



TOURO COLLEGE
JACOB D. FUCHSBERG LAW CENTER
Where Knowledge and Values Meet

Digital Commons @ Touro Law
Center

Scholarly Works

Faculty Scholarship

2014

How Often Do Cities Mandate Smart Growth or Green Building?

Michael Lewyn

Touro Law Center, mlewyn@tourolaw.edu

Follow this and additional works at: <https://digitalcommons.tourolaw.edu/scholarlyworks>



Part of the [Land Use Law Commons](#)

Recommended Citation

43 Real Est. L.J. 211 (Winter 2014)

This Article is brought to you for free and open access by the Faculty Scholarship at Digital Commons @ Touro Law Center. It has been accepted for inclusion in Scholarly Works by an authorized administrator of Digital Commons @ Touro Law Center. For more information, please contact lross@tourolaw.edu.

Zoning and Land Use Planning

*Michael Lewyn**

How Often do Cities Mandate Smart Growth or Green Building?

Much has been written about the role of government regulation in facilitating automobile-oriented sprawl. Zoning codes reduce walkability by artificially segregating housing from commerce, forcing businesses and multifamily landlords to surround their buildings with parking, and artificially reducing density.¹ The “smart growth” movement seeks to reverse these policies, both through regulation and through more libertarian, deregulatory policies. The purpose of this paper is to examine to what extent cities have in fact chosen the former path, and to discuss the possible side effects of prescriptive smart growth and green building regulations. In particular, this paper focuses on attempts to make cities more pedestrian-friendly (as opposed to smart growth policies designed to restrict the location of suburban development).²

This article focuses on the zoning regulations of twenty-four mid-sized cities (that is, cities with between 500,000 and 1 million residents); I chose this sample because it is large enough to reflect the policies of a reasonably diverse number of cities, yet small enough to be manageable. In addition, I focus on three types of regulation: parking, density, and “green building.”

*Michael Lewyn is an Associate Professor, Touro Law Center. B.A., Wesleyan University; J.D., University of Pennsylvania; L.L.M., University of Toronto. I would like to thank Kip Jackson, my research assistant, and Emily Washington for their assistance with this paper.

¹See generally Michael Lewyn, *A Libertarian Smart Growth Agenda* 16-33 (2012).

²Such “urban containment” is beyond the scope of this paper, in part because it has been addressed extensively by a wide variety of commentators. See, e.g., Michael Lewyn, *Sprawl, Growth Boundaries and the Rehnquist Court*, 2002 Utah L. Rev. 1 (2002) (discussing Oregon’s “urban growth boundary” system, and citing numerous other papers on point).

I. Parking

A. The Status Quo

Since the 1940s, local governments have generally required owners of commercial and multifamily structures to build off-street parking for customers and visitors.³ Numerous commentators have criticized these regulations, pointing out that minimum parking requirements have a wide variety of negative side effects:

- These regulations force landowners to subsidize driving by forcing them to spend thousands of dollars on parking spaces.⁴ These costs are not passed on to drivers because minimum parking requirements artificially increase the supply of parking (thus reducing the market price of parking, usually to zero).⁵ Instead, they are passed on to society as a whole, forcing all of society to subsidize parking and thus subsidize driving. And by encouraging driving, parking requirements increase the traffic congestion and pollution that comes with driving.
- Minimum parking requirements for housing increase the cost of housing- according to one study, by \$85,000 per unit.⁶
- Minimum parking requirements reduce population density, because land used for parking cannot be used for housing, shops or offices. For example, a city that requires one parking space per one-bedroom apartment reduces the number of apartments per acre.⁷ Low-density areas tend to be highly automobile-dependent; if only a few houses can be built on a block near public transit, that means only a few people can walk to such transit. Similarly, if only a few houses can be built on a block near a commercial street, only a few people can walk to the commercial street.
- Minimum parking requirements reduce economic activ-

³See Donald C. Shoup, *The High Cost Of Free Parking* 22, 25 (2005).

⁴*Id.* at 185–92 (discussing subsidization of parking caused by minimum parking requirements); Michael Lewyn, *What Would Coase Do? (About Parking Regulation)*, 22 *FORDHAM L. REV.* 89, 97 n. 44 (2012) (costs range from \$2000 per parking space to \$20,000 per space; costs generally higher in urban locations).

⁵*Id.* at 97 (“ninety-nine percent of American driving trips end at a destination with free parking”).

⁶*Id.* at 98.

⁷*Id.* at 101; Shoup, *supra* note 3, at 143–44 (discussing impact on density).

ity, at least in highly urbanized places. In suburbs where land is cheap, a landowner can build what it wants and comply with the law by purchasing additional land for parking. But in an already-developed area, a landowner may be hemmed in by other landowners, and thus may not be able to build apartments or stores (at least not to the extent it desires) and still comply with parking requirements.⁸

- Minimum parking requirements make walking uncomfortable by encouraging landowners to place additional parking in front of buildings. Zoning laws often require buildings to be set back far behind a sidewalk- and where landowners are forced to place something between sidewalks and buildings, that something is usually parking, since by doing so they can comply with parking and setback regulations at the same time.⁹ Where parking is placed in front of buildings, pedestrians must waste time walking through parking lots, an unpleasant experience at best. Thus, minimum parking requirements not only increase driving, but decrease walking.

B. Parking Maximums as an Alternative

Almost every American municipality has minimum parking requirements for many neighborhoods.¹⁰ Parking maximums, however, are less frequent. Fifteen out of the twenty-four cities surveyed have some sort of parking maximums. These fifteen cities follow one or more of three strategies: (1) maximum parking requirements for nearly all uses, (2) maximums for specified uses, (3) maximums for specified parts of the city.

1. Universal Rules

Three cities impose maximum parking requirements for all or nearly all land uses: Fort Worth, Tx., San Francisco, Ca. and Louisville, Ky. Fort Worth imposes a wide variety of

⁸See Lewyn, *supra* note 4, at 105–06.

⁹In addition, customers may find it more convenient to park in front of stores- so if a landowner has to spend money on parking, it may be better off placing the parking in front regardless of setback rules. *Id.* at 104.

¹⁰For a comparison of various cities' minimum parking requirements, See *Graphing Parking*, at <http://www.graphingparking.com> (charting minimums for various land uses). However, a few cities have abolished minimum parking requirements for downtown neighborhoods or neighborhoods especially well-served by public transit. See Lewyn, *supra* note 4, at 112–13.

minimum parking requirements, and adds simply that the “maximum number of parking spaces shall not exceed 125% of the minimum parking requirement.”¹¹ For example, the city requires one parking space per bedroom for multifamily housing,¹² which means the maximum parking requirement is 1.25 spaces per bedroom. Because the difference between Fort Worth’s minimum and maximum parking requirements is so small, it appears that in that city, almost all parking that is not prohibited is compulsory.

San Francisco also consistently caps parking, but gives landowners more discretion than Fort Worth. As a general rule, San Francisco’s city code caps parking at “three spaces where one space is required by this Code; four spaces where two spaces are required by this Code; 150% of the required number of spaces where three or more spaces are required by this Code; and, in all districts other than [neighborhood commercial], 15 spaces or 7% of the total gross floor area of the structure or development, whichever is greater, or in [such] Districts, three spaces, where no off-street parking spaces are required by this Code.”¹³ In addition, the city imposes a variety of stricter requirements for some individual zoning districts.¹⁴

Louisville lists both minimum and maximum requirements for almost every conceivable land use.¹⁵ Generally, its maximums are about twice its minimums. For example, the city requires a minimum of 1.5 parking spaces per dwelling unit in most districts and a maximum of 3 spaces per dwelling unit. For most offices, the city requires a minimum of between 2 and 2.8 spaces (depending on the zoning district) per 1000 square feet, and a maximum of 5 spaces.¹⁶

2. Maximums for a few uses

Seven cities impose maximum parking requirements for some or all commercial uses but not for residential uses. For

¹¹See Fort Worth, Texas, Code, sec. 6.201(b)(2).

¹²*Id.*, SEC. 6.201(B). In addition, the city requires one parking space per 250 square feet of common areas, offices and recreation. *Id.*

¹³San Francisco, Ca. Code, sec. 204.5© (“San Francisco Code”).

¹⁴See sec. 151.1(b) (in certain specified parts of the city, maximum parking allowed is between 50 and 100 percent of what would otherwise be minimum amount required, depending on district).

¹⁵See Louisville, Ky., Land Development Code, Table 9.1.2A (“Louisville Code”).

¹⁶*Id.*

example, El Paso, Tx. imposes both minimums and maximums for businesses, but only imposes minimum parking requirements for apartments and other housing. Its maximums tend to be only slightly higher than its minimums; for example, an office must supply a minimum of one space per 480 square feet (or 2.1 per 1000) and a maximum of one per 400 square feet (or 2.5 per 1000).¹⁷

Portland, Or.'s rules are similar: the city imposes no maximum parking requirements for most residential uses, but imposes both minimums and maximums for most commercial uses.¹⁸ However, Portland's maximums tend to be a bit more generous than those of El Paso. For office uses, Portland typically requires about the same minimum number of parking spaces as El Paso (2 per 1000 square feet) but sets forth a higher maximum (1 per 294 square feet, or about 3.4 per 1000). In addition, the city imposes a variety of requirements for individual neighborhoods. For example, in areas near light rail stations, a nonresidential land user may not create more than 150% of the minimum number of parking spaces required for most zones.¹⁹

The Seattle, Wa. code similarly sets forth a maximum in its commercial zones, providing that in most commercial zones, businesses may provide no more than 145 spaces per parking lot.²⁰ In addition, businesses in multifamily zones may provide no more than 10 parking spaces per establishment.²¹

Jacksonville, Fl. imposes parking maximums for most businesses, providing that offices and businesses (other than those such as restaurants with specified parking requirements of their own) have a minimum of 3 parking spaces per

¹⁷See El Paso, Tx. Code, sec. 20.14.040, App. C, Table 4.09.

¹⁸See generally Portland, Or. Zoning Code, Tables 266-1 and 266-2 ("Portland Code").

¹⁹*Id.*, sec. 33.450.420(B). See also Tables 510-6, 510-10, 510-16, 536-1 and Secs. 33.532.110(C)(2), 33.536.290(C), 33.555.280(B) (setting forth special rules for certain neighborhoods).

²⁰See Seattle, Wa. Code, sec. 23.54.015 ©(2) (applying rule to "all commercial zones, except C2 zones outside of urban villages") ("Seattle Code").

²¹*Id.*, sec. ©(3). In addition, Seattle creates special requirements for certain zones. *Id.*, secs. 23.48.032 (B) (special rules for mixed use zone); 23.54.015 ©(1) (setting forth special rules for overlay zone near stadium); 23.71.016, Table A (special rules for Northgate Overlay District); 23.75.180 (setting forth special rules for Yesler Terrace community).

1000 square feet of floor area, and a maximum of 6 per 1000 square feet.²²

Columbus, Oh. follows a similar strategy: it imposes minimum parking requirements only for residential, industrial and institutional uses, but both minimum and maximum requirements for offices, retail shops and restaurants. Columbus tends to expect somewhat less parking than Jacksonville: for example, its minimum requirement for offices is one parking space per 450 square feet (or just over 2 per 1000 square feet) and its maximum requirement is one space per 250 square feet (or 4 per 1000).²³

Milwaukee, Wi. imposes maximum parking requirements only for a few uses: retail establishments are subject to a maximum of 3.5 parking spaces per 1000 square feet, and single-family homes and duplexes are limited to four parking spaces per dwelling unit.²⁴

San Jose, Ca. regulates commercial parking much more narrowly. As in Columbus and Jacksonville, its parking minimums are virtually universal; however, it imposes maximums only for printing and warehouses.²⁵

3. Maximums for a few districts

Another common policy is to impose parking maximums, but only in certain parts of a city. For example:

- Austin, Tx. imposes parking maximums for two downtown zoning districts, the Central Business District (CBD) and Downtown Mixed Use (DMU) districts.²⁶ In these districts, the maximum parking allowed is 60% of the minimum parking requirement in a non-downtown neighborhood.²⁷
- Boston, Ma. limits residential parking in one downtown zone to 0.75 spaces per unit.²⁸
- San Jose, Ca. creates a “pedestrian-oriented district” overlay zone. In that zone, multifamily dwellings may

²²Jacksonville Code., secs. 656.604(e)(1) and (f)(1).

²³See Columbus, Ohio Code sec. 3312.49, Table 2 (“Columbus Code”).

²⁴See Milwaukee, Wi. Code, Table 295-403-2-a (“Milwaukee Code”).

²⁵See San Jose, Cal. Code Table 20-190 (following sec. 20.90.060).

²⁶See Austin, Tx. Code, 25-2-100 and 101 (describing districts).

²⁷*Id.*, sec. 25-6-591(B)(3). I note that a landowner may apply to build a higher number of spaces. *Id.*, sec. (C). In addition, the minimum parking requirements is 1/3 of the maximum. *Id.* sec. (B)(2)(a)(i).

²⁸See Boston Zoning Code, sec. 27D-8(6)(b)(2) (“Boston Code”).

create a minimum of 1.25 spaces per dwelling unit and a maximum of 2 spaces.²⁹

- Denver, Co. limits parking, but only within 1/4 mile of light rail stations.³⁰ In these areas, surface parking may not exceed 110 percent of minimum parking requirements.³¹
- Albuquerque, NM has created an “East Gateway Development Plan” for one part of the city.³² In this area, the maximum parking allowed is the minimum parking requirement plus 10 percent.³³

C. Negative Side Effects

Certainly, a rational basis exists for maximum parking requirements, especially where (as in Denver) these requirements are limited to surface parking. Surface parking makes walking less convenient, by forcing pedestrians to walk through parking lots in order to reach destinations. And to the extent drivers are aware that their destinations will have ample parking, they are more likely to drive to those destinations, thus creating traffic congestion and pollution.

Because maximum parking requirements are generally quite new in the United States, there is little evidence about their practical effects.³⁴ But if planners create parking caps that are lower than the market demand for parking, they create a variety of problems. First, if a landowner cannot supply enough parking to meet the demands of its tenants or customers, those tenants and customers may do their business elsewhere—perhaps in suburbs with more permis-

²⁹*Id.*, Table 20-211. Memphis has a similar rule that is essentially voluntary, since it only applies to landowners who choose to have their property zoned for a “sustainable subdivision.” See Memphis and Shelby County Unified Development Code, sec. 3.8.6 (A)(6) (only 20 percent of surface may be used for surface parking) (“Memphis Code”). However, other Memphis developments are governed by conventional minimum parking requirements. *Id.*, sec. 4.6.3.

³⁰See Denver Zoning Code, sec. 10.4.3.2(B)(1)(a) (“Denver Code”).

³¹*Id.*, sec. 10.4.3.2(B)(2). However, underground or aboveground spaces are not affected by the parking maximum; thus, a landowner may choose to build an infinite number of such spaces. *Id.*, sec. 10.4.3.2(B)(2)(b).

³²See City of Albuquerque, East Gateway Sector Development Plan, at <http://www.cabq.gov/planning/documents/EastGatewayFINwFAs08092012.pdf> (“Plan”).

³³*Id.*, sec. 5.6.2(A)(2).

³⁴See Donald Elliott, *A Better Way To Zone 180* (2008) (book written in 2008 states that “relatively few” cities use parking caps, and those that do so “generally limit them to downtown or special focus areas”).

sive parking regulations.³⁵ To quote one commentator: “If a maximum actually reduces the number of spaces that are built, it must also reduce the value of the properties that could be built there. If not, [in the absence of minimum parking requirements] entrepreneurial builders themselves would build at those rates, once they understood the demand was there.”³⁶ So if a maximum parking requirement actually did reduce parking below what customers demanded, they might, in a weak housing market, increase sprawl by making urban housing less desirable.

Moreover, there is some empirical evidence that people and businesses do value parking in locational decisions. One British study showed that 15% of businesses consider staff parking to be a “key influence” in locational choice (more than all but one of eleven factors listed), and 11 percent described customer or visitor parking as a “key influence” (more than four of the factors).³⁷ Another survey showed that when residents of southeast London were given a hypothetical choice between a garage and more living space, 83% chose the garage.³⁸

Second, planners must decide whether to apply parking caps to new construction or to existing construction as well. If they force landowners to limit parking, they may force landowners to build nonparking structures, which could presumably be costly and perhaps even be a taking requiring government compensation. On the other hand, if only new construction is governed by a parking cap, new developments could be placed at a competitive disadvantage vis-à-vis existing businesses.³⁹

In sum, it is theoretically possible that maximum parking requirements, if they are strict enough to reduce parking below what consumers demand, may make places governed by those requirements less appealing. However, I have no

³⁵See Georgina Stylianou, *Parking Squeeze In Cbd Annoys*, Press, Oct. 3, 2013 at 1 (discussing developer’s complaints about maximum parking requirements in Christchurch, New Zealand).

³⁶Ben Woolsey, *Why We Don’t Need A Parking Maximum*, at <http://seattletransitblog.com/2009/01/08/why-we-dont-need-a-parking-maximum>.

³⁷See Greg Marsden, *The Evidence for Parking Policies- A Review 9*, at http://eprints.whiterose.ac.uk/2023/2/ITS15_The_evidence_base_for_parking_policies_UPLOADABLE.pdf.

³⁸*Id.* at 16.

³⁹See Rogue Valley Council of Governments, *Parking Element 9-2*, at http://www.rvcog.org/pdf/Planning_RTP_Section_9.pdf.

found no data indicating whether American cities' maximum parking requirements are strict enough to have this effect.

II. Density

A. The Big Picture

As early as the 1920s, the Standard Zoning Enabling Act (a federally sponsored model zoning enabling act) stated that one purpose of zoning should be to “avoid an undue concentration of population.”⁴⁰ And since then, anti-density regulation has become virtually universal in the United States.⁴¹ As early as 1971, eighty percent of the vacant land within 50 miles of Times Square in New York City was restricted to lots of half an acre or more.⁴² Since then, zoning has become more restrictive over time.⁴³ Even in high-density cities such as New York, zoning aggressively limits density.⁴⁴

It seems clear that such anti-density regulation does in fact limit development, especially compact, walkable development. A study conducted for the Urban Land Institute asked developers about the impact of zoning on “alternatives to conventional, low-density, automobile-oriented, suburban

⁴⁰U.S. Department Of Commerce, A Standard State Zoning Enabling Act, sec. 3, at <http://www.planning.org/growingsmart/pdf/SZEnablingAct1926.pdf>. This law was a model state statute designed to make it clear that local governments had the authority to regulate density and land use. *Id.*, sec. 1.

⁴¹*See* 3 Edward H. Ziegler, Arden H. Rathkopf, and Daren A. Rathkopf, Rathkopf's The Law of Zoning and Planning, sec. 51.10 (2011 ed.) (“minimum lot size” requirements common); Norman Williams Jr. And John M. Taylor, American Land Planning Law, sec. 39.1 (describing minimum lot size requirements as “most common form of density control”).

⁴²*See* Note, Exclusionary Zoning and Equal Protection, 84 Harv. L. Rev. 1645, 1645 (1971).

⁴³WILLIAMS AND TAYLOR, *supra* note 41, sec. 35.23 (“Municipal zoning ordinances have increasingly been adopting requirements for wide-spread or almost-universal very low density”); William Fischel, The Evolution of Homeownership, 77 U. CHI. L. REV. 1503, 1515 (2010) (To in order to keep out lower classes while avoiding 1970s civil rights litigation, suburbs avoided discrimination claims by downzoning all land, rather than merely excluding only housing catering to the truly poor).

⁴⁴*See* City of New York, Zoning Data Tables, Residence Districts, at http://www.nyc.gov/html/dcp/pdf/zone/zoning_handbook/zoning_data_tables.pdf#page=1 (listing density limits for various zoning districts).

development.”⁴⁵ 78.2% of developers identified government regulation as a significant barrier to such development.⁴⁶

Such regulation is one reason why the average American neighborhood has only two to seven dwelling units per acre.⁴⁷ Such low-density areas tend to be highly automobile-dependent; if only a few houses can be built on a block near public transit, that means only a few people can walk to such transit.⁴⁸

B. Minimum Density Requirements: Rare But Not Unknown

Critics of smart growth often accuse smart growth advocates of trying to force Americans into higher-density housing.⁴⁹ Most cities, however, have nothing resembling a mandatory, citywide minimum density requirement. In fact, only two cities have widespread minimum density regulations.

San Jose has minimum density requirements even for its low-density zones- but those requirements are quite lenient. In the city’s R-1 (single-family residential) zone, the city allows densities between one and eight units per acre.⁵⁰ Thus, the city does impose a minimum density of one house per acre upon developers- hardly an “urban” level of density. Most commentators suggest that a neighborhood must have

⁴⁵See Jonathan Levine, *Zoned Out: Regulation, Markets, and Choices in Transportation and Metropolitan Land-Use* 126 (2006).

⁴⁶*Id.* at 129.

⁴⁷See Joanna D. Malaczynski and Timothy P. Duane, *Reducing Greenhouse Gas Emissions from Vehicle Miles Traveled: Integrating the California Environmental Quality Act with the California Global Warming Solutions Act*, 36 *ECOLOGY L.Q.* 71, 80 n. 44 (2009) (estimating current average density at 7.6 units per acre); Mark Fina and Leonard Shabman, *Some Unconventional Thoughts on Sprawl*, 23 *WILLIAM AND MARY ENVTL. LAW AND POLICY REV.* 739, 741 (1999) (“two units per acre typical of present development”).

⁴⁸See Malaczynski and Duane, *supra* note 47, at 80 n. 44 (claiming that raising average density to nine units per acre could reduce vehicle miles traveled by 30% nationwide).

⁴⁹See Kurt Paulsen, *Sprawl, Residential Density, and Exclusionary Zoning*, 20 *PROBATE AND PROPERTY* 23, 27 (2006) (to some, smart growth proposals are an “attempt by government bureaucrats to force people to live in higher-density [housing]”); Jim Wooten, *Our Opinion: Suburbs Evil? Evidence Thin*, *Atlanta Journal-Constitution*, June 6, 2004 at E6 (accusing smart growth advocates of “using transportation funding to force high-density development [and] drive people into urban clusters”).

⁵⁰San Jose Code, sec. 20.30.010©(1).

at least seven to fifteen dwelling units per acre to support significant public transit ridership, because only such compact neighborhoods have a critical mass of people living within walking distance of a bus stop.⁵¹ In areas with lower density, very few people will live within a short walk of a bus or train stop, and transit ridership will therefore be low.⁵²

Portland has established minimum density requirements for numerous residential zones. For example, in its North Lombard Street zone, the city requires at least one dwelling unit per 2250 square feet for residential development,⁵³ or about 20 units per acre. Similarly, the city requires at least one lot per 2000 square feet in its Albina district for residential development abutting Martin Luther King Boulevard.⁵⁴

To be sure, many cities have high-density districts as well as low-density districts.⁵⁵ However, the existence of these districts hardly constitutes a “smart growth”-oriented minimum density requirement, because a division of cities into higher- and lower-density zones is part of traditional zoning. In addition, a few cities allow developers to request that their properties be rezoned as a special pedestrian or transit-

⁵¹See Robert H. Freilich, *The Land Use Implications of Transit-Oriented Development: Controlling the Demand Side of Transportation Congestion and Urban Sprawl*, 30 Urb. Law. 547, 552 & n. 18 (2009); Anthony Downs, *Still Stuck In Traffic: Coping With Peak-Hour Traffic Congestion* 210 (2004) (seven units per acre supports bus service once every half-hour).

⁵²See Pamela Blais, *Perverse Cities* 60–61 (2010) (citing numerous studies).

⁵³See Portland Code, sec. 33.460.120(B). I note, however, that this requirement only applies to lots under 10,000 square feet. *Id.* See also *id.*, sec. 33.583.240(B) (similar rule applies to St. Johns district).

⁵⁴See Portland Code, sec. 33.505.200. See also *id.*, secs. 33.561.240 (requiring similar densities in North Interstate zone); see also sec. 33.610(D) (subdivision regulation providing that minimum density is 2/3 of maximum density in lowest-density zone).

⁵⁵See Indianapolis, In. Code 731-213 (city creates suburban high-rise zone, and specifies range of densities that are “typical” depending on apartment height; for example, 12–22 units per acre “typical” for one to three story structures); Albuquerque, NM Code, sec. 14–16–3–2 (7)(b) (creating minimum density of 12 units per acre for mixed-use development).

oriented zone; these zones typically include minimum densities.⁵⁶

Thus, it appears that urban regulation of density generally continues to follow the traditional pattern of American zoning: to mandate less density rather than more. As noted above, anti-density regulation is virtually universal in the United States.⁵⁷ In fact, even Portland and San Jose have maximum density requirements for every residential zone, including multifamily zones.⁵⁸

C. Negative Side Effects Of Minimum Density Requirements

Because minimum density requirements are relatively new and rare, there is little empirical evidence as to their effects. Ideally, minimum density requirements would encourage development that is compact enough to support public transit and to support placing stores and employers within walking distance of housing.

But in theory, minimum density requirements could deter development: if the city requires 10 units per acre in zone X and a developer cannot find enough prospective homeowners to fill those units, the developer will be unwilling to build in zone X. It follows that an overly restrictive minimum density requirement in a walkable area could actually encourage sprawl by discouraging development in that area, causing developers to build in sprawling suburbs instead. However,

⁵⁶See Boston Code, Art. 87-3 and 87-7 (landowner may ask city to create “Smart Growth Overlay District”; as part of rezoning, city will establish minimum and maximum densities); Jacksonville Code sec. 656.1402-1404 (creating “transit-oriented development” zone for areas near bus stops, if developers request such zoning and comply with criteria); Columbus Code secs. 3320.13 and 3320.19 (landowner can ask to have land rezoned to “traditional neighborhood” district with minimum densities; not directly suggesting maximum lot sizes, but proposing appropriate lot width and depth); Memphis Code, sec. 3.8.6(A)(5) (requiring minimum density of seven units per acre for optional “sustainable subdivision”). In addition, Seattle recently enacted temporary minimum density requirements for certain pedestrian-oriented neighborhoods. See Seattle Department of Planning and Development, *Minimum Density*, at <http://www.seattle.gov/dpd/codesrules/changestocode/minimumdensity/whatwhy/default.htm> (legislation in effect while city planning department drafting permanent rules).

⁵⁷See *supra* notes 40-46 and accompanying text.

⁵⁸See PORTLAND CODE, CH. 33-610, TABLES 610.1 AND 610.2; SEC. 33.611.200(B), CH. 33-612, TABLE 612-1; SAN JOSE CODE, TABLE 20-60 (imposing minimum lot sizes for a wide range of districts, including multifamily districts).

it is not known whether existing requirements in fact discourage development, or whether they are roughly similar to what a free market would produce in the absence of such regulations.

Even developers that can profitably comply with minimum density requirements might do so in ways that impede walkability. For example, a developer might, in the absence of a density target, build a few houses on a set of gridded streets, and then seek to comply with the minimum density requirement by adding additional houses on cul-de-sacs.⁵⁹ Cul-de-sacs actually reduce walkability, because in subdivisions dominated by cul-de-sac streets, residents cannot visit their neighbors without going out of their way to a neighborhood “main” street.⁶⁰

In addition, any minimum density requirement should not be applied too strictly to existing uses. For example, suppose A buys a 5,000 square foot single-family house in a neighborhood now zoned for a minimum of twenty units per acre (and thus for a maximum lot size of roughly 2000 square feet). If A’s house burns down, he would have to sell half his land and possibly build a much smaller house in order to comply with the zoning ordinance—arguably an intrusive, if not downright absurd, result.

Most zoning codes allow “nonconforming uses” (that is, uses valid when a zoning code is enacted, but which are outlawed by a code amendment) to continue.⁶¹ However, some codes provide that if a building occupied by a nonconforming use is significantly damaged, the building may not be restored for the nonconforming use.⁶² If A lives in a city governed by such a code, A could not continue the nonconforming use, and instead would have to sell half his property and build the smaller house. Assuming that this is an undesirable result, municipalities enacting minimum density requirements should be lenient towards nonconforming low-density buildings, and should allow them to continue even if they are damaged or destroyed.

⁵⁹See Kenneth J. Dueker, *Mandated Density: the Blunt Instrument of Smart Growth*, at <http://americandreamcoalition.org/landuse/mandate.pdf>.

⁶⁰See Brian W. Ohm and Robert J. Sitkowski, *The Influence of New Urbanism on Local Ordinances: The Twilight of Zoning?*, 35 *URB. LAW.* 783, 792 (2003), (cul-de-sacs “force the major circulation pattern of a community onto a few major roads”).

⁶¹See John R. Nolon And Patricia E. Salkin, *Land Use And Sustainable Development Law: Cases And Materials* 203 (8th ed. 2012).

⁶²See *Moffatt v. Forrest City*, 234 Ark. 12, 350 S.W.2d 327 (1961).

III. Green Building

By contrast, American cities have been more willing to experiment with “green building” regulations designed to require energy efficiency. Only three of the 24 cities surveyed require private developers to comply with green building standards. However, many other cities give incentives to the private sector for green building, or require that city-owned buildings follow green building principles.⁶³

A. The most restrictive cities

San Francisco has one of the most aggressive green building programs. Rather than merely incorporating a third-party’s rating system, San Francisco’s building code addresses a wide variety of environmental details.⁶⁴ For example:

- * the city’s code provides that even small residential buildings must achieve a 75-point score from the Build It Green “Greenpoints” checklist.⁶⁵
- * High-rise buildings must have either a similar score or must achieve a “Silver” rating under the Leadership in Energy and Environment Design (LEED) guidelines enacted by the U.S. Green Building Council.⁶⁶ In addition, such buildings must also meet specified guidelines for reducing indoor water use, management of construction debris, and stormwater management.⁶⁷
- * Major alterations of residential buildings must meet the same Greenpoints/LEED goals as high-rises, and must also use low-emitting paints, adhesives, and carpets.⁶⁸

Nonresidential buildings are subject to similar restrictions.⁶⁹ For example, new large commercial buildings

⁶³I note that such regulations are not limited to local government. See Kaleb Keller, *Leading In The Wrong Direction: Addressing Concerns With Today’s Green Building Policy*, 85 U.S.C. L. Rev. 1377, 1385, 1387–89 (2012) (describing use of similar standards at state and federal levels). Darren A. Prum and Tetsuo Kobayashi, *Green Building Geography Across the United States: Does Governmental Incentives or Economic Growth Stimulate Construction?*, 43 Real Estate L.J. 5, 16-20 (2014).

⁶⁴See generally San Francisco, Ca. Building Code, Ch. 13C.

⁶⁵*Id.*, sec. 13C.4.103.1.

⁶⁶*Id.*, sec. 13C.4.103.2.1.

⁶⁷*Id.*, sec. 13C4.103.2.2–2.4.

⁶⁸*Id.*, sec. 13C4.103.3.

⁶⁹*Id.*, Ch. 13.C.5.

must achieve LEED Gold certification,⁷⁰ and must also meet guidelines reducing indoor water use, construction debris, and energy use, as well as guidelines related to renewable energy, indoor air quality, and use of low-emission construction materials.⁷¹

San Jose also incorporates LEED guidelines.⁷² Large commercial projects must receive LEED certification,⁷³ as must high-rise residential projects.⁷⁴ Large residential projects other than high-rises must receive either LEED certification or GreenPoint certification from the “Build It Green” organization.⁷⁵

Similarly, Boston incorporates LEED guidelines, but only for large projects.⁷⁶ Such projects must be eligible for LEED certification.⁷⁷ Boston’s rules are more lenient than San Jose’s, insofar as they define “large” projects more narrowly: in San Jose, any commercial project of over 25,000 square feet is governed by green building rules,⁷⁸ while Boston’s threshold is 50,000–100,000 square feet (depending on the type of development).⁷⁹

Austin’s code provides that major commercial buildings⁸⁰ must accumulate a certain number of design-related points,

⁷⁰*Id.*, sec. 13C.5.103.1.1

⁷¹*Id.*, secs. 13.C.5.103-1.2-1.9. *See also* Secs. 13.C.5.103-2 (rules governing new mid-sized commercial buildings), and 13.C.5.103-3 (rules governing alterations of existing commercial buildings).

⁷²*See* San Jose Code, sec. 17.84.114.

⁷³*Id.*, sec. 17.84.220 (B) (“tier two” commercial/industrial projects must have “LEED Silver” certification); 17.84.121 (defining “tier two” project as “large” project); 17.84.112 (defining “large” commercial project).

⁷⁴*Id.*, sec. 17.84.220©.

⁷⁵*Id.*, sec. 17.84.220 (B) (“tier two” residential project must receive “the minimum green building certification of LEED Certified or GreenPoint Rated”); 17.84.107 (describing GreenPoint); 17.84.121 (“tier two” project is “large” project); 17.84.113 (“large” residential project is one with over 10 units that is not a high-rise building).

⁷⁶*See* Boston Zoning Code, arts. 37B (green building provisions apply only to “large” projects as defined in Art. 80B) and 80B2 (to be governed by “large project” rules, projects must generally be 50–100,000 square feet unless in Harborpark area).

⁷⁷*Id.*, Sec. 37-4.

⁷⁸*See* San Jose Code, sec. 17.84.112

⁷⁹Boston Code, art. 80B2 (1, 2).

⁸⁰That is, commercial, non-office uses that (a) are either national chains, or (b) are over 10,000 square feet, or (c) are being converted from

and adds that these points may be obtained either through getting a one- or two-star “green building” rating from the city, or through other design features unrelated to green building.⁸¹

B. Incentives, Not Requirements

Half a dozen cities that do not require green building, but give builders incentives for such construction. For example:

- Jacksonville’s code provides that regulatory applications by landowners with green certification shall be given priority over other applications.⁸²
- Seattle provides “density bonuses” (that is, allows more density than would otherwise be permissible under the zoning code) to developers in residential and mixed-use zones (and even some industrial areas as well) who earn a LEED Silver rating.⁸³
- Memphis, Tn. and Louisville apply green building principles to optional “sustainability” zones. In Memphis’s “sustainable subdivision” zone, 10 percent of the square footage must be LEED-certified.⁸⁴ Similarly, Louisville gives developers a “sustainable permit” designation if half their square footage meets the standards of LEED or other green building organizations.⁸⁵

Indianapolis, In. and Las Vegas, Nv. are even more lenient, reducing or rebating permitting fees for certified

industrial or warehouse use to commercial use. AUSTIN CODE, CH. 25, art. 3.3.1.

⁸¹*Id.*, ART. 3.3.2.

⁸²*See* Jacksonville Code sec. 327.106(a). These applications include applications for regulatory review of site plans, plat approval, and variances.

⁸³*See* Seattle Code, secs. 23.45.526 (A) (residential zones), 23.48.011(E) (mixed use zone); 23.49.011(A)(2)(m) (downtown mixed-use zone); 23.50.033(B) (one industrial zone). The above discussion is focused on zoning-related incentives; I note, however, that direct subsidies may be common as well. *See, e.g.*, Milwaukee Energy Efficiency, at <http://www.smartenergypays.com/>.

⁸⁴Memphis Code, sec. 3.8.6(9).

⁸⁵Louisville Land Development Code, Ch 1 Part 2 (“sustainable permit project” is one in which 50 percent of square footage in structured certified either by LEED, Green Globes or Energy Star), Chapters 5.3.2 and 9.1.3(F)(8) (developers may built at greater heights and provide fewer parking spaces for such projects).

green building projects.⁸⁶ Similarly, Columbus reimburses the costs of LEED certification.⁸⁷

C. City Buildings

Eight cities require green building, but only for city-owned buildings rather than for the private sector. For example, Jacksonville requires that new city buildings or major renovations of existing city buildings obtain some kind of green certification⁸⁸-either from LEED or from another certifying agency.⁸⁹ Modifications to city buildings are governed by similar rules if those modifications affect more than 50 percent of a building's square footage. Denver, Albuquerque and Nashville have similar rules.⁹⁰ Seattle and Portland go slightly further, requiring a LEED Gold rating for new city buildings and large-scale renovations, as well as related environmental improvements such as reduced energy and water use.⁹¹

Washington, D.C. also requires LEED certification for ma-

⁸⁶See Indianapolis, In. Code, sec. 536-621; City of Las Vegas, *City of Las Vegas Launches Updated Green Building Program*, at <http://www.lasvegasnevada.gov/Publications/19434.htm>.

⁸⁷City of Columbus, *Green Columbus Fund*, at http://econdev.columbus.gov/content_two_column.aspx?id=40383.

⁸⁸See Jacksonville Code, secs. 327.102(a) (new buildings) and (b) (renovations affecting more than 50 percent of existing building's square footage).

⁸⁹*Id.*, sec. 327.103 (certification may be from Green Building Institute, Florida Green Building Coalition, or other certification systems approved by city).

⁹⁰See John W. Hickenlooper, *Executive Order No. 123, sec. 2.0* at http://usgbccolorado.org/metro/documents/DenverEO_123.pdf (new city buildings and major renovations shall meet LEED Silver standard, and also receive Energy Star certification; other capital improvement projects shall follow "LEED principles"); Metro Government of Nashville and Davidson County, Tennessee, Code of Ordinances, sec. 16.60.050 (mandating LEED Silver certification for "projects which exceed five thousand gross square feet of occupied space or for which the total project cost exceeds two million dollars."); Albuquerque, New Mexico Code of Ordinances, sec. 3.9.3(A) ("All city building construction projects and major remodels over 5,000 square feet, with a 341,300 BTU per hour connected energy load or with a 50 kilowatt or greater service capacity" shall receive LEED Silver certification).

⁹¹See Brennon Staley and Sandra Mallory, *DPD Sustainable Building Policy sec. 4.1*, at <http://www.seattle.gov/dpd/GreenBuilding/docs/dpdp021677.pdf>; City of Portland, *City of Portland Green Building Policy*, at <http://www.portlandoregon.gov/bps/article/243213>. Portland goes a bit further still, requiring existing city buildings to "pursue" LEED Silver certification.

for city-owned and financed commercial projects,⁹² and another form of green certification for city-owned and financed residential projects.⁹³ But Washington goes a little further, also applying LEED green building standards to privately-owned land sold by the city to a private entity.⁹⁴ Similarly, Baltimore requires LEED Silver certification (or comparable design standards) not only for city projects, but also for city-subsidized buildings.⁹⁵

D. Disadvantages of Green Building Ordinances

Regulations that mandate green building (either for city-owned buildings or for private developers) may reduce long-term energy costs and create positive externalities, insofar as reductions in energy use lead to reductions in pollution.⁹⁶ On the other hand, green certification may impose short-run costs on developers and taxpayers; one law review article estimates that LEED certification (the most widely used form of green certification) adds between 4 and 11 percent to total construction cost.⁹⁷ So if a city requires such certification and its suburbs do not, development in the city could become more expensive, thus encouraging developers and their customers to do business in suburbia.

Additionally, requiring LEED certification creates a technical problem for builders and city officials. A building cannot achieve LEED certification until it is substantially complete.⁹⁸ But if a building must achieve LEED certification to be occupied, that creates a risk that it could be completed, fail to achieve LEED certification, and thus be completely

⁹²See District of Columbia Code, sec. 6-1451.02 (a)(2) (nonresidential projects over 10,000 square feet must meet standards for LEED Silver Certification, as well as numerous other Environmental Protection Agency standards).

⁹³*Id.* (a)(3) (residential projects over 10,000 square feet must meet Enterprise Community Partners “Green Communities standard, or a substantially similar standard”).

⁹⁴*Id.*, 6-1451.03(b)(1). Projects receiving a city subsidy are subject to this standard if less than 15 percent of the project was financed by the city; projects with higher city subsidies are treated as city-owned property.

⁹⁵City of Baltimore, Building, Fire and Related Codes, sec. 3705.

⁹⁶See Sarah B. Schindler, *Following Industry’s Lead: Municipal Adoption of Private Building Industry Standards*, 62 FLA. L. REV. 285, 296–98 (2010) (describing some of the local externalities that green building designed to combat).

⁹⁷See Keller, *supra* note 63, at 1385.

⁹⁸See NOLON & SALKIN, *supra* note 61, at 937.

useless. This risk in turn could make it difficult for developers to achieve financing, because a lender or investor will not wish to invest in a building if a certificate of occupancy is at risk.⁹⁹

This problem is not insoluble- but all the solutions involve costs. For example, Seattle uses a penalty-based system to address situations where buildings fail to meet green certification obligations. If a building fails to achieve LEED certification, the city will not compel it to be vacated; instead, the city will merely impose a financial penalty upon the developer.¹⁰⁰ But this solution creates its own risks: the more modest the penalty for failing to achieve LEED certification, the less aggressively a developer will pursue it.

Finally, the environmental impact of LEED may not always be completely positive. For example, LEED certification tends to favor buildings tightly sealed from the outside; however, such buildings may have worse indoor air quality.¹⁰¹ LEED also allows developers to obtain water quality points for creating synthetic turf instead of grass; however, such turf may contain lead and other toxins.¹⁰²

IV. Conclusion

Most mid-sized cities have used regulation to make buildings more environmentally friendly, both through “smart growth”-oriented regulations and through “green building” regulations. Both types of regulation are environmentally beneficial at first glance. However, more study may be needed as to their potential side effects.

For example, a maximum parking requirement in an intown neighborhood may, by reducing the number of parking lots, make the neighborhood more pedestrian-friendly, less polluted, and less congested with traffic. But if the regulation is too restrictive and is not universally adopted, businesses and their customers may shun the neighborhood and move to areas with more parking. If the alternative location is generally a more automobile-dependent area, such regulations may make the city or region more automobile-dependent as a whole.

Similarly, a minimum density requirement may, by

⁹⁹*Id.* at 938.

¹⁰⁰*Id.* at 940.

¹⁰¹*See* Keller, *supra* note 63, at 1404–05 (noting that LEED also gives points for indoor air quality, mitigating this concern).

¹⁰²*Id.* at 1405.

increasing density, make a neighborhood more pedestrian- and transit-friendly. But if a city wants more density than developers are willing to build, and nearby areas lack similar restrictions, the city may get no density at all, as developers stampede into more permissive suburbs.

Green building requirements may create the same risk: when a city increases the costs of doing business, it risks encouraging development to move into other cities or to suburbs- and if those places are more auto-oriented, development may shift to such auto-oriented places, thus causing an increase in driving and in pollution.

Regulation designed to force smarter, more environmentally friendly growth may be subject to an uncomfortable trade-off: if regulations are only slightly more restrictive than what an unregulated market might produce, they might not do very much good. But if regulations are significantly more restrictive, they might encourage development to shift to less environmentally sensitive municipalities.