standards for impervious surfaces.⁵⁷ These standards state the amount of a site that may be covered by impervious surfaces in order to improve stormwater drainage.⁵⁸

The flexibility of performance zoning has prompted wide speculation as to the variety applications of the planning tool. Some suggest it can be used to fight obesity.⁵⁹ Local government could “require fast food and other restaurants to offer a minimum number of healthy alternatives on their menu.”⁶⁰ Proponents of this idea assert that such a requirement would meet the rational basis standard because there is sufficient evidence to demonstrate that healthy food alternatives would help decrease obesity.⁶¹ Performance zoning standards could help achieve environmental justice by protecting low-income or minority neighborhoods from environmental harms where private property rights or economic or political realities prevent the disproportionate placement of undesirable land uses.⁶²

⁵¹ John C. Keene, *When Does a Regulation “Go Too Far?” – The Supreme Court’s Analytical Framework for Drawing the Line Between and Exercise of the Police Power and an Exercise of the Power of Eminent Domain*, 14 Penn St. Envtl. L. Rev. 397, 432-433 (2006).

⁵² Evensen, *supra* note 64, at 270

⁵³ Timothy Carter and Laurie Fowler, *Establishing Green Roof Infrastructure Through Environmental Policy Instruments* 42 Environmental Management 151, 154 (2008)

⁵⁴ *Id.* at 155.

⁵⁵ Daniel R. Mandelker, *Controlling Nonpoint Source Water Pollution: Can it be Done?* 65 Chi.-Kent L. Rev 479, 487 (1989).

⁵⁶ *Id.* at 487.

⁵⁷ Lauren McDonell and Martha C. Monroe, *Land Use in the Wildland-Urban Interface: Land Conservation Tools and Zoning 3* (Institute of Food and Agricultural Sciences, University of Florida 2008), available at <https://edis.ifas.ufl.edu/pdf/FR/FR25600.pdf>.

⁵⁸ *Id.*

⁵⁹ JULIE S. MAIR, MATTHEW W. PIERCE, AND STEPHEN P. TERET, *THE USE OF ZONING TO RESTRICT FAST FOOD OUTLETS: A POTENTIAL STRATEGY TO COMBAT OBESITY*, 25 (2005), <http://www.publichealthlaw.net/Zoning%20Fast%20Food%20Outlets.pdf>.

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² Arnold, *supra* note 9, at 118-119.

The use of performance zoning has been advocated as a means to address home businesses at a time when working from home is increasing.⁶³ While small home businesses are permitted as a matter of right in many localities, traditional zoning restrictions typically prohibit larger businesses or allow them only in limited circumstances as a matter of special exception.⁶⁴ Under a performance zoning approach, residents desiring to run a larger business in their home would have to demonstrate the ability to meet standards such as maintaining a primary residential use, not visibly altering the residential character of the neighborhood, and not disrupting neighbors.⁶⁵

A performance zoning approach could also be used to overcome barriers to opening new private schools in California and elsewhere.⁶⁶ Currently in Santa Clara, California, which is perceived as more liberal than other California cities, traditional zoning requirements restrict private schools to a single zoning district.⁶⁷ Even within that district, private schools are permissible only with a conditional use permit that may be granted after several site requirements are met, including a minimum lot size and width, minimum setbacks, and provision of open landscaped areas.⁶⁸ There are also maximum building height restrictions, maximum lot coverage requirements, and the property must be fenced.⁶⁹ The combined impact of the regulations is to restrict the pool of available properties that could be used for a private school and increase the cost of opening such a school. Parking requirements present a similar barrier.⁷⁰ Performance zoning offers a potential antidote to this problem by reducing the number of restrictions “and allowing a broader range and mix of uses.”⁷¹ Proponents of performance zoning argue that a shift to accountability for harms generated by the private school rather than outright bans and prescriptions “would remove unnecessary barriers to new private schools.”⁷²

III. A Pragmatic and Legal Critique of Performance Zoning

Performance zoning has not been widely embraced.⁷³ It is regarded as less predictable than Euclidian zoning.⁷⁴ It is criticized as being “too complex and indeterminate.”⁷⁵ Furthermore, performance zoning may require more administrative effort than conventional zoning.⁷⁶ In order to effectively implement performance standards, government regulators must be able to “specify, measure, and monitor performance,” which can require considerable staff

⁶³ Nicole S. Garnett, *On Castles and Commerce: Zoning Law and the Home-Business Dilemma* 42 Wm. & Mary L. Rev. 1191, 1242 (2001).

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ BAHAA SEIREG, ADDITION AND SUBTRACTION: STATE AND LOCAL REGULATORY OBSTACLES TO OPENING A NEW PRIVATE SCHOOL 12-13 (Reason Foundation 2004), available at <http://reason.org/files/2548264079883baa92532af77d06f540.pdf>.

⁶⁷ *Id.* at 3-4.

⁶⁸ *Id.* at 4.

⁶⁹ *Id.*

⁷⁰ *Id.* at 5.

⁷¹ *Id.* at 13.

⁷² *Id.*

⁷³ Nolon, *supra* note 10, at 774

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ Porter, *supra* note 11, at 83.

expertise.⁷⁷ Planning personnel must be knowledgeable in order to properly administer performance zoning ordinances.⁷⁸ In addition, depending on the type of performance standard, it can be difficult to find reliable and appropriate information regarding potential or actual performance of a proposed project.⁷⁹ This can be problematic at the permitting stage and the enforcement stage. If performance “standards are based on predictions instead of actual measurable events” it may be challenging to measure compliance.⁸⁰

In spite of the ardent critique, performance zoning ordinances have been credited with “translating the goals and objectives of general community plans into actual development reflecting those goals, providing a more satisfactory approval process for all involved, and injecting a modicum of rationality into a process too often fraught with whim and chance.”⁸¹ While in force, the Fort Collins, Colorado LDGS was praised for dramatically reducing the time spent in the development application approval process.⁸²

Performance standards are praised for giving developers flexibility in selecting methods to meet the established standard. This can increase efficiency and reduce the costs of compliance.⁸³ Moreover, performance standards can better respond to changing technologies.⁸⁴ This is efficient not just for developers, but for local governments as well, as they do not have to amend their codes and regulations each time a better product or material becomes available.

A key challenge for performance zoning is how to establish the performance standards used to measure the impacts of proposed development.⁸⁵ Performance standards are often imprecise or fail to adequately specify the desired standard.⁸⁶ This creates uncertainty for regulators and developers alike.⁸⁷ Some regulators are uncomfortable conferring discretion to developers regarding how to comply with the standards, and some developers may similarly be uncomfortable with the discretion granted to regulators on enforcement issues if the performance standards are too vague.⁸⁸ Performance standards may work best “when actual performance can be measured, evaluated, and verified.”⁸⁹

IV. Challenging Performance Zoning Ordinances

There are two broad categories of challenges to performance zoning ordinances, constitutional challenges and those relating to state enabling legislation. This section reviews both categories of challenges in brief. In addition, it is worth noting that courts have generally

⁷⁷ Coglianese, *supra* note 3, at 708.

⁷⁸ Elizabeth Evensen, *Open Space Preservation in Utah: Techniques, Tools, and First “Quality Growth” Steps* 19 J. Land Resources & Envtl. L. 267, 270 (1999).

⁷⁹ Coglianese, *supra* note 11, at 708.

⁸⁰ *Id.* at 711.

⁸¹ Porter, *supra* note 11, at 83.

⁸² Acker, *supra* note 1, at 384.

⁸³ Coglianese, *supra* note 3, at 711.

⁸⁴ *Id.*

⁸⁵ Porter, *supra* note 11, at 83.

⁸⁶ Coglianese, *supra* note 3, at 711.

⁸⁷ *Id.* at 714.

⁸⁸ *Id.* at 714-715.

⁸⁹ *Id.* at 715.

upheld performance zoning standards as a reasonable way to protect the public from nuisances and as adequately measurable according to the nuisance standard of a reasonable person.⁹⁰

Performance zoning has been identified as a way to minimize the risk of Fourteenth Amendment takings claims, particularly as compared with Euclidian zoning.⁹¹ Where performance zoning ordinances utilize a point system, as was used in Fort Collins, property owners are able to alter proposed projects to achieve the points necessary for approval.⁹² It seems unlikely that a court would find a property owner denied a development permit under such circumstances has been deprived of all beneficial use of the property as required to succeed in a taking claim.⁹³ Similarly, precision performance standards are likely to survive regulatory takings challenges that arise under the *Nollan* essential nexus test, as by definition precision standards are based on scientific data regarding the relationship between the standard established and the public purpose.

A potential challenge to performance zoning exists if local government is not authorized to enact and performance zoning ordinance.⁹⁴ Whether such a challenge could be successfully brought against any particular performance zoning ordinance of course depends on the zoning enabling legislation of the particular state. Performance zoning is specifically authorized in Florida,⁹⁵ Maryland,⁹⁶ and South Carolina.⁹⁷ Still, a lack of specific authorization does not mean that local government cannot implement performance zoning, as where the state has authorized flexibility in local government regulation or where the local government can demonstrate that performance zoning is a permissible way to advance the purposes of the enabling act.⁹⁸

V. Performance Based Sign Regulations

A. The Legal Landscape for the Regulation of On-Premise Commercial Signs

The landscape of all municipalities is shaped, at least in part, by the signs that direct passersby. The presence of directional signs, like street signs and house numbers, are necessary to help navigate ever growing and changing cities. Traffic signs regulate, warn, and guide traffic. Political signs, like campaign signs, serve as a periodic reminder to us of our important local issues and impending elections. More recently, the presence of “for sale” signs provides a stark reminder of how many families have been affected by the housing boom and subsequent bust. However, the signs that most likely draw our attention are commercial in nature. They seek to advertise the goods and services offered by a vendor, whether situated on or off-site, for which we search. McDonald’s needs little more than a golden arch to advertise its fare. Others require more detail to compete in the market place.

⁹⁰ Arnold, *supra* note 9, at 118.

⁹¹ Keene, *supra* note 82, at 432.

⁹² Porter, *supra* note 11, at 92.

⁹³ *Id.*

⁹⁴ Acker, *supra* note 1, at 390.

⁹⁵ Fla. Stat. § 163.3202(3) (2009).

⁹⁶ MD Code Art. 66B § 10.01(a)(10) (2010).

⁹⁷ SC Code 1976 § 6-29-720 (2009).

⁹⁸ Porter, *supra* note 11, at 87-88.

From a land use perspective, signs are not land uses. While they are physical structures, their primary purpose is not to house an activity but to describe the happenings on the related property. In the name of the police powers, municipalities have sought to regulate signage like land uses in the name of traffic safety and aesthetics, among other justifications. It is in this treatment of signs as land uses that we take issue. We believe that signs, particularly on-premise signs which seek to advertise the goods sold on site, should be treated as a form of commercial communication, rather than as land uses or accessory structures to the businesses they seek to advertise. If this were the case, local governments would still be entitled to regulate signage but they would have to do so with more care.

Legal precedent supports this interpretation of the regulation of the various forms of commercial speech. The right to advertise one's business, particularly via the erection of on-premise signs, is entitled to free speech protections emanating from the First Amendment.⁹⁹ In *Bigelow*, the Supreme Court held: "The existence of "commercial activity, in itself, is no justification for narrowing the protection of expression secured by the First Amendment." Since that landmark decision, the Supreme Court has had numerous opportunities to further define the rights associated with commercial signage. In *Virginia Pharmacy Board v. Virginia Consumer Council*, the high court went so far as to say that the free flow of commercial speech should be considered "...an instrument to enlighten public decisionmaking in a democracy."¹⁰⁰ In dicta, the Court held that some commercial speech regulations may be appropriate provided that: (1) they are justified without regard to content; (2) serve a significant governmental interest; and (3) leave open ample alternative channels for communication.¹⁰¹ The significance prong of the test was further discussed in *Linmark Associates, Inc. v. Willingboro*.¹⁰² The Court held that even if a governmental interest is significant, the government still has an obligation to show a link between the ordinance and the State objective.¹⁰³ These factors later became a part of the *Central Hudson* test:

In commercial speech cases, then, a four-part analysis has developed. At the outset, we must determine whether the expression is protected by the First Amendment. For commercial speech to come within that provision, it at least must concern lawful activity and not be misleading. Next, we ask whether the asserted governmental interest is substantial. If both inquiries yield positive answers, we must determine whether the regulation directly advances the governmental interest asserted, and whether it is not more extensive than is necessary to serve that interest.¹⁰⁴

The *Central Hudson* test was applied the subsequent year in *Metromedia, Inc. v. San Diego*.¹⁰⁵ Rather than providing insight, the holding in the *Metromedia* may to be blamed for the confusion experienced by municipalities that seek to regulate signage. The decision in

⁹⁹ *Bigelow v. Virginia*, 421 U.S. 809 (1975).

¹⁰⁰ *Virginia Pharmacy Board v. Virginia Consumer Council*, 425 U.S. 748, 766 (1976).

¹⁰¹ *Id.*

¹⁰² *Linmark Associates, Inc. v. Willingboro*, 431 U.S. 85 (1977)

¹⁰³ *Id.*

¹⁰⁴ *Central Hudson Gas & Electric Company v. Public Service Commission*, 447 U.S. 557, 566 (1980).

¹⁰⁵ *Metromedia, Inc. v. San Diego*, 453 U.S. 490 (1981).

Metromedia is extremely limited and essentially only represents the law of billboards. The opinion does not offer any binding legal authority which connects the proposition to on-premise signs. The City of San Diego seemed to recognize this distinction in its ordinance, by choosing to exempt on-premise signs from the proposed ban. More recently, a federal district court in Florida eloquently discussed the limitations of this ruling.

It is truly a Herculean task to wade through the mire of First Amendment opinions to ascertain the state of the law relating to sign regulations, beginning with the Supreme Court's leading decision on billboard regulations in *Metromedia, Inc. v. City of San Diego*, 45 U.S. 490, 570, 69 L. Ed. 2d 800, 101 S. Ct. 2882, (1981) (plurality) (Rehnquist, J., dissenting, who referred to the plurality decision as a "virtual Tower of Babel, from which no definitive principles can be clearly drawn") There is much variety and diversity of opinions in this area (in addition to sign ordinances, courts have reviewed First Amendment challenges to adult entertainment clubs, tobacco advertising and the noise volume of music concerts), suggesting that constitutional law on this subject is far from clear.¹⁰⁶

The ruling in *Edenfield v. Fane*, 507 U.S. 761 (1992) represented the high court's next meaningful application of the *Central Hudson* test. *Edenfield v. Fane*, 507 U.S. 761 (1992). In *Edenfield*, the Court was asked to adjudicate the validity of a Florida law prohibiting CPAs from engaging in the personal solicitation of new clients. The Court ruled that the personal solicitation was commercial expression, entitled to First Amendment protections. The Court held that regulation of such expression is appropriate so long as is "tailored in a reasonable manner to serve a substantial state interest." *Id.* at 767. The Court, in applying the *Central Hudson* test to its evaluation of Florida's law, redirected the burden of proof to the regulator. Specifically, the Court ruled: "In this analysis, the Government bears the burden of identifying a substantial interest and justifying the challenged restriction." *Id.* at 770. Here, the Court ruled that the State had not met its burden of proof under *Central Hudson*.

The planning community must recognize that this decision represents a significant departure from broad level of deference afforded by the courts to decisions made by local government officials. Because of the holding in *Edenfield*, local governments must prove that any harm they seek to address with an ordinance is materially advanced by the proposed regulations. This ruling compels governments to do more than allege traffic safety or aesthetics concerns as the basis for signage regulations. As a result of *Edenfield*, courts will compel local governments to produce evidence that the ordinance directly accomplishes their stated goals, such as traffic safety or aesthetics. Local governments must be able to prove that on-premise commercial signs have an impact on traffic safety and the ordinance factually accomplishes an improvement in traffic safety. In the absence of such quantifiable proof, sign codes stand on shaky ground, at best.

¹⁰⁶ *Granite State Outdoor Adver., Inc. v. City of Clearwater*, 213 F.Supp.2d at 1327.

The legacy of *Central Hudson* was again reinforced by the Court in *City of Cincinnati v. Discovery Network, Inc.*, 507 U.S. 410 (1993). Applying the four prong test, the U.S. Supreme Court overturned a city regulation which sought to prohibit the location of some commercial newsracks on city streets on the basis of aesthetics and safety concerns. In reviewing the case, the Court held that the city had failed to establish a reasonable fit between its legitimate interests in safety and aesthetics and the means chosen to serve those interests. *Id.* In the Court's view, the aesthetics and safety justification was not substantial enough to justify discrimination between permitted and unpermitted newsracks, both of which the high court deemed "equally unattractive." *Id.* at 425. In this opinion, the Court rejected two previously imposed jurisprudential requirements (1) that the regulation had to be the "least restrictive means" of achieving said goal and (2) that a rational basis was a sufficient justification for such regulations. *Id.* at 417. The Court also discounted arguments that the regulation should be allowed to stand as a content neutral time, place and manner restriction. *Id.* Here, the Court held that the ban was clearly content-based, seeking to eliminate only those newsracks that held commercial publications. *Id.*

Relying on the same line of precedents, the high court struck down a Rhode Island regulation which disallowed alcohol distributors from advertising the sale process of liquor in *44 Liquormart, Inc. v. Rhode Island*, 517 U.S. 484 (1996). The alleged substantial state interest in the case was the promotion of temperance. Despite the fact that the State produced some evidence of the relationship between the advertisement of alcohol products and the problem it sought to solve, the Court held that the State failed to show that it had employed all other means of furthering temperance. The Court stated that a regulation of speech could not be allowed to stand if it regulated more speech than necessary to achieve its intended purpose. A complete ban of alcohol-related advertising was determined to be overly restrictive because the State could not produce direct evidence that a ban on this type of speech would produce a measurable improvement in the goal of promoting temperance. This case is also important because the opinion rejected past decisions where the Court had deferred to the government even when it had failed to prove compliance with *Central Hudson*. This is another key issue to be considered by regulators who seek to place restrictions on on-premise signage. Sign ordinances that do not provide evidence of compliance with *Central Hudson* are likely to be invalidated.

Most recently, the tobacco industry sued the State of Massachusetts for regulations which limited the industry's ability to advertise its products within 1,000 feet of schools and playgrounds and required all indoor advertising of such advertisements at least five feet off the floor. *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 525 (2001). While the Supreme Court agreed with the State's Attorney General that the interest advanced by the regulation was legitimate at least in the case of the restrictions barring advertising near schools and playgrounds, it ruled that the regulations failed to satisfy the fourth prong of the *Central Hudson* test. *Id.* Specifically, the Court held that the burden imposed on the speech was disproportionate to any benefit that might be received from implementing the regulation. *Id.* This decision is particularly important as it denotes a possible future shift in the level of scrutiny applied to on-premise sign ordinances, as was projected by the Court in *44 Liquormart*, shifting the applicable standard of review from intermediate to strict scrutiny in cases where signage regulations are content-specific. Per *Central Hudson*, strict scrutiny attaches to all content-based sign ordinances that do not limit

themselves to the regulation of commercial signs as well as those ordinances which are viewpoint-based, a distinction further outlined below.

Unfamiliar with the *Central Hudson* test, the planning community often seeks to regulate signage with the same approach allowable for the regulation of other constitutionally protected land uses, like adult entertainment. Knowledgeable about *Renton v. Playtime Theatres*, 475 U.S. 41(1986) approach, cities seek to regulate signage using the “time, place, and manner” test. This test is relevant to the regulation of signage. The TPM test is appropriately applied to ordinances which seek to regulate all types of signage in content and viewpoint-neutral fashion. In *United States v. O’Brien*, 391 U.S. 367 (1968), the Supreme Court held that content-neutral regulations on commercial communication are subject to intermediate level scrutiny which requires such a regulation to be narrowly tailored to further an “important governmental interest unrelated to the suppression of free speech and does not burden substantially more speech than necessary to further those interests.” *Turner Broadcasting Corp. v. FCC*, 520 U.S. 180 (1997). The Supreme Court relied on this test in its analysis of a sound amplification ordinance imposed by Rock Against Racism for a performance at an outdoor venue when it found that said ordinance sought to protect the community from a harm, i.e. noise pollution, “in a direct way.” *Ward v. Rock Against Racism*, 491 U.S. 781, 798 (1989). In *Turner*, the Court held that deference would be granted to a content-neutral government regulation if it is supported by evidence-based factual findings. This, coupled with the fact that most commercial signage regulations are also reviewed for compliance with the *Central Hudson* test, places a new burden on localities to ground their sign codes in more than mere conjecture about traffic safety or aesthetics. In the future, the production of quantifiable evidence regarding these issues may be the only way that sign codes will survive such legal challenges.

B. UDA’s Model Sign Code

In 2006, the International Sign Association (ISA) commissioned Urban Design Associates to draft a model sign code (MSC) for on-premise commercial signs. ISA charged the team to draft an evidence-based sign code, one that based regulations on the best available empirical evidence related to readability and visibility of on-premise signs. Under these auspices, UDA’s MSC seeks to regulate physical sign characteristics, including: content size, amount of information, luminance levels, contrast, and orientation to roadways.¹⁰⁷ The MSC also attempts to regulate environmental factors, included the intended user and road characteristics. These regulations are based, to the extent possible, based on the best empirical evidence available. The regulatory scheme proposed in the MSC had been extrapolated based on extensive review of existing literature, much of which pertains to highway signs. Gaps have been filled, when necessary, in reliance on basic engineering principles.

According to Hawkins, “Of all the factors affecting legibility, size has the greatest impact.”¹⁰⁸ While some sign codes allow for enhanced illumination in the instance of smaller size, the MSC embraces the research that promotes increased size over legibility. With respect to luminance, the MSC recognizes the wisdom of the luminance guidelines included in the Signage Sourcebook. Hawkins recognizes the absence of research related to the degree to which

¹⁰⁷ MSC. P. 23

¹⁰⁸ MSC p. 19

increased luminance improves the visibility of on premise signs.¹⁰⁹ In the absence of such research, Hawkins suggests the importance of context when dealing with luminance issues. Contrast is another critical factor in ensuring the clarity of communications emanating from on-premise commercial signs. Here, the MSC addresses contrast between the sign and the viewing environment as well as the contrast between sign copy and the background of said sign.¹¹⁰ In the MSC, Hawkins suggests the acceptance of a contrast ratio range from 4:1 to 15:1 based on a wide survey of the best available evidence. Hawkins also highlights the importance of sign location and sign angle in his review of empirical sign research. With respect to location, Hawkins relies on cone of vision research. This research suggests that readability occurs within a 10 to 20 degree cone of vision.¹¹¹ What can be seen within the cone of vision is directly related to the placement angle of the sign. Hawkins suggests that the need to increase letter height for the sake of legibility is a function of sign angle so long as “the sign is oriented at an angle of 20 degrees or greater to the direction of the traffic flow”¹¹²

The MSC offers a mathematical method for sign regulation that focuses both on letter height and sign size. This approach was developed based on the guidance offered in a study conducted by Pennsylvania State University entitled, “On Premise Signs: United States Sign Council Best Practices standards. A Research Based Approach to Sign Size, Legibility, Sign Height.”¹¹³ According to Hawkins,

The minimum letter height required for sign legibility is a function of the distance at which the sign must be read. In turn, this distance is a function of the amount of content in the sign, the speed of the vehicle as the driver reads the sign, and the legibility index of the sign copy....Other factors that are needed to calculate letter height are the speed limit of the roadway, the Viewer Reaction Time, and the Legibility Index of the Sign.¹¹⁴

The following equation allows for the calculation of minimum letter height:

$$LH = \frac{\sqrt{(LN \times 12 + LO)^2 + (1.47 \times SL \times DT)^2}}{LI}$$

Where:

LH = Letter height for signs oriented perpendicular to traffic flow, inches.

LN = Total number of lanes on the roadway, including the median or two-way left turn lane if present.

LO = Lateral offset of sign from the edge of the right-of-way, feet.

SL = Roadway speed limit, mph.

¹⁰⁹MSC p. 20.

¹¹⁰ MSC p. 21

¹¹¹ MSC p. 22.

¹¹² MSC p. 22.

¹¹³ MSC p. 22.

¹¹⁴ MSC p. 24.

DT = decision time, seconds. The recommended decision time is 5.5 seconds.
 LI = Legibility index, ft/in. The recommended legibility index is 30 ft/in

Similarly, Hawkins has developed a formulaic approach for the calculation of sign size. Upon establishing letter height, determinations must be made regarding single letter area (square the letter height in inches /144) , copy area(single letter area in square feet x total number of letters + area of symbols in square feet) and total sign area (copy area by 2.5). Hawkins provides an example for minimum sign size and letter height in the table below:

Road Speed (MPH)	Environment	Letter Height (in)	Sign Area (ft2)
30	Simple	11	53
30	Complex	15	98
Complex	Complex	22	210
45	Multilane	25	271
60	Complex	32	444
60	Multilane	36	563

In this case, the results shown would be the same for 2, 4, or 6 lanes of traffic and for signs offset 15 to 30 feet from the road.¹¹⁵

In calculating sign height, Hawkins et al recommend the consideration of vertical angle, letter height, and index legibility.¹¹⁶ Based on these considerations, the authors of the MSC contend that the maximum sign height should ensure that the entire sign is within the visual field of passing drivers at the given speed limit.¹¹⁷ In the final page of the Technical Report which accompanies the MSC, the authors provide a working example of how to use the formulas and tables in practice.¹¹⁸

The MSC is clearly a mathematical tool to bring fairness to a regulatory practice that is most often laden with politics and based on undocumented visual preferences. Undoubtedly, the implementation of the code requires mathematical competence not common to sign regulation. However, it is in this process that those who seek to erect signs, as well as those who regulate their placement, can come together to best understand what is needed for clear and legible public communication.

V. Conclusion

Performance standards and performance zoning ordinances have been in use since at least the 1950s. Although first developed to protect adjacent landowners from nuisances in industrial zones, performance standards have reached far beyond their original context. Performance zoning ordinances now commonly protect natural resources. Because it is such a flexible tool, proposals for potential uses of performance standards range from reducing obesity to overcoming

¹¹⁵ MSC p. 26

¹¹⁶ MSC p. 27.

¹¹⁷ MSC p. 27.

¹¹⁸ MSC p. 27.

racial segregation. Most of the criticisms of performance zoning also stem from its flexibility and uncertainty in the way performance standards are established, administered, or enforced. Requiring a firm scientific basis for establishing performance standards and measuring compliance could serve as an antidote for uncertainty. This supports using empirical data in sign ordinances, as well as other forms of regulation. The use of a performance based regulatory scheme, like the model sign code, is intended to insert fairness into the regulatory process and to ensure that all businesses have an equal chance to participate in the marketplace.