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The Intersection Between Urban Agriculture and Form-Based Zoning: A Return to Traditional Planning Techniques

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Abstract

Urban agriculture, an integral component of America's earliest cities such as Boston, Massachusetts, and Savannah, Georgia, thrived in mixed-use, well-planned communities, in which businesses and residences stood side-by-side in uniform, carefully structured alignment. Personal gardens, community gardens, and city farms played key roles in urban food production. With the advent of single-use zoning ordinances, also known as Euclidean zoning, which regulated property development based on the property's intended use and which discouraged mixed-use districts, urban agriculture became a relic of the past. Many now recognize the problems associated with single-use zoning, which can lead to urban sprawl, consumption of undeveloped land, neglect of the urban city core, and increased greenhouse gas emissions.

Fortunately, a new breed of urban planners, sometimes termed New Urbanists, are promoting a return to the form-based principles of yesteryear. By planning form-based, mixed-use developments and infill projects, the New Urbanism movement is attempting to create environmentally friendly, sustainable, and community-oriented cities. Urban agriculture, like form-based and mixed-use zoning, has the potential to complement the environment and enhance the livability of American communities. As the trend towards mixed-used and form-based zoning continues to progress in the United States, it will be important for urban planners to recognize agriculture's role in the redevelopment process.

I. Urban Agriculture Played a Prominent Role in the Planning and Development of Some of the United States' Most Traditional Cities

Prior to the Revolutionary War, urban agriculture played an integral role in the economic prosperity and development of the colonies and "[f]ood production was the basis of most colonial settlements' household and regional economies."¹ For example, food production was so fundamental to the residents of Boston, Massachusetts, that the city planners set aside a

1. KIMBERLEY HODGSON ET AL., AMERICAN PLANNING ASSOCIATION, REP. NO. 563, URBAN AGRICULTURE: GROWING HEALTHY, SUSTAINABLE PLACES 10 (Timothy Mennel ed., 2011).

common area, the Boston Common,² to be utilized for the grazing of farm animals;³ in Savannah, Georgia, James Oglethorpe allocated to each settler a 5-acre garden plot within the city limits;⁴ and in Philadelphia, Pennsylvania, William Penn envisioned that the city would be divided into 1.5 acre lots, with enough space for each family to maintain “[h]ouse, [g]arden, and small [o]rchard.”⁵ Oglethorpe and Penn, like many colonial planners, were not only interested in urban agriculture, they were also interested in developing livable cities. In 1683, William Penn mandated that Philadelphia should consist of “four quadrants of gridded, tree-lined streets, public squares, and a commercial center at a harbor.”⁶ Similarly, Oglethorpe planned Savannah so that it would consist of defined city blocks, lots of uniform size, and a patchwork of public squares.⁷ These cities were similarly regulated as to the width of city streets⁸ and frontage requirements.⁹ In Philadelphia, Penn wanted the façades of homes to be built in a line. In Washington, D.C., for example, all homes were to be built in a line and, additionally, uniformly stand six feet from the street.¹⁰

2. See A VIEW ON CITIES, <http://www.aviewoncities.com/img/boston/kveus115s.jpg> (last visited Feb. 3, 2012).

3. HODGSON ET AL., *supra* note 1, at 10; see also, JONATHAN BARNETT, AMERICAN PLANNING ASSOCIATION, REDESIGNING CITIES: PRINCIPLES, PRACTICE, IMPLEMENTATION 19 (2003) (“The New England common in the seventeenth and eighteenth century was a staging area for cattle. . .”).

4. *Savannah Squares*, VISIT HISTORIC SAVANNAH, <http://www.visit-historicsavannah.com/savannah-squares.html> (last visited Jan. 22, 2012).

5. HODGSON ET AL., *supra* note 1, at 10 (quoting NARRATIVES OF EARLY PENNSYLVANIA, WEST NEW JERSEY, AND DELAWARE, 1630-1707 243 (Albert Cook Myers, ed. Charles Scribner's Sons 1912), available at http://books.google.com/books?id=HNMLA AAAYAAJ&printsec=frontcover&dq=narratives+of+early+pennsylvania+myers&source=bl&ots=6CaXZ_IFN4&sig=TpiRNIO0IcTI2fNnfypF_jBwyFo&hl=en&sa=X&ei=0TBWUNilBcWBiwLp9AE&ved=0CDAQ6wEwAA#v=onepage&q&f=false).

6. Richard S. Geller, *The Legality of Form-Based Zoning Codes*, 26 J. LAND USE & ENVT'L. L. 35, 42 (2010).

7. *Id.*; see also Emily Talen, AMERICAN PLANNING ASSOCIATION, *Design by The Rules: The Historical Underpinnings for Form-Based Codes*, 75 J. AM. PLANNING ASS'N, Spring 2009, at 144, 147 (discussing how Savannah was an early example of a planned city with zoning “enforced through deed restrictions”).

8. See Talen, *supra* note 7, at 150 (discussing the width of streets that L'Enfant envisioned in his planning of Washington, D.C.).

9. “Frontage is what defines the public realm. It includes both the public elements of curb, sidewalk, and tree, and regulations governing the private frontage of the building façade and its setback.” *Id.* at 151.

10. *Id.*

II. As Cities and Agriculture Industrialized, Urban Agriculture Became a Means to Alleviate Poverty and to Promote Self-Sufficiency

Although successful from both a planning and urban agriculture perspective, as “cities industrialized in the 19th century” once-traditional practices changed:

[L]arge-scale farming of grain and meat came to dominate the North American interior, [and] the metropolitan geography of agriculture shifted. In the hinterlands of major cities, farmers unable to compete with bulk crops such as corn and wheat transitioned to dairy, vegetable market gardening, orchards, and other higher-value, perishable crops for urban consumers. . . . At the same time, the expansion of public markets reduced the need for city dwellers to grow their own food. By the late 19th century, though some farms still remained in cities, urban agriculture was becoming less a necessity and more a form of private recreation as well as a resource for charity.¹¹

The use of urban agriculture as a remedy for poverty continued into the late 19th century, a period of severe economic depression.¹² For example, Detroit, Michigan, established a program to convert vacant land into gardens.¹³ The initiative was so successful that “[w]ithin two years, almost half of Detroit’s families on public relief were growing food on lots of various sizes. . . .”¹⁴

Following Detroit’s lead, nineteen other cities instituted similar initiatives.¹⁵ Outside of municipal-supported programs, settlement houses across the country adopted urban agriculture programs as a means to adjust immigrants to the food customs of America, in addition to supporting indigent families.¹⁶ Around the same time, the Federal government began supporting urban agriculture, since it would both boost morale and alleviate

11. HODGSON ET AL., *supra* note 1, at 10 (citation omitted).

12. *Id.* at 11.

13. Interestingly, Detroit is again looking to convert vacant land into productive, agricultural land in order alleviate problems associated with the current recession. See, e.g., Ariel Schwartz, *Urban Farming: Vacant Public Land Could Provide Most of Detroit’s Produce*, FAST COMPANY (Nov. 18, 2010), <http://www.fastcompany.com/1703568/vacant-lots-community-gardenscould-provide-majority-of-detroits-produce>.

14. HODGSON ET AL., *supra* note 1, at 11.

15. *Id.*

16. *Id.*

the food shortage plaguing the United States during and between two World Wars.¹⁷ A primary component of the government's program was to encourage the planting of personal, family gardens to augment the highly rationed national agricultural system.¹⁸ These gardens were known as victory gardens, war gardens, or food gardens for defense.¹⁹ Gardens established during this period constituted the United States' most effective foray into urban agriculture. For example, "[i]n 1943, more than 20 million gardens sprouted on private and public land – in front lawns, backyards, and public parks, and on empty lots and rooftops – [and they] produc[ed] an estimated 9 to 10 million tons of fruits and vegetables, or about 41 percent of all vegetables produced that year."²⁰

III. After World War II, Both Urban Agriculture and America's Cities Entered a Spiral of Decline

After World War II urban agricultural production, once again, declined.²¹ This downturn in urban food-growth coincided with both the second wave of agricultural industrialization in the post-war years, which transformed agriculture into an international business,²² and the "[r]egional and global specialization" of agriculture.²³ Unlike localized, urban agriculture, which cities and residents typically utilized to feed the poor or themselves, industrial agriculture, as a business, was more concerned with increasing profits and economies of scale.²⁴

17. *Id.*

18. *Id.*

19. *Id.*

20. *Id.* (citing Claudia Reinhardt, *Farming in the 1940s: Victory Gardens*, WESSELS LIVING HISTORY FARM, www.livinghistoryfarm.org/farminginthe40s/crops_02.html (last visited Sept. 14, 2012)).

21. In large-part, municipal zoning ordinances spurred change. The history of segregated-use municipal zoning in the United States, an integral component of this paper, will be discussed, *infra* p. 6.

22. HODGSON ET AL., *supra* note 1, at 11.

23. STEVE MARTINEZ ET AL., U.S.D.A. ECON. RES. REP. 97, *Local Food Systems: Concepts, Impacts, and Issues* 1 (2010) ("[L]ower transportation costs and improvements in refrigerated trucking || reinforced [the] transition to nonlocal food systems. With improved transportation, perishable items such as meats, eggs, fruits, and vegetables, as well as some perishable processed products like orange juice, could be shipped across the globe at affordable prices.").

24. Kathryn A. Peters, *Creating a Sustainable Urban Agriculture Revolution*, 25 J. ENVTL. L. & LITIG. 203, 218 (2010).

The industrialization of agriculture coincided with the “decline” of many inner cities across the United States, occurring in the 1950s, 1960s, and 1970s.²⁵ The struggles faced by residents of these areas encouraged a small revival of urban agriculture, primarily in the form of community gardens.²⁶ “Community gardens were responses to deindustrialization, depopulation, increases in acreage of vacant land, and the failures of urban renewal but also to immigration.”²⁷ African Americans, who had moved away from the South, planted and operated many of the gardens found in the northern cities.²⁸ Additionally, Puerto Ricans and Southeast Asians established numerous gardens across inner city areas.²⁹ The federal government took note of such changes and, in 1977, the Department of Agriculture initiated the Urban Gardens Program to provide assistance and advice to urban gardeners across the nation.³⁰ The program lasted until 1996.³¹

During the 1990s, cities across the United States experienced a real estate boom, which encouraged the redevelopment of the land that housed community gardens.³² Despite such transformations, “the 1980 U.S. Census found that urban metropolitan areas produced 30% of the dollar value of U.S. agricultural production. By 1990, it had increased to 40%.”³³ Today, many municipal governments are actively encouraging urban agriculture for a wide variety of reasons. In order to understand the many benefits of urban agriculture and its drawbacks, a brief summary of the history of zoning ordinances in the United States, and their relation to urban agriculture is required.

25. HODGSON ET AL., *supra* note 1, at 11-12.

26. *Id.* at 12.

27. *Id.*

28. *Id.*

29. *Id.*

30. *Id.*

31. *Id.*

32. See *id.* (stating New York City, alone, lost “hundreds” of community gardens during this period).

33. Kate A. Voigt, *Pigs in the Backyard or in the Barnyard: Removing Zoning Impediments to Urban Agriculture*, 38 B.C. ENVTL. AFF. L. REV. 537, 542 (2011) quoting Jac Smit et al., United Nations Dev. Programme, *Urban Agriculture: Food, Jobs and Sustainable Cities* 25, 47 (1996) (alterations omitted).

IV. Modern City Planning and Zoning Practices Hastened the Decline of Urban Agriculture: Segregated Use, the Standard Zoning Enabling Act, and *Village of Euclid*

Cities across the United States are now actively encouraging urban agriculture within their jurisdictions.³⁴ Unfortunately, in many instances, outdated zoning ordinances are hindering the revival.³⁵ These problematic ordinances were introduced during the vast industrialization of the United States at the beginning of the 20th century.

It was during these years that advances in technology, such as irrigation and paved roads, allowed agriculture to be sited outside of urban areas.³⁶ Additionally, “modern sewage and sanitation systems were instituted [so] city planners increasingly began to discourage farming within city limits - relegating food production to the outlying rural or suburban areas.”³⁷ Discouraging agriculture within city limits was part of a much larger movement in the United States towards single-use zoning, or as it is also called, Euclidean zoning. Under such a zoning scheme, residential, commercial, industrial, and agricultural uses are separated into insular districts.³⁸ Bringing nuisance claims against property owners, in order to address and “keep up with land-use conflicts that were emerging with the new, rapid growth of cities” did not correct the perceived problems and, therefore, single-use segregation, mandated by local governments, was inevitable.³⁹

New York City was the first city to implement such a zoning system.⁴⁰ In 1916, New York adopted zoning ordinances whereby various land uses were defined and then delegated to specific districts that were deemed suitable areas for such uses.⁴¹ In addition, New York’s zoning plan placed limitations on the height and mass of buildings within the city limits.⁴² These new ordinances were challenged in court as an “encumbrance” on

34. *Id.* at 538.

35. *Id.*

36. *Id.* at 541.

37. *Id.*

38. Patricia E. Salkin, *Sustainability and Land Use Planning: Greening State and Local Land Use Plans and Regulations to Address Climate Change Challenges and Preserve Resources for Future Generations*, 34 WM. & MARY ENVTL. L. & POL’Y REV. 121, 150 (2009).

39. Voigt, *supra* note 33, at 546.

40. Chad Lamer, *Why Government Policies Encourage Urban Sprawl and the Alternatives Offered by New Urbanism*, 13 KAN. J.L. & PUB. POL’Y 391, 393 (2004).

41. Chad D. Emerson, *Making Main Street Legal Again: The SmartCode Solution to Sprawl*, 71 MO. L. REV. 637, 650 (2006).

42. Lamer, *supra* note 40, at 393.

property rights, but the Court of Appeals of New York held them to be within the “proper exercise of the police power.”⁴³

By 1926, at least 550 municipalities across the United States had adopted single-use zoning plans based upon the New York City model.⁴⁴ The Department of Commerce took notice of such changes in city planning and developed the Standard State Zoning Enabling Act (“SZEa”), directly modeled after New York City’s single-use ordinances.⁴⁵ The passage of the SZEa in 1924, and its adoption by all 50 states (some with modifications), helped to guarantee that single-use zoning would be the most commonly used land control mechanism in the United States, thus helping to ensure that agriculture would no longer remain a key component of America’s urban landscape.⁴⁶

The SZEa contained nine sections, three of which are highly relevant to this paper.⁴⁷ Section I of the SZEa:

constitutes a grant of power by which designated municipalities of the state may be authorized and empowered ‘to regulate and restrict the height, number of stories, and size of buildings and other structures, the percentage of lot that may be occupied, the size of yards, courts and other open spaces, the density of population, and the location and use of buildings, structures and land for trade, industry, residences or other purposes,’ i.e., to zone.⁴⁸

Section 2 of the SZEa allowed municipalities or local governments to separate cities into districts based on the trade, industry, residence, or other categories enumerated in Section I.⁴⁹ Within those districts, a municipality could regulate and restrict the “erection, construction, reconstruction,

43. *Lincoln Trust Co. v. Williams Bldg. Corp.*, 229 N.Y. 313, 317 (N.Y. 1920); *see also* Emerson, *supra* note 41, at 651.

44. Emerson, *supra* note 41, at 651; *see also* Talen, *supra* note 7, at 153 (noting that by 1929, zoning ordinances had been adopted by almost 800 cities).

45. Emerson, *supra* note 41, at 652.

46. *Id.* at 652-54; Lamer, *supra* note 40, at 394 (citing ERIC D. KELLY, ZONING IN THE PRACTICE OF LOCAL GOVERNMENT PLANNING 252 (Frank S. So & Judith Getzel eds., 2nd ed., 1988)); *see also* I RATHKOPF’S THE LAW OF ZONING AND PLANNING [hereinafter “I RATHKOPF’S”] § 1:9 (4th ed.).

47. Emerson, *supra* note 41, at 653-54.

48. I RATHKOPF’S, *supra* note 46 (citing Standard State Zoning Enabling Act [hereinafter “SZEa”] § 1 (1926), available at <http://www.planning.org/growing-smart/enablingacts.htm>).

49. Emerson, *supra* note 41, at 653.

alteration, repair, or use of building structures or land.”⁵⁰ “Notably absent in [both Section 1 and Section 2] was language contemplating a mix of uses within the same building or even within the same district.”⁵¹

Section 3 of the SZEa contains the most important provisions of the act, describing the reasons and need for zoning laws:⁵²

... to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements. Such regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality.⁵³

Every state, as previously noted, quickly adopted the SZEa.⁵⁴ A likely reason for the popularity of the Act was that it offered a federally supported, standardized template for single-use zoning,⁵⁵ which temporarily assured the states that provisions contained in the Act, and the zoning ordinances adopted by their cities, were constitutionally valid.⁵⁶ Single-use zoning was not completely legitimized, however, until the Supreme Court of the United States ruled on the issue in 1926.⁵⁷

In *Village of Euclid v. Ambler Realty Co.*,⁵⁸ the Supreme Court held zoning ordinances, based upon a separation of land uses, were allowed under the

50. I RATHKOPF'S, *supra* note 46; *see also* SZEa § 2.

51. Emerson, *supra* note 41, at 653.

52. I RATHKOPF'S, *supra* note 46; Lamer, *supra* note 40, at 394.

53. SZEa § 3. As will be explained later in this paper, these concerns can additionally be used as support for the shift away from single-use, segregated zoning towards form-based or mixed-use zoning. “Interestingly, the effectiveness of single use zoning in accomplishing these goals has either been obviated by technological advances or has been shown to be more effectively realized through traditional town planning principles than single use zoning - after all, advanced sewage systems and fire controls have by and large mitigated the disease risks and fire dangers faced by early American urban centers.” Emerson, *supra* note 41, at 653.

54. *Id.* at 654.

55. *Id.*

56. *Id.*

57. *See generally* Vill. of Euclid v. Ambler Realty Co., 272 U.S. 365 (1926).

58. *Id.* at 397.

Federal Constitution and did not violate either the Due Process Clause⁵⁹ or Equal Protection Clause of the 14th Amendment.⁶⁰ In *Euclid*, the Court reviewed a zoning ordinance from the Village of Euclid that restricted specific developments in certain districts.⁶¹ Ambler Realty challenged the ordinance, claiming it unlawfully and unconstitutionally “restrict[ed] and control[led] the lawful uses of [their] land so as to confiscate and destroy a great part of its value”⁶² and therefore “the ordinance” not only “constitute[d] a cloud upon the land, [that] reduce[d] and destroy[ed] its value,” it also “ha[d] the effect of diverting the normal industrial, commercial, and residential development . . . to other and less favorable locations.”⁶³

The Supreme Court used substantive due process analysis in its review of *Euclid*’s zoning ordinances.⁶⁴ In order to pass the substantive due process test, there must exist a rational relationship (the rational basis test) between the ordinance and the purpose for enacting the ordinance.⁶⁵ The Court held that the single-use zoning ordinances were rationally related to their purpose – protecting “the public health, safety, morals, or general welfare” of *Euclid*’s residents. These purposes were within the police power of a municipality.⁶⁶

The Court also recognized that the [V]illage of *Euclid* zoning ordinance, by separating all industrial uses rather than simply those found to be incompatible with residential uses, would inevitably end up segregating some industrial uses that themselves were not a nuisance vis-à-vis their proximity to residential uses. Yet, even while recognizing this inherent problem with strictly separated, single use zoning, the Court did not face it head-on, but instead offered only the legally specious proclamation that ‘the bad fades into the good by such insensible degrees that the two are not capable of being readily distinguished and separated in terms of legislation.’ In other words, the judicial equivalent of ‘fixing this inequity would be too tough, so tough luck.’⁶⁷

59. Lamer, *supra* note 40, at 394.

60. Emerson, *supra* note 41, at 655.

61. *Euclid*, 272 U.S. at 382-83; *see also* Geller, *supra* note 6, at 59-61.

62. *Euclid*, 272 U.S. at 384.

63. *Id.* at 385.

64. *Id.* at 394; *see also* Lamer, *supra* note 40, at 394.

65. Lamer, *supra* note 40, at 394; *see also* *Euclid*, 272 U.S. at 395.

66. *Euclid*, 272 U.S. at 395; *see also* Lamer, *supra* note 40, at 394; Emerson, *supra* note 41, at 656.

67. Emerson, *supra* note 41, at 657 (*quoting* *Euclid*, 272 U.S. at 389).

As a result of the *Euclid* decision, the separation of uses, through single use zoning, became the leading zoning strategy across the United States,⁶⁸ and a consequence of the decision was that agriculture would be excluded from many urban areas. Although agriculture, like the industrial uses mentioned above, is not always a nuisance, it is often easily segregated from other land uses, since “[a]fter *Euclid*, most zoning ordinances were presumed to be a valid exercise of a state’s police powers.”⁶⁹ Courts do not want to act as “super zoning review boards” and, therefore, zoning laws are typically found to be “presumptively valid.”⁷⁰

V. Single Use Zoning Has Had a Deleterious Impact on Many American Cities and Has Not Solved the Problems that Necessitated Its Use

After the wholesale adoption of Euclidean zoning, “traditional town and neighborhood planning techniques [became] illegal” as the now “conventional [single-use] zoning codes prevent [the traditional techniques] either expressly or by effect.”⁷¹ Traditional neighborhood planning can be characterized by “mixed-use, pedestrian-friendly communities of varied

68. *Id.* at 659 (“[T]he practical effect of the *Euclid* decision essentially upheld broad separated single use zoning regardless of whether some of the separated uses were entirely compatible with, if not beneficial to, residential uses.”).

69. Lamer, *supra* note 40, at 394-95; It is important to note that inherent in the holding of *Euclid* is a recognition of transect-based zoning, a zoning scheme to later be discussed in this note. See Emerson, *supra* note 41, at 656-57 (quoting *Euclid*, 272 U.S. at 388 (“Thus the question whether the power exists to forbid the erection of a building of a particular kind or for a particular use, like the question whether a particular thing is a nuisance, is to be determined, not by an abstract consideration of the building or of the thing considered apart, but by considering it in connection with the circumstances and the locality. A nuisance may be merely a right thing in the wrong place, like a pig in the parlor instead of the barnyard.”)) (citation omitted).

70. Geller, *supra* note 6, at 61 (citing *Town of Indialantic v. McNulty*, 400 So.2d 1227, 1230 (Fla. 5th DCA, 1981) and *Lee Cnty. v. Sunbelt Equities II, LP*, 619 So.2d 996, 1005 (Fla. 2d DCA, 1993)).

71. Emerson, *supra* note 41, at 637; “[O]ne cannot easily build Charleston, [South Carolina anymore] because it is against the law. Similarly, Boston’s Beacon Hill, Nantucket, Santa Fe, Carmel – all of these well-known places, many of which have become tourist destinations, exist in direct violation of current zoning ordinances. Even the classic American main street, with its mixed-use buildings right up against the sidewalk, is now illegal in most municipalities. . . . [T]raditional towns became a crime in America.” ANDRES DUANY ET AL., *SUBURBAN NATION: THE RISE OF SPRAWL AND THE DECLINE OF THE AMERICAN DREAM*, xi (2000) (emphasis added); see also Geller, *supra* note 6, at 41.

population, either standing free as villages or grouped into towns and cities. . . .”⁷² These neighborhoods, villages, towns, and cities are similar in character and design to the cities proposed by Oglethorpe and Penn.⁷³ Additionally, traditional neighborhood planning is a “sustainable form of growth.”⁷⁴

By segregating land based upon use, homes, for example, cannot be placed near businesses, thereby discouraging or banning mixed-use zoning.⁷⁵ The effect of such zoning policy, in addition to outlawing traditional town planning techniques, was to encourage the unsustainable expansion of cities, known as sprawl.⁷⁶ The consequences of sprawl cannot be understated. Sprawl, through its consumption of land, is unsustainable and “self-destructive.”⁷⁷

Euclidean zoning was not the only catalyst that encouraged sprawl. The development of our national highway system⁷⁸ and the post World War II loan programs of the Veterans Administration and the Federal Housing Administration also helped to create the perfect environment for toxic expansion.⁷⁹ The loan programs allowed for many families to purchase single-family homes, the mortgages on which were often less per month than the rent of equivalent residences.⁸⁰ The expanded national highway system allowed for these new homes to be built far away from traditional town-centers, since families were now provided with an easier and more accessible commute.⁸¹ Over time, as more suburban sprawl developed, housing moved further from the traditional, mixed-use neighborhoods.⁸²

72. DUANY ET AL., *supra* note 71, at 4.

73. See, *supra* p. 1-2; HODGSON ET AL., *supra* note 1, at 10.

74. DUANY ET AL., *supra* note 71, at 4.

75. See, e.g., *Segregated Land Use, VMT, and Greenhouse Gas Emissions*, TRAVEL MATTERS, <http://www.travelmatters.org/about/segregated-land-use?sid=uffgvcgt> (last visited Sept. 14, 2012).

76. See Barnett, *supra* note 3, at 288 (defining sprawl as: “[l]ow-density urban development rapidly spreading across rural areas. It may seem unplanned but is actually the result of complex interactions among government regulations private initiatives.”); see also DUANY ET AL., *supra* note 71, at 4.

77. DUANY ET AL., *supra* note 71, at 4.

78. See Salkin *supra* note 38, at 151.

79. See DUANY ET AL., *supra* note 71, at 7-8.

80. *Id.* at 8.

81. *Id.*; see also Salkin, *supra* note 38, at 151.

82. DUANY ET AL., *supra* note 71, at 8.

As residents moved away from the traditional city core, shops, businesses, and offices soon followed.⁸³ Thus, the strip mall⁸⁴ and office/business park⁸⁵ were born. Segregated zoning stretched far beyond the scope originated by New York's planners in 1916. The segregation of uses:

[o]nce applied only to incompatible uses, is now applied to every use. A typical contemporary zoning code has several dozen land-use designations; not only is housing separated from industry but low-density housing is separated from medium-density housing, which is separated from high-density housing. Medical offices are separated from general offices, which are in turn separated from restaurants and shopping. . . .

. . . [T]he new American city has been likened to an unmade omelet: eggs, cheese, vegetables, and a pinch of salt, but each consumed in turn, raw.⁸⁶

"Rather than producing environmentally sustainable communities that could flourish from a mix of economic, health, and welfare factors, Euclidean zoning produced sprawling communities that lacked efficiencies and economies of scale in housing, transportation, agriculture, energy, and public health."⁸⁷ Sprawl discourages the use of public transportation systems and nonenvironmentally damaging modes of transportation, such as walking or bicycling, since the distance between destinations is often far too great.⁸⁸ In order to maintain walkable environments, a mixture of land

83. *Id.* at 8-9.

84. *Id.* at 9 (Since suburbs are predominantly focused on the construction of homes (single-use districts), shopping confined itself to its own, newly envisioned district. "Placed along the wide high-speed collector roads between housing clusters, the new shops responded to their environment by pulling back from the street and constructing large freestanding signage. In this way the now ubiquitous strip shopping center was born."); *see also* Barnett, *supra* note 3, at 288 (defining strip development as a "[d]evelopment strung out in narrow strips along an arterial highway, a pattern often mandated by a zoning code.").

85. DUANY ET AL., *supra* note 71, at 9.

86. *Id.* at 10-11.

87. Patricia E. Salkin, *Symposium: Squaring the Circle on Sprawl: What More Can We Do? Progress Toward Sustainable Land Use in the States*, 16 WIDENER L.J. 787, 788 (2007).

88. *See* Salkin, *supra* note 38, at 130, 151 ("As the suburbs have boomed and transportation improvements have made commuting long distances easier, Euclidean zoning has had the effect, in many places, of making it very impracticable

uses not permitted by Euclidean zoning is required.⁸⁹ This mixture should include urban agriculture.

The survival of sprawling communities is heavily dependent on automobiles, which, in turn, are completely reliant on petroleum. Therefore, it is easy to understand how segregated use zoning encourages greenhouse gas emissions and increases the rate of climate change.⁹⁰ An often-overlooked consequence of this suburban dependency on automobiles, and yet another negative consequence of Euclidean zoning, is that the zoning policies confine to their homes those unable to drive, since they often have no other means of transportation.⁹¹

As urban sprawl encourages movement away from traditional city centers, those who remain within the city suffer.⁹² "Job scarcity, inadequate educational opportunities, and elevated crime rates have negatively impacted the quality of life for urban dwellers."⁹³ Sprawl increases crime not only in the inner city, but also in suburban neighborhoods⁹⁴ by accelerating the "delinquency" of suburban youth.⁹⁵ Despite increased crime in both urban and suburban areas, sprawl negatively impacts urban residents more than it does suburbanites. Sprawl "create[s] inequities in access to public services and an uneven consumption of resources. Under the current urban sprawl development scheme, the gap between rich and poor grows and society and communities suffer. Urban sprawl and declining urban interiors contribute to increased intragenerational inequity."⁹⁶ Unfortunately, many

to walk or bicycle from one's home to just about anywhere of interest. The increased number of daily vehicle trips necessary to go to work or school, to go shopping, to go out to eat, or to see a movie have likely had a significant effect on transportation emission and pollution.") (citations omitted).

89. See generally Emerson, *supra* note 41, at 641; see also DUANY ET AL., *supra* note 71, at 74-83 (providing a general discussion on what is required to create walkable streets).

90. See Peters, *supra* note 24, at 219; Salkin, *supra* note 38, at 129.

91. See generally Geller, *supra* note 6, at 38.

92. DUANY ET AL., *supra* note 71, at 153-54.

93. Peters, *supra* note 24, at 225-26.

94. See DUANY ET AL., *supra* note 71, at 74 (noting "[t]he single-use zoning system means that many areas are occupied only during certain times of day. Apparently abandoned, residential subdivisions invite all sorts of misbehavior. Further, the suburban auto orientation means that few people are ever out walking, and nothing undermines the perception of safety more than being alone. It is a vicious cycle: the less safe streets feel, the fewer people walk, and the less safe they become.").

95. See Geller, *supra* note 6, at 70.

96. Peters, *supra* note 24, at 225-26.

residents do not care about the decline of America's urban environment since their "commuting patterns [are] predominately suburb to suburb" leading to the expendability of many city centers.⁹⁷

VI. Single-Use Zoning Encourages Sprawl Which Both Consumes Previously Undeveloped Land and Promotes Abandonment of the Urban City.

Sprawl encourages the consumption of land through the construction of new homes, new commercial or business developments, new public services, like schools and hospitals, and the paving of new roads and new highways.⁹⁸ As suburban expansion occurs, it destroys forests, farmland, and greenfields, while also encouraging the abandonment of the city center.⁹⁹ One example of such abandonment of the city is the abundance of parking garages typically found in downtown areas. These parking lots "eased the automotive commute" from the ever-expanding suburbs "while turning the city into a paved no-man's land."¹⁰⁰

Land is finite and by developing land in order to promote sprawl, we are restricting our children's access to "undeveloped land and fertile soil."¹⁰¹ Therefore,

[t]o promote equity and create a sustainable future, local communities and all levels of government should invest in and revitalize urban areas. Creating urban areas that are safe and economically viable will promote equity while also helping to curb urban sprawl and minimize negative environmental impacts by protecting the biosphere and preserving land for future development.¹⁰²

Our current, sprawl-based Euclidean zoning practices are not sustainable and they occur at the expense of future generations and the urban city.¹⁰³ With current development strategies, we are, every year:

97. DUANY ET AL., *supra* note 71, at 9.

98. Peters, *supra* note 24, at 212, 219; *see also* William W. Buzbee, *Sprawl's Political Economy and The Case for a Metropolitan Green Space Initiative*, 32 URB. LAW. 367, 372 (2000).

99. Peters, *supra* note 24, at 219.

100. DUANY ET AL., *supra* note 71, at 153.

101. Peters, *supra* note 24, at 226.

102. *Id.* (citing Robert W. Burchell, *Economic and Fiscal Costs (and Benefits) of Sprawl*, 29 URB. LAW. 159, 162 (1997) and Buzbee, *supra* note 101, at 378).

103. *Id.* at 223.

construct[ing] the equivalent of many cities, but the pieces don't add up to anything memorable or of lasting value. The result doesn't look like a place, it doesn't act like a place, and, perhaps most significant, it doesn't feel like a place. Rather, it feels like what it is: an uncoordinated agglomeration of standardized single-use zones with little pedestrian life and even less civic identification, connected only by an overtaxed network of roadways.¹⁰⁴

Fortunately, there are solutions to the current problems; namely, a return to traditional zoning practices, which will promote mixed-use, livable cities, and the reintroduction of urban agricultural into these development plans, which will help obviate the negative effects of sprawl and single-use zoning.¹⁰⁵

VII. Urban Agriculture Can Alleviate Many of the Problems Caused by Single-Use Zoning

The promotion and implementation of urban agriculture can remedy many of the negative impacts that are encouraged by Euclidean zoning practices, particularly with regard to the replacement of farmland consumed by sprawl. Urban agriculture will help supply cities with healthy, nutritional food in an environmentally sustainable manner, while also providing for community development and economic opportunities.¹⁰⁶ Advancing urban agriculture would also reduce reliance upon unsustainable, environmentally damaging industrial agriculture, and help to diminish the inequality between urban and suburban dwellers.¹⁰⁷

While urban sprawl saps the city center of many jobs as workplaces are built in the suburbs,¹⁰⁸ urban agriculture, on the other hand, creates jobs

104. DUANY ET AL., *supra* note 71, at 12.

105. Although confusing, urban agriculture refers to all types of agriculture not occurring in agriculturally zoned areas. Therefore, urban agriculture can even occur in suburban areas. For a discussion of urban agriculture, see generally, Heather Wooten, MCP (PHLP) & Amy Ackerman, J.D., *Seeding the City: Land Use Policies to Promote Urban Agriculture*, NATIONAL POLICY AND LEGAL ANALYSIS NETWORK TO PREVENT CHILDHOOD OBESITY AND PUBLIC HEALTH LAW & POLICY, available at http://www.phlpnet.org/sites/phlpnet.org/files/Urban_Ag_SeedingTheCity_FINAL_20111021.pdf (last visited Dec. 25, 2011); see also William Kraus, *Urban Agriculture Takes Root*, 44 CLEARINGHOUSE REV. 277, 277 (2010) (defining urban agriculture as "localized small-scale agriculture within an urban setting.").

106. See HODGSON ET AL., *supra* note 1, at 20; see also Kraus, *supra* note 105, at 277.

107. Peters, *supra* note 24, at 206.

108. See DUANY ET AL., *supra* note 71, at 131-32.

and reinvigorates stalled economies, “offer[ing] numerous small-business opportunities for entrepreneurs and the opportunity to put unemployed individuals to work in nontechnical roles.”¹⁰⁹ Furthermore, through urban farming, “multiplier effects” ripple through the surrounding community as potentially “new food-related businesses, including processing facilities, restaurants, community kitchens, farmers markets, transportation, and distribution equipment” open to capitalize on outputs of urban agriculture.¹¹⁰ Thus, there is an economic demand for locally grown and organic food.¹¹¹

Another economic benefit provided to cities through the implementation of urban agriculture is increased property values.¹¹² In New York City, the property value of land bordering community gardens increased by as much as 9.4 percent over a five-year period.¹¹³ In St. Louis, Missouri, “median rent and median housing costs (mortgage payments, maintenance costs, and taxes) for owner-occupied housing, as well as home ownership rates, increased in the immediate vicinity of gardens related to surrounding census tracts.”¹¹⁴ Part of the reason behind an increase in property value could be that urban agriculture can put unused, vacant land to use.¹¹⁵ By utilizing vacant lands, eyesores are eliminated, preventing

109. Kraus, *supra* note 105, at 280.

110. HODGSON ET AL., *supra* note 1, at 21. In some cities, urban agriculture is also being used to feed the poor through programs linking soup kitchens to urban farms. See Kraus, *supra* note 105, at 278.

111. Neil D. Hamilton, *Symposium: Keynote Address – Farms, Food, and the Future: Legal Issues and Fifteen Years of the “New Agriculture”* 26 J. ENVTL. L. & LITIG. 1, 10 (2011) (“Food safety fears, interest in organic foods, attention to nutrition, and concern over animal welfare issues are just some of the many reasons consumers decide to purchase products produced or marketed in ways to communicate more satisfaction. The reality is that many consumers are not necessarily looking for cheaper food – they are looking for better food, whatever that means to them.”).

112. HODGSON ET AL., *supra* note 1, at 21.

113. *Id.*

114. *Id.*

115. See Katherine H. Brown, *Urban Agriculture and Community Food Security in the United States: Farming from the City Center To the Urban Fringe*, URBAN AGRIC. COMM. OF THE CMTY. FOOD SEC. COAL., 8-9 (2002), available at <http://www.foodsecurity.org/urbanagpaper.pdf> (last visited Jan. 28, 2012) (“With increasing sprawl into the suburbs, the last twenty years has seen a common pattern of inner-city neglect in most cities across North America. For example, in the United States, Chicago now has an estimated 70,000 vacant parcels of land. Philadelphia has 31,000, and in nearby Trenton, New Jersey, 900 acres - 18 percent of the total land area - is currently vacant. Between 1950 and 1990 in the U.S., abandoned lots in inner-city areas

further deterioration of a city.¹¹⁶ Urban agriculture can help revitalize America's city cores.¹¹⁷

Urban gardens provide urban dwellers the opportunity to develop a sense of ownership and pride in their neighborhoods. Transforming vacant lots into thriving urban gardens brings people together, giving them a common goal of beautifying their neighborhoods while producing healthy food. While most urban dwellers may never have the opportunity to own property, urban gardens allow them to experience the pride of ownership as they own the fruits of their labor. In this sense, urban gardens can reduce the social inequities between the rich and poor. The beautification of once vacant lots and the increased sense of community make urban neighborhoods safer and more attractive places to live, which, in turn, revitalizes urban neighborhoods.¹¹⁸

In the suburbs, urban agriculture can mitigate many of the negative environmental impacts of segregated zoning.¹¹⁹ Increasing the capacity for urban agriculture will lead to a reduction in energy use and an increase in carbon sequestration.¹²⁰ By producing food on already developed land, less undeveloped land will need to be converted to intensive farming, and similarly, more open space and natural habitat can be preserved, mitigating

remained vacant for between 20 and 30 years in most cities. Failed businesses and homes were bulldozed, leaving relatively inexpensive lots without much economic potential, except, that is, for those lots that have become fruitful examples of urban agriculture.") (quotations and citations omitted).

116. Peters, *supra* note 24, at 207, 213; Kraus, *supra* note 105, at 279 ("Vacant land can lead to crime and lower home values in the surrounding area, and reducing the amount of unused land can help counter these trends.").

117. Kraus, *supra* note 105, at 279.

118. Peters, *supra* note 24, at 227; Studies suggest living near green spaces, such as urban garden projects, can "increase[] effectiveness, reduce[] procrastination, and increase[] [the] ability to cope with problems" for women, while also improving self-discipline and reducing domestic violence against their partners. Kraus, *supra* note 108, at 278-79 (citing Frances E. Kuo, *Coping with Poverty: Impacts of Environment and Attention in the Inner City*, 33 ENV'T & BEHAVIOR 5 (2001); Adrea Faber Taylor et al., *Views of Nature and Self-Discipline: Evidence from Inner City Children*, 22 J. OF ENVTL. PSYCHOL. 49 (2002); Kuo & Sullivan, *Aggression and Violence in the Inner City: Effects of Environment Via Mental Fatigue*, 33 ENV'T & BEHAV. 543 (2001)).

119. See Marielle Dubelling, *Slideshow: Cities, Climate Change and Urban Agriculture*, RUAF-CAH Conference Urban Agriculture for Resilient Cities (May 2011).

120. Kraus, *supra* note 105, at 277.

the influence of urban sprawl.¹²¹ Urban agricultural is also environmentally beneficial since:

[u]rban gardening reduces the effects of climate change by decreasing greenhouse gas emissions. Unlike industrial farms, urban gardens are cultivated and harvested with minimal mechanization and do not use oil-based fertilizers. Moreover, food that is grown and sold locally eliminates the need for wasteful plastic packaging and fossil-fueled transport to market. Additionally, having fresh food available in every neighborhood would reduce carbon emitting automobile trips to the grocery store.¹²²

There are many types of urban agriculture that a municipality can choose to allow,¹²³ and there are many ways for a city to amend Euclidean zoning codes in order to permit agricultural activities in non-agricultural areas.¹²⁴ In California, for example, San Francisco,¹²⁵ Oakland,¹²⁶ and Los Angeles¹²⁷ have Euclidean zoning plans and have adopted urban agriculture reform. While these developments are encouraging, the focus of this paper is to promote the incorporation of urban agriculture into non-Euclidean zoning practices, which will hopefully replace segregated zoning in order to ensure that American cities can once again become sustainable, livable locales.¹²⁸

121. Peters, *supra* note 24, at 220.

122. *Id.* at 221.

123. See Martinez, *supra* note 23, at 4-5.

124. See generally HODGSON ET AL., *supra* note 1; Wooten & Ackerman, *supra* note 105.

125. S.F., Cal., Ordinance 66-11 (Apr. 5, 2011), available at: <http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances11/o0066-11.pdf>.

126. See City of Oakland California, Planning and Zoning, Urban Agriculture Citywide Update, <http://www2.oaklandnet.com/Government/o/PBN/OurOrganization/PlanningZoning/OAK029859> (last visited Jan. 28, 2012).

127. See, e.g. L.A., Cal., Ordinance 181118 (Jun. 4, 2010), available at http://urbanfarmingadvocates.org/wpcontent/uploads/2010/06/ORD_181188_09-1685-sl_truck-gardening-and-farming-uses.pdf (changing the ordinances applying to garden trucks).

128. See Emerson, *supra* note 41, at 641.

VIII. Planning Techniques Mirroring the Design of America's Colonial Cities, While Allowing for Urban Agriculture, are Needed to Combat the Negative Impacts of Euclidean Zoning

Between 1982 and 2007, the amount of land developed in the United States increased dramatically, from 70.9 million acres to 111.2 million acres.¹²⁹ In the 1980s, development consumed approximately 1.4 million acres annually; by the 1990s, this amount skyrocketed to approximately 2.2 million acres per year.¹³⁰ For development in the United States to continue at this rate is unsustainable.¹³¹ These numbers justify the need for a transition away from Euclidean zoning and the type of development encouraged by single-use zoning.¹³² New zoning regulations must be developed. These regulations must “make traditional neighborhoods” once again possible, while also “support[ing] the character of older places through the compatible filling of existing neighborhoods.”¹³³

An easy solution utilized by local governments to stop the spread of sprawl is the allowance of mixed-use zoning.¹³⁴ In addition to combating sprawl, mixed-use zoning is also seen as a means of dealing with the related problem of traffic.¹³⁵ “[A] more traditional, mixed-use street achieves compatibility between myriad buildings of similar size, regardless of whether they house apartments, stores, or offices.”¹³⁶ Mixed-use zoning, depending on how it is implemented, can allow for agriculture to occur concurrently with other land uses.

Mixed-use zoning ordinances occur in many forms, such as allowing for the lower floors of buildings to be utilized for businesses, while leaving the top floors residential; allowing for a neighborhood corner store;¹³⁷ or

129. Geller, *supra* note 6, at 76.

130. *Id.*

131. See Emerson, *supra* note 41, at 641.

132. *Id.* at 639-40; “Existing zoning ordinances – typically outdated, overcomplicated and vulnerable to influence peddling – are often discredited but rarely discarded,” an occurrence that must change. DUANY ET AL., *supra* note 71, at 221-22.

133. *Id.* at 222.

134. See Salkin, *supra* note 38, at 151.

135. Amanda Siek, *Smart Cities: A Detailed Look at Land Use Planning Techniques that Are Aimed at Promoting Both Energy and Environmental Conservation*, 7 ALB. L. ENVTL. OUTLOOK 45, 53 (2002).

136. Geller, *supra* note 6, at 41.

137. See DUANY ET AL., *supra* note 71, at 187-88.

converting warehouses to live/work spaces.¹³⁸ This last solution was adopted by Marin County, California, in order to help reduce automobile use and greenhouse gas emissions.¹³⁹ Davis, California, enacted a similar ordinance by allowing for home occupations, whereby residents could establish their office and place of business in their own home.¹⁴⁰ Permitting home occupations is particularly impactful in terms of reducing traffic congestion and greenhouse gas emissions from automobiles, since 87.7% of Americans drive to work and 77% do so alone.¹⁴¹

Many urban planners recognized that mixed-use zoning should be incorporated into existing zoning codes. One group of such planners was Duany, Plater-Zyberk & Company ("DPZ"), who were tasked with developing Seaside, Florida, in 1979.¹⁴² This project, although not the firm's first attempt at utilizing traditional zoning principles, was one of the first instances where the developers sought to completely codify their development plans.¹⁴³ "The resulting one page regulating code was unique both in its short length and its goal of legally defining the development in terms of traditional planning and design."¹⁴⁴ Seaside, Florida, continues to serve as a model example for the revitalization of traditional zoning practices.

Learning from the experience of Seaside, DPZ next attempted to develop a zoning ordinance for municipalities to implement, the Traditional Neighborhood Planning ("TND") Ordinance.¹⁴⁵ The TND ordinance sought to both allow for traditional neighborhoods in new developments and to promote and "support the character of older places through the compatible filling of existing neighborhoods."¹⁴⁶ The TND ordinance is simple, and split into only two sections: Urban Infill and Greenfield Development.¹⁴⁷ TND

138. See Salkin, *supra* note 38, at 151-52.

139. See *id.* at 152; Marin County Cmty. Dev. Agency, Marin Countywide Plan (Nov. 6, 2007), available at http://www.co.marin.ca.us/depts/cd/main/fm/cwpdocs/CWP_CD2.pdf.

140. Siek, *supra* note 135, at 56.

141. U.S. Census Bureau, Newsroom, *Most of Us Still Drive to Work – Alone* (Jan. 13, 2007), http://www.census.gov/newsroom/releases/archives/american_community_survey_acs/cb07-cn06.html.

142. See DUANY ET AL., *supra* note 71, at xii. For a detailed look at the layout of Seaside, one need only watch the Jim Carrey film *The Truman Show*. See *The Truman Show* (Paramount Pictures 1998).

143. See Emerson, *supra* note 41, at 665.

144. *Id.*

145. DUANY ET AL., *supra* note 71, at 221-22.

146. *Id.*

147. *Id.*

ordinances are “essentially a throwback to more conventional neighborhoods[,] employing smaller homes and lots and pedestrian-friendly designs.”¹⁴⁸ TND ordinances are but one part of a larger movement away from Euclidean zoning and toward form-based codes.

Form-based zoning codes, as opposed to Euclidean codes, take their name from the fact that they intend to regulate the form of the city, through the form of the structures and the “built environment.”¹⁴⁹ Under a Euclidean system, uses must be relegated to areas where such a use is permitted; under form-based zoning codes, the use of a property is merely considered as a “secondary consideration.”¹⁵⁰ “Form-based zoning focuses on the physical appearance of streets and buildings to achieve a predictable aesthetic result. Conventional zoning, by comparison, focuses on the segregation of land uses, which contributes to sprawl.”¹⁵¹

Under a form-based system, a “building’s disposition and configuration” are important considerations.¹⁵² Practitioners of form-based zoning additionally attempt to regulate, among many other features, the width of streets, the placement and size of sidewalks, the location and (lack of) visibility of parking lots, the placement of HVAC units, linear setback requirements for residences, and the placement of a front door for homes on corner lots.¹⁵³ Form-based codes attempt to recreate the cities of yesteryear and are therefore similar to the planning techniques of colonial cities, where setback requirements were formally enumerated. By returning to a “traditional” plan, form-based zoning will mitigate the problems caused by sprawl, the same problems that urban agriculture can similarly reduce.

By placing schools, shopping, and employment within a safe walking distance of most residences, form-based codes can reduce carbon and other vehicle pollutants by decreasing vehicle miles traveled by at least one-fourth. Widespread adoption of form-based codes could also help the United States lessen its dependency on foreign crude oil from hostile or unstable countries.¹⁵⁴

148. Salkin, *supra* note 38, at 152.

149. Emerson, *supra* note 41, at 641.

150. *Id.*

151. Geller, *supra* note 6, at 36.

152. Emerson, *supra* note 41, at 641-42.

153. DUANY ET AL., *supra* note 71, at 245-52 (providing a checklist for planners to utilize when developing and implementing a TND ordinance).

154. Geller, *supra* note 6, at 77.

The adherents of form-based code are often called New Urbanists and their planning theory, New Urbanism.¹⁵⁵ Duany and Plater-Zyberk were co-founders of the Congress for the New Urbanism, a group of like-minded planners and architects with over 3,000 members.¹⁵⁶

IX. The SmartCode Offers the Best Hope For a Return to Traditional City Planning

While TND ordinances and basic form-based ordinances are increasingly used in the implementation of form-based codes,¹⁵⁷ Duany's latest project, the SmartCode, may be the best hope for execution of a non-single-use code.¹⁵⁸ While TND ordinances are the precursors to the SmartCode, the SmartCode "ordinances" go a step farther than TND ordinances, which only regulate the form of a "specific piece of land."¹⁵⁹ Instead, the SmartCode¹⁶⁰ "further regulates how a singular form fits into the

155. Elizabeth Garvin & Dawn Jourdan, *Through the Looking Glass: Analyzing the Potential Legal Challenges to Form-Based Codes*, 23 J. LAND USE & ENVTL. LAW 395, 398 (2008). New Urbanism supports: walkability; connectivity; mixed-use and diversity; mixed housing; quality architecture and urban design; traditional neighborhood structure; increased density; green transportation; sustainability; and quality of life. See *New Urbanism, Principles of New Urbanism*, <http://newurbanism.org/newurbanism/principles.html> (last visited Jan. 31, 2012). It must be noted that the federal government has embraced the principles of New Urbanism in the Environmental Protection Agency's Smart Growth campaign. Smart Growth espouses ten similar principles: mixed land uses; take advantage of compact building design; create a range of housing opportunities and choices; create walkable neighborhoods; foster distinctive, attractive communities with strong sense of place, preserve open space, farmland, natural beauty, and critical environmental areas; strengthen and direct development towards existing communities; provide a variety of transportation choices; make development decisions predictable, fair, and cost effective; and encourage community and stakeholder collaboration in development decisions. U.S. Envtl. Prot. Agency, *About Smart Growth – Smart Growth Principles*, http://www.epa.gov/dced/about_sg.htm (last visited Jan. 31, 2012).

156. See Duany, Plater-Zyberk & Co., Company Description, <http://web.archive.org/web/20110322052649/http://www.dpz.com/company.aspx> (last visited Jan. 30, 2012).

157. For a list of places using TND ordinances, see The Town Paper, TND Neighborhoods, <http://www.tndtownpaper.com/neighborhoods.htm> (last visited Jan. 31, 2012).

158. See Emerson, *supra* note 41, at 667.

159. *Id.* at 641, 666.

160. "The SmartCode is a tool that guides the form of the built environment in order to create and protect development patterns that are compact, walkable, and

larger context of a region. This additional layer makes the SmartCode not only a form-based zoning code but also a transect-based code.”¹⁶¹ Under a transect-based system, “the municipality is divided into transects depending on the character of the land and appropriate forms are prescribed for each transect in order to preserve and enhance its particular characteristics.”¹⁶² As the authors of the SmartCode explain:

A transect of nature, first conceived by Alexander Von Humboldt at the close of the 18th century, is a geographical cross-section of a region intended to reveal a sequence of environments. Originally, it was used to analyze natural ecologies, showing varying characteristics through different zones such as shores, wetlands, plains, and uplands. It helps study the many elements that contribute to habitats where certain plants and animals thrive in symbiotic relationship to the minerals and microclimate.

Human beings also thrive in different places. There are those who could never live in an urban center; there are those who would wither in a rural hamlet. Humans need a system that preserves and creates meaningful choices in their habitats. Near the close of the 20th century, New Urbanist designers recognized that sprawl was eradicating the pre-war American transect of the built environment. They began to analyze it and extract its genetic material for replication. In this way, they extended the natural transect to include the built environment, thus establishing the basis for the SmartCode.¹⁶³

[mixed-use]. These traditional neighborhood patterns tend to be stimulating, safe, and ecologically sustainable. The SmartCode requires a mix of uses within walking distance of dwellings, so residents aren't forced to drive everywhere. It supports a connected network to relieve traffic congestion. At the same time, it preserves open lands, as it operates at the scale of the region as well as the community.” SmartCode Version 9.2, v (2010), <http://www.transect.org/docs/3000-BookletSC-pdf.zip> (last visited Jan. 30, 2012). Thus, the SmartCode codifies the planning techniques of the New Urbanist movement, techniques rooted in traditional planning schemes. See Emerson, *supra* note 41, at 638.

161. Emerson, *supra* note 41, at 641.

162. Salkin, *supra* note 38, at 834.

163. SmartCode, *supra* note 160, at vi; see also Sandy Sorlien, Planetizen: Critics May Miss the Green Point of the SmartCode (Jan. 11, 2009), <http://www.planetizen.com/node/36887> (noting that one planner feels that “[w]hat makes the SmartCode so powerful is the Transect as its analytical foundation. It requires the

What is important to understand about the 'transect system, as compared to a form-based system, is that the transect system ensures the form "fits" its surroundings.¹⁶⁴ While "[a] form-based code can effectively regulate the sustainable development of a building or block . . . if that same building or block is not properly ordered within a cohesive rural to urban context, then the building's form could be just as out of place as a tuxedo at square dance," no matter how nice the tuxedo may be.¹⁶⁵ There are six transects found in the SmartCode: Natural (T1); Rural (T2); Sub-urban (T3); General Urban (T4); Urban Center (T5); and Urban Core (T6).¹⁶⁶ Additionally, there is a "special district" (SD).¹⁶⁷ As the transect designations move from a low to a high number, the urban qualities of the land may become more diverse and the density may increase.¹⁶⁸ The special district, however, is reserved for uses that do not fit in any other transect, such as intensive industrial sites or power plants.¹⁶⁹ Different forms of urban agriculture can, and should, be incorporated into the varying transects, depending upon the appropriateness of their use in a specific area.

In addition to the incorporation of the transect concept, the SmartCode is a major improvement over form-based codes, since the SmartCode is a customizable ordinance, "combin[ing] zoning, subdivision regulations, urban design and architectural standards into one document" and is intended to be used across the board by municipalities.¹⁷⁰ To facilitate its use, the SmartCode also encourages the use of graphics, making it easier for the general public to understand than the standard zoning ordinance.¹⁷¹ In order to best understand the SmartCode, it is helpful to view two sample illustrations, which both reflect the six transects of the Code in different ways:

planner to consider diversity and to respect all habitats and environmental conditions - and code them into regulation.").

164. Emerson, *supra* note 41, at 641.

165. *Id.*, at 642.

166. SmartCode, *supra* note 160, at vii.

167. *Id.*

168. Gaspers, David A., *Form-Based Code as a Regulatory Tool for Mixed Use Urban Infill Development in Lincoln, Nebraska*, 47 (Dec. 16, 2006), http://digitalcommons.unl.edu/arch_crp_theses/2.

169. SmartCode, *supra* note 160, at SC8.

170. Gaspers, *supra* note 168, at 47.

171. Emerson, *supra* note 41, at 667.

Figure 1: Rural Urban Transect¹⁷²

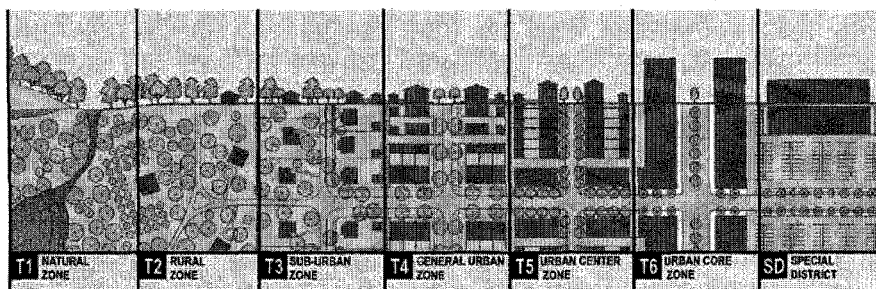
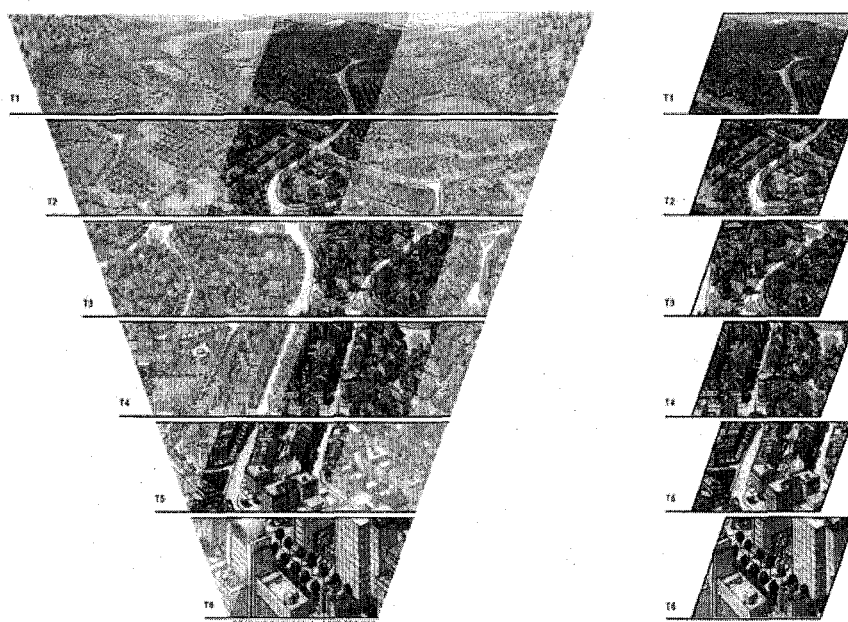


Figure 2: Transect Wedge¹⁷³



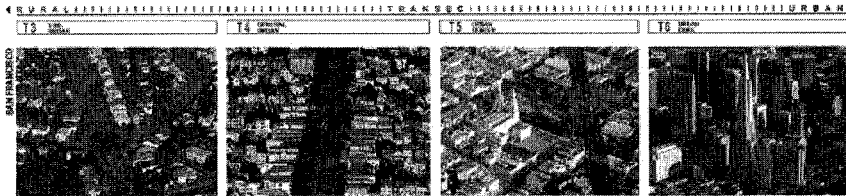
While Figure 1 represents transects in a diagram form, Figure 2 provides a helpful illustration of what transects might look like as a component of a larger region. In Figure 2, it is easy to comprehend the value of the transect systems and understand why, for example, a “six story

172. CENTER FOR APPLIED TRANSECT STUDIES, RURAL-URBAN TRANSECT, DUANY PLATER-ZYBERK & COMPANY, <http://transect.org/images/transect2.jpg> (last visited Jan. 31, 2012).

173. CENTER FOR APPLIED TRANSECT STUDIES, TRANSECT WEDGE, DUANY PLATER-ZYBERK & COMPANY, http://pedshed.net/blog/wp-content/uploads/2010/05/Transect_Wedge.jpg (last visited Jan. 31, 2012).

building . . . does not fit visually in a T3 Sub-urban Zone.”¹⁷⁴ Obviously, when such diagrams are placed into a zoning code, “it is wise to provide written guidance to match the intent of the illustration, both in form of the labels on the illustration and text with the regulation.”¹⁷⁵

Figure 3: A Transect Grid of San Francisco¹⁷⁶



A fascinating component of the transect system, as used in the SmartCode, is that it does not do away with “use” as a zoning concept.¹⁷⁷ Indeed, the SmartCode itself defines transect zones as:

[o]ne of several areas on a [z]oning [m]ap regulated by the SmartCode. Transect [z]ones are administratively similar to the land use zones in conventional codes, except that in addition to the usual building use, [d]ensity, height, and [s]etback requirements, other elements of the intended habitat are integrated, including those of the private [l]ot and building and [p]ublic [f]rontage.¹⁷⁸

174. Geller, *supra* note 6, at 46.

175. Garvin & Jourdan, *supra* note 155, at 420; see also John M. Barry, *Form-Based Codes: Measured Success through Both Mandatory and Optional Implementation*, 41 CT. LAW. REV. 305, 315 (2008) (noting that “conventional zoning ordinances are predominately composed of text specifying what is not allowed to be built, thus opening the door for much interpretation and conflict amongst neighbors and other residents. Use of easy-to-comprehend diagrams and graphics reduce the amount of paper work in a form-based zoning ordinance, yet still provides a clear example of what building or street type is permitted. The clarity that form-based codes afford alleviates the burden imposed on a developer during the administrative approval process.”).

176. CENTER FOR APPLIED TRANSECT STUDIES, *TRANSECT OF FOUR CITIES*, DUANY PLATER-ZYBERK & COMPANY, http://www.transect.org/cities_img.html (last visited Feb. 02, 2012).

177. Robert J. Sitkowski & Brian W. Ohm, *Form-Based Land Development Regulations*, 38 URB. LAW 163, 167 (2006).

178. SmartCode, *supra* note 160, at SC58.

In this manner, the SmartCode provides a series of form-based transects that are seamlessly segregated into their appropriate areas. Thus, with SmartCode zoning, uses are not prohibited, they are simply placed in the “transect zone most appropriate to their form and overall context.”¹⁷⁹ As Duany explained, “the transect does not eliminate the standards embodied in present zoning codes. It merely assigns them to the sections of the transect where they belong.”¹⁸⁰ An accessible example of how such an assignment occurs is through an office building:

Under Euclidean zoning, [an office building] would generally only be permitted in those use districts in which the conventional zoning code permits commercial uses. Under this scenario, it is essentially illegal for the lawyer or accountant or architect to live above her office, as has been a traditional model for many years, because doing so would impermissibly “mix” residential and office uses.

Under the SmartCode, an office building is still allowed but only in the transect zone most appropriate to its form. Thus, a one- or two-story office building might be permitted in a less urban transect zone – where most other structures are also one or two stories tall – whereas a multi-story office building would be permitted only in the more urban transect zones where taller buildings are the proper form.¹⁸¹

Office parks would no longer be allowed adjacent to a suburban area, since those buildings would not be consistent with the rural area in which they are placed.¹⁸²

Urban agriculture, on the other hand, would be allowed in many transects, depending on how well integrated it is with its surroundings. In this respect, the SmartCode is consistent with the provisions of the SZE, which state that “[s]uch regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality.”¹⁸³

179. Emerson, *supra* note 41, at 644.

180. *Id.* (quoting Andres Duany, *A New Theory of Urbanism*, *Scientific America* (Dec. 2000)).

181. *Id.*

182. *Id.*

183. SZE § 3, *supra* note 46.

The SmartCode is a flexible model ordinance and a discussion of specific issues, such as setback requirements, density patterns, and sidewalk widths, cannot occur unless a particular municipality is addressed. The SmartCode:

... is not persuasive and instructive like a guideline, nor is it intentionally general like a vision statement. It is meant to be law, precise and technical, administered by municipal planning departments and interpreted by elected representatives of local government. The SmartCode is designed to be calibrated to local circumstances, ideally with the participation of the local citizens.¹⁸⁴

Unless the model SmartCode is precisely followed, no two municipalities implementing the ordinance will have the same features. It is up to each city to determine the form of the regulation. Various New Urbanist planners have even gone so far as to create "modules" that can be inserted into a zoning ordinance in order to tailor the SmartCode to the needs of a local government.¹⁸⁵ For example, there are modules for canal urbanism, renewable resources, riparian and wetland buffers, and transit-oriented development.¹⁸⁶

X. The SmartCode is Both Legal and Encouraged in the State of California

If one legally challenged the implementation of the Code, could the SmartCode survive such a challenge? In the State of California, the implementation of the SmartCode is not only legal, but also encouraged by the Legislature.¹⁸⁷ In California, previously enacted law requires "[e]ach planning agency [to] prepare and the legislative body of each county and city to adopt a comprehensive, long-term general plan for the physical development of the county or city."¹⁸⁸ This plan is known as the general plan. The general plan is the guiding document upon which cities will base their zoning ordinances,¹⁸⁹ unless the city is a charter city.¹⁹⁰ The general

184. SmartCode, *supra* note 160, at iv.

185. See CENTER FOR APPLIED TRANSECT STUDIES, MODULES, <http://www.transect.org/modules.html> (last visited Feb. 02, 2012).

186. *Id.*

187. Gaspers, *supra* note 168, at 49.

188. CAL. GOV'T CODE § 65300.

189. CAL. GOV'T CODE § 65302; see also Governor's Office of Planning and Research, *A Citizen's Guide to Planning*, http://ceres.ca.gov/planning/planning_guide/plan_index.html#anchor147450 (last visited 01/30/12) (providing a concise

plan must include “a land use element that designates the proposed general distribution and general location and extent of uses of the land for housing, business, industry, open space . . . and other categories of public and private uses of land.”¹⁹¹

The California legislature felt such language might not promote the implementation of form-based zoning or the SmartCode.¹⁹² It therefore amended the Government Code to specifically allow for not only diagrams in the general plan, but also for the zoning ordinances to “express community intentions regarding urban form and design. These expressions may differentiate neighborhoods, districts, and corridors, provide for a mixture of land uses and housing types within each, and provide specific measures for regulating relationships between buildings, and between buildings and outdoor areas, including streets.”¹⁹³

The California State Assembly definitively allowed for the implementation of New Urbanist zoning codes, based upon the principles of traditional planning techniques.¹⁹⁴ In fact, the analysis section of the bill, authored by the Senate Local Government Committee, acknowledges that

summary of California’s planning laws); California Jurisprudence 3d. Zoning and Other Land Controls: Other Required Elements of the General Plan, 66 Cal. Jur. 3d Zoning and Other Land Controls § 74.

190. Charter cities must adopt a general plan, with similar requirements as non-chartered cities, but their zoning ordinances need not be based upon the general plan, due to their increased self-control, unless the city has more than two million residents. *Id.* at §§ 65803, 65860; *but see* City of San Diego v. City of Del Mar, 133 Cal. App. 3d 401, 414-15 (noting that “to the extent that a [charter] city approves a zoning ordinance which is inconsistent with the city’s general plan, the inconsistency must at least give rise to a presumption that the zoning ordinance does not reasonably relate to the community’s general welfare, and therefore constitutes an abuse of the city’s police power.”); California Planning and Development Report, Robert Freilich, *An Appreciation: Charles M. Haar, Leading Advocate for Comprehensive Planning*, Dies at 91, <http://www.cp-dr.com/node/3139> (last visited Oct. 15, 2012). The only charter city in California with more than two million residents is Los Angeles. *See* City of Los Angeles v. California, 138 Cal. App. 3d 526, 535 (holding Section 65680 is legal, despite applying only to the City of Los Angeles.).

191. CAL. GOV’T CODE § 65302(a), *supra* note 189.

192. Laura Hall & Paul Crawford, *Schwarzenegger Signs Smart Zoning Bill* (Aug. 17, 2004), <http://www.planetizen.com/node/129>.

193. CAL. GOV’T CODE § 65302.4.

194. Local Gov’t Comm’n, *Form-Based Codes: Implementing Smart Growth 2*, http://www.lgc.org/freepub/docs/community_design/fact_sheets/form_based_codes.pdf (last visited Feb. 02, 2012).

the language of the bill was directed at satisfying New Urbanism ideals.¹⁹⁵ Legislators knew of this deficiency, since the Governor's Office of Planning and Research, in February 2003, issued a white paper acknowledging the lack of recognition for form-based zoning in the Planning and Zoning section of the California Code.¹⁹⁶ In 2004, Governor Arnold Schwarzenegger signed Assembly Bill Number 1268 into law, adding Section 65302.4 to the Government Code, thus correcting the deficiency noted in the white paper.¹⁹⁷

Despite the state's approval of form-based zoning, some may continue to challenge form-based zoning ordinances. Form-based zoning ordinances could additionally be defended since local governments in California are granted the power to regulate land use through the California Constitution.¹⁹⁸ Local governments, if not preempted by the state, regulate land use as part of their police powers.¹⁹⁹ Even from a federal perspective, the *Village of Euclid* decision, while encouraging segregated zoning, nonetheless left local governments free to regulate zoning so long as it was a valid exercise of police power and sought to protect the health, safety, or welfare of their residents.²⁰⁰

195. See California Assembly Bill No. 1268 (2003), Assembly Bill – Bill Analysis, Senate Rules Committee, available at http://www.leginfo.ca.gov/pub/0304/bill/asm/ab_12511300/ab_1268_cfa_20040617_143429_sen_floor.html.

196. See Governor's Office of Planning and Research, *White Paper on Smart Growth Policy in California* (Feb. 10, 2003), www.scag.ca.gov/rcp/pdf/publications/WhitePaperSmartGrowthPolicyinCA.pdf.

197. Assembly Bill No. 1268; CAL. GOV'T CODE §65302.4.

198. CAL. CONST. art. 11, § 7 ("A county or city may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws."); CAL. CONST. art. 11, § 5 (stating that charter cities have even broader powers).

199. Historically, California was incredibly "hands-off" in terms of dictating comprehensive, statewide land use policies to local governments. Therefore, some cities encouraged sprawl, while others did not. See Harry Richardson & Peter Gordon, *Symposium: Breaking the Logjam: Environmental Reform for the New Congress and Administration: Panel V: Urban Issues: The Implications of Breaking the Logjam Project For Smart Growth and Urban Land Use*, 17 N.Y.U. ENVTL. L.J. 529, 538 (2008). Recently, however, the state implemented comprehensive regulations attempting to curb sprawl. See e.g., Senate Bill 375 (2008), available at http://www.leginfo.ca.gov/pub/0708/bill/sen/sb_0351-0400/sb_375_bill_20080930_chaptered.pdf; John Darakjian, *Comment: SB 375: Promise, Compromise and the New Urban Landscape*, 28 UCLA J. ENVTL. L & POL'Y 371 (2009).

200. *Euclid*, *supra* note 57, at 387; Barry, *supra* note 175, at 322.

Aesthetic considerations, in California, are within the scope of these police powers.²⁰¹ As a Court of Appeal recently stated:

A city's police power is not a circumscribed prerogative, but is elastic and, in keeping with the growth of knowledge and the belief in the popular mind of the need for its application, capable of expansion to meet existing conditions of modern life, and thereby keep pace with the social, economic, moral, and intellectual evolution of the human race. Therefore, as the congestion of our cities increases, likewise do the problems of traffic control and police, fire, and health protection. Comprehensive and systematic zoning aids in the successful solution of these problems and obviously tends thereby to affirmatively promote the public welfare.²⁰²

More broadly stated by the California Supreme Court, "[a] city's desire to grow at an orderly pace and in a compact manner is clearly encompassed within the concept of public welfare."²⁰³

Additionally, a California statute allows local governments to regulate the "location, height, bulk, number of stories, and size of structures"; "the size and use of lots, yards, courts, and other open spaces"; "the percentage of a lot that may be occupied by a building or structure"; "the intensity of land use"; "offstreet parking and loading"; and "building setback lines."²⁰⁴ On its face, this statute authorizes many of the components of a form-based, or transect-based, zoning code, which would include broad authority to permit urban agriculture.

Lastly, some might try to challenge the implementation of form-based zoning as a taking of property without just compensation. Zoning ordinances, however, do not constitute a taking of property when they only "incidentally restrict a use, diminish the value, or impose a cost in connection with the property."²⁰⁵ "Generally, if permissible uses exist, a development restriction does not deny a property holder the economically

201. See *Landgate, Inc. v. Cal. Coastal Comm'n*, 17 Cal. 4th 1006, 1023 (1998).

202. *Richeson v. Helal*, 158 Cal. App. 4th 268, 277 (2007) (citations and quotations omitted).

203. *Griffin Dev. Co. v. City of Oxnard*, 39 Cal. 3d 256, 266 (1985) (citations and quotations omitted).

204. CAL. GOVT. CODE § 65850 (2000).

205. 66 Cal. Jur. 3d Zoning and Other Land Controls, *supra* note 189, at §§ 134, 139.

viable use of his or her property so as to become a taking.”²⁰⁶ An area of concern, however, is with spot zoning, where one area of land has additional, or fewer, zoning restrictions placed upon it than does the surrounding property.²⁰⁷ If faced with a discriminatory, spot-zoning challenge, a form-based ordinance must be able to utilize the guiding language of the municipality’s general plan to support the claim that the zoning is consistent with local policy and not as targeted discrimination against a landowner.²⁰⁸

XI. California’s Cities Provide Excellent Examples of the Application of Form-Based Zoning

Since there is little question regarding the legality of form-based zoning and the SmartCode, it is not surprising that many municipalities implemented these codes in order to achieve their desired land-use ends.²⁰⁹ At least 37 areas across California utilize form-based codes or the SmartCode.²¹⁰ This occurrence is sustained by the legislative endorsement

206. *Id.* at § 134; *see also* Lucas v. S.C. Coastal Council, 505 U.S. 1003 (1992); *see also* Geller, *supra* note 6, at 84-85 (“Form-based codes normally increase property values, but even if one could demonstrate otherwise, a regulation diminishing most of a property’s value is not a taking. A zoning ordinance is invalid only if it prohibits all reasonable and economically viable uses.”) (quotations omitted).

207. Spot zoning is defined as: “Zoning a parcel of land differently from the parcels around it. For example, a school might be allowed in a residential zone if the local zoning authority decides it benefits the public welfare and is consistent with the city’s general land use plan. If a particular instance of spot zoning is challenged in court, the court might find it illegal if it violates the general plan, allows development that is very different from the current surrounding uses, or appears to favor an individual property owner to the detriment of the public.” NOLO’S PLAIN-ENGLISH LAW DICTIONARY, “Spot Zoning,” <http://www.nolo.com/dictionary/spot-zoning-term.html> (last visited Feb. 2, 2012); *see also* Arcadia Dev. Co. v. City of Morgan Hill, 197 Cal. App. 4th 1526, 1536 (2011).

208. Garvin & Jourdan, *supra* note 155, at 418-19.

209. *See e.g.*, SmartCode Complete, Workshops, <http://www.smartcodecomplete.com/learn/code-study.html> (last visited Feb. 02, 2012). In fact, The United States Department of Housing and Urban Development (“HUD”) recently incorporated New Urbanist ideals into its long-term plans. *See* Greg Lindsay, FastCompany, HUD Announces the End of Urban Sprawl as We Know It, New Urbanists Feel Fine (May 21, 2010), <http://www.fastcompany.com/1650533/the-end-of-sprawl-obama-administration-to-take-new-urbanism-mainstream>.

210. *Id.*

of such initiatives, which occurred because California was, and still is, in dire need of zoning reform to abate the spread of sprawl.²¹¹

From 1990 through 2004, approximately 540,000 acres of previously undeveloped lands were “urbanized.”²¹² Much of this land consisted of farmland, the output of which could be replaced by urban agriculture. By comparison, the entire State of Rhode Island consists of only 661,627 acres of farmland.²¹³ Implementation of the form-based zoning is one way that California’s cities have sought to combat such destruction. In order to view the SmartCode in action, it will be helpful to compare three examples of how form-based zoning is implemented in California.

In June of 2003, the City of Petaluma, California, adopted the SmartCode for use in its downtown area.²¹⁴ Petaluma was the first city in the United States to implement the SmartCode.²¹⁵ The city spent seven years, without success, attempting to plan a downtown redevelopment scheme and in order to break the gridlock the city hired a consultant who introduced officials and residents to the SmartCode.²¹⁶ Within nine months, Petaluma approved the SmartCode for use.²¹⁷ Petaluma chose to only regulate four hundred acres of downtown, infill land with the SmartCode, leaving the remainder of the property to be zoned through the city’s standard ordinances.²¹⁸ Additionally, Petaluma chose to adopt only transect zones General Urban (T4), Urban Center (T5), and Urban Core (T6).²¹⁹ Flexibility in

211. See *e.g.*, Defenders of Wildlife, *Sprawl Threatens Wildlife and Habitat*, <http://coolrevision.wikispaces.com/file/links/Sprawl+Threatens+Wildlife+and+Habitat+-+Defenders+of+Wildlife.mht>.

212. Edward Thompson, Jr., *Paving Paradise: A New Perspective on California Farmland Conversion*, AM. FARMLAND TRUST, 3 (2007), http://www.farmland.org/programs/states/ca/Feature%20Stories/documents/PavingParadise_AmericanFarmlandTrust_No07.pdf.

213. See U.S. DEP’T OF AG., ECON. RESEARCH SERV., STATE FACT SHEETS: RHODE ISLAND (2012), *available at* <http://www.ers.usda.gov/StateFacts/ri.HTM> (last visited Feb. 2, 2012).

214. See CITY OF PETALUMA, CMTY. DEV. CENTRAL PETALUMA SPECIFIC PLAN (June 2003), *available at* <http://cityofpetaluma.net/cdd/cpsp.html>.

215. See CENTRAL PETALUMA SMARTCODE, HALL ALMINANA INC., <http://www.hallalminana.net/projects/central-petaluma/central-petaluma.html> (last visited Feb. 2, 2012).

216. Form-Based Codes: Implementing Smart Growth, *supra* note 194, at 6.

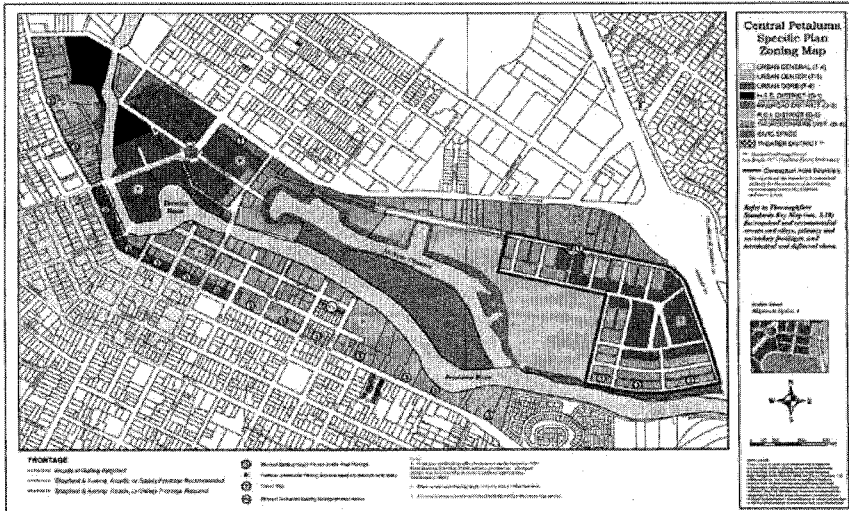
217. *Id.*

218. Barry, *supra* note 175, at 323.

219. CITY OF PETALUMA, CENTRAL PETALUMA SPECIFIC PLAN, APPENDIX A § 2.10 (2003), *available at* <http://cityofpetaluma.net/cdd/pdf/cpsp/CentralPetalumaSpecificPlan.pdf>.

implementation, as demonstrated by Petaluma, is a signature characteristic of the SmartCode.

Figure 4: Central Petaluma Specific Plan Zoning Map²²⁰



While the economic incentive provided by development and redevelopment of infill lands was a goal of the city, Petaluma additionally hoped to tackle the negative consequences of Euclidean zoning through the implementation of the SmartCode.²²¹ In the downtown area, pictured above, participation in the new SmartCode-based zoning was mandatory and shortly after its imposition, downtown Petaluma obtained tangible results: “over \$100 million worth of new development was entitled, including a riverfront plaza, 200 dwelling units, a 12-screen cinema, a 3-story mixed-use parking garage and 94,000 square feet of commercial space.”²²² This renewal transpired mainly because the adoption of the SmartCode was compulsory,

220. *Id.*

221. *Id.* at 7 (“Like many regions, Sonoma County is experiencing increasing problems of air quality deterioration, traffic congestion, and the loss of outlying lands devoted to agriculture and open space. Within this context, Petaluma has long favored city-centered growth. The [c]ity is well known for its pioneering efforts to contain urban sprawl and direct new growth within defined urban limit lines. As the city looks to its future, Central Petaluma emerges as a logical place for reinvestment and renewal.”).

222. CENTRAL PETALUMA SMARTCODE, *supra* note 215.

"an approach that fosters a cohesive and predictable result on the front end of the development decision-making process."²²³

While Petaluma chose to implement the SmartCode in a mandatory manner and for only a specific part of the city, an alternative when utilizing the SmartCode is to allow optional use of the code, either parallel to the existing zoning ordinances or floating "above" the existing ordinances.²²⁴

The SmartCode template is designed in such a way that it can be adopted in several formats, including to replace existing conventional codes, or as an alternative overlay code, parallel to the existing codes for election by an owner or developer. The benefit of this flexibility is that it allows the SmartCode to adapt to the varying political, legal, and design conditions found in different local jurisdictions.²²⁵

In Saticoy and Wells, California, two unincorporated communities outside of Ventura, the SmartCode and form-based zoning principles were adopted in an optional manner.²²⁶ For the existing suburban developments in Saticoy and Wells, the code proposes a parallel set of form-based codes. "The parallel system of coding retains the current zoning standards under which the subdivisions were entitled. In doing so, the parallel code encourages redevelopment into traditional neighborhoods by increasing choices and protecting existing development rights thereby not creating nonconforming development."²²⁷ Additionally, in order "[t]o provide an even finer level of precision and subtlety without creating new transect subdistrict zones, two overlay zones requiring store frontages and allowing limited existing residential use . . . were created."²²⁸

223. Emerson, *supra* note 41, at 671.

224. Barry, *supra* note 175, at 330-33.

225. Emerson, *supra* note 41, at 670 (quotations omitted).

226. The Communities of Saticoy & Wells share a Development Code and a Community Plan, <http://www.rangwalaassoc.com/Portfolio/planning/SaticoyWellsPlan/SaticoyWellsPlan.pdf>; <http://www.rangwalaassoc.com/Portfolio/Formbasedcodes/SaticoyWells/SaticoyWellsCode.pdf> (last visited Feb. 02, 2012); *see also* RANGWALA ASSOC., SATICOY WELLS COMMUNITY PLAN & CODE, <http://www.rangwalaassoc.com/Portfolio/Formbasedcodes/SaticoyWells/SaticoyWells.htm> (last visited Feb. 2, 2012) ("The FBC includes mandatory, optional, and floating standards to address unique on-the-ground opportunities.").

227. RANGWALA ASSOC. SATICOY WELLS COMMUNITY PLAN AND CODE, <http://www.rangwalaassoc.com/Portfolio/Formbasedcodes/SaticoyWells/SaticoyWells.htm> (last visited Feb. 2, 2012).

228. *Id.*

Another option for a municipality seeking to implement a form-based code is the mandatory adoption of the new code across the entire jurisdiction. In 2001, Sonoma, California,²²⁹ decided “[t]o break the daunting task of a wholesale code revision into more readily understood pieces, [and] the [C]ity was divided into 13 planning areas in four categories – residential, commercial district, commercial corridor and open space. Within each area, the existing situation was inventoried and compared to the desired future state.”²³⁰ One of the primary purposes for the revision to the Sonoma codes was to address sprawl and traffic congestion problems.²³¹ Sonoma, founded upon traditional neighborhood planning principles, provided an excellent base for form-based zoning:

The layout of streets on a grid emanating from the Plaza generally conveys vehicle traffic efficiently, and combined with the size of the [c]ity and its moderate climate and gentle topography, makes Sonoma a good place to bicycle and walk. The Urban Growth Boundary helps protect quality of life for Sonoma residents by concentrating future residential, commercial and industrial growth in areas where urban services are already provided.²³²

XII. Form-Based Zoning and Urban Agriculture Should Collectively Encourage a Return to Livable, Sustainable, and Environmentally Sound American Cities

How do urban agriculture and New Urbanist zoning schemes intersect? As noted earlier, sprawl negatively impacts California in many ways, including the consumption of large amounts of land. When sprawl spreads past the suburbs in search of new land, farms and agricultural land are prime targets. From 1990 through 2004, 28% of all newly developed lands in

229. See CITY OF SONOMA, DEVELOPMENT CODE (February 2005), *available at* http://www.sonomacity.org/uploads/Planning/Development_Code.pdf.

230. Form-Based Codes: Implementing Smart Growth, *supra* note 194, at 5.

231. DEVELOPMENT CODE, *supra* note 229, § 19.01.020(E) (A purpose of the code is to “minimize automobile use and congestion by promoting pedestrian and bicycle-oriented development, safe and effective traffic circulation, and adequate off-street parking facilities.”).

232. CITY OF SONOMA, BACKGROUND REPORT, 2005-2020 GENERAL PLAN UPDATE, 3 (May 2004), *available at* http://www.sonomacity.org/uploads/Planning/GP_Background_Rept.pdf.

California were previously considered high-quality farmland.²³³ Mitigation of lost farmland is highly important for the sustainability of California's and the United States' future.²³⁴ The natural environment, built environment, and surrounding community will all benefit if urban agriculture is incorporated, legalized, and encouraged within form-based zoning codes.

The SmartCode is "able to integrate a full range of environmental techniques" and urban agriculture is no exception.²³⁵ New Urbanist planners, recognizing the ability to integrate urban agriculture into the SmartCode, drafted a food production module to be utilized by local governments.²³⁶ As with all components of the SmartCode, the module visually demonstrates what types and scale of agricultural activities are allowed in which transect, while allowing for individualized customization by a local government. Duany notes that, despite being contained in a secondary module, agricultural planning is an indispensable facet for transect-based zoning like the SmartCode.²³⁷ "While agriculture may not be necessary or practical in the urban core, it does not need to be relegated completely to the rural zone either; it can and should be incorporated in varying degrees across the suburban and urban zones of the transect."²³⁸

233. Thompson, *supra* note 212, at 3; "high-quality farmland" is defined by the report as being prime or unique farmland, or farmland of high importance to the state. *Id.* at 4.

234. See *infra* p. 17-21 for a discussion on the many benefits of urban agriculture; 1/8 of all food produced in the United States is grown in California. See Edward Thompson, Jr., American Farmland Trust, Farmland Report. California: A Year of Progress, <http://blog.farmland.org/2011/12/california-a-year-of-progress/> (last visited Feb. 01, 2012).

235. SmartCode, *supra* note 160, at iv.

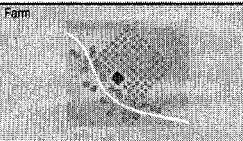
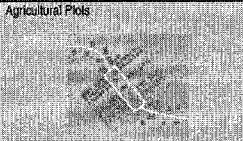
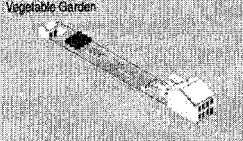
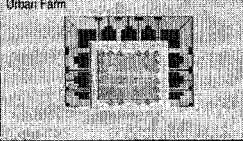
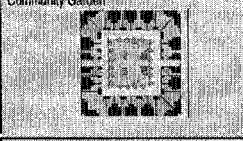


236. See CENTER FOR APPLIED TRANSECT STUDIES, JAMIE CORREA AND ASSOC., SUSTAINABILITY TABLE, SMART CODE MODULE, SMARTCODE MANUAL VERSION 9.2, SCA8 (2007), available at www.transect.org/docs/SustainabilityJaimeFINAL.pdf; see also Houston Tomorrow, Distinguished Speakers Series: Andres Duany (Oct. 30, 2009), available at <http://www.youtube.com/watch?v=Sfx4QnmTFZM> (noting the ease with which agricultural modules may be incorporated into the SmartCode).

237. Houston Tomorrow, *supra* note 236.

238. Matt Festa, Land Use Prof Blog: *Duany on Agricultural Urbanism* (Oct. 31, 2009), http://lawprofessors.typepad.com/land_use/2009/10/duany-on-agricultural-urbanism.html; see also Houston Tomorrow, *supra* note 236.

Figure 5: Sustainability – Food Production²³⁹

Sustainability - Food Production. This table shows ways of incorporating types of food production along the Transect.

	T1	T2	T3	T4	T5	T6	SD	Specific
Farm 								
Agricultural Plots 								
Vegetable Garden 								
Urban Farm 								
Community Garden 								
Green Roof - Extensive - Semi Intensive - Intensive 								
Vertical Farm 								

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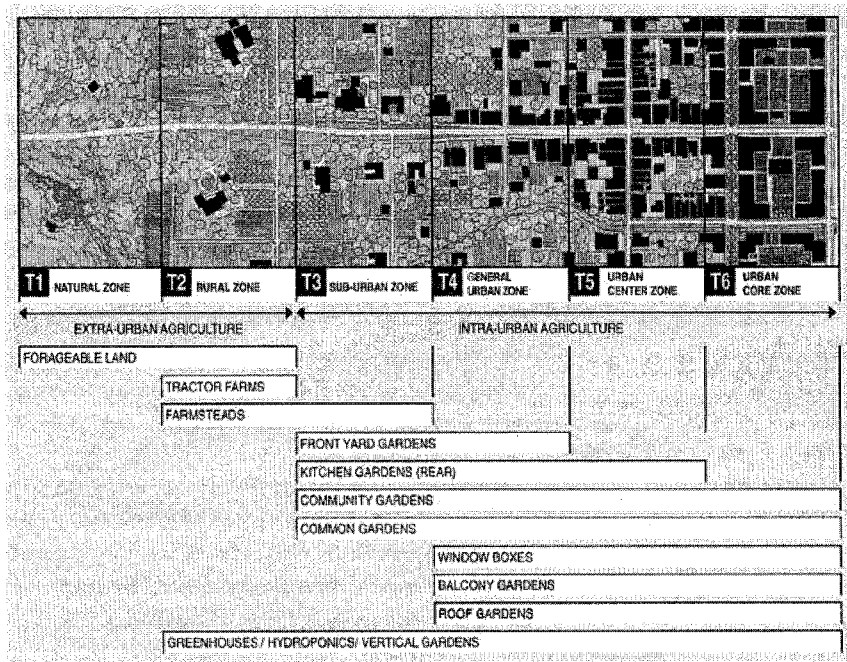
DPZ has additionally developed a new, intensive agriculture model called Agricultural Urbanism. Agricultural Urbanism is geared towards replacing and increasing the output from consumed farmland by creating

239. SmartCode Modules, *supra* note 236.

communities centered on agriculture production.²⁴⁰ While DPZ addresses how agriculture can be intensively factored into an area via the SmartCode, it should be understood that a municipality is not required to implement any policies as stringent as those suggested in DPZ's new report.²⁴¹ Nonetheless, the draft report provides a usable diagram suitable for guiding local governments and as a supplement to the food production module. The diagram demonstrates how and where different urban agricultural techniques could be incorporated into a transect-based ordinance. The techniques demonstrated on the diagram vary slightly from those proposed in the food production module. For example, the food production Module allows for urban farms in Transects 3, 4, and 5, while the new diagram does not utilize such a term.

240. DUANY PLATER-ZYBERK & CO., AGRICULTURAL URBANISM, DRAFT 2 (March 25, 2009), © courtesy of DUANY PLATER-ZYBERK & CO., published by LINDROTH DEV. CO., LTD., available at www.lindroth.cc/pdf/QuickReadAgf.pdf (last visited Feb. 02, 2012) (stating definitively "[t]his is NOT urban agriculture. This is *agricultural urbanism* in which all aspects of the urbanism are focused on the production of food."); see also Charles Waldheim, Notes Towards a History of Agrarian Urbanism, THE DESIGN OBSERVER GROUP: FORUM OF DESIGN FOR THE PUBLIC REALM, (Nov. 4, 2010), <http://places.designobserver.com/feature/notes-toward-a-history-of-agrarianurbanism/15518/> (providing a concise history of the intersection between urban planning and agrarianism).

241. *Id.* at 3 (In particularly strong language the paper states: "Every dwelling along the transect will contribute in some measure to food production, either by labor or by wages.").

Figure 6: Food Production Along the Transect²⁴²

The above diagram reflects Duany's belief that those living in suburban areas, with large lots and large homes, should be expected to contribute more to the local food-system than those who live in densely populated and automobile/petroleum dependent urban cores.²⁴³ According to Duany, "the more land you are wasting with a larger lot, the more you are expected to produce."²⁴⁴

Recently, Duany has gone a step further in the promotion of urban agriculture, endorsing a new concept called agrarian urbanism.²⁴⁵ "Agrarian urbanism is a society involved with the growing of food," and this society is structured in a similar manner to the suburban golf-community, where all facets of the community involve golf and where people move to the

242. *Id.*

243. See Houston Tomorrow, *supra* note 236.

244. *Id.*

245. See Allison Arieff, Good Cities, *Agriculture is the New Golf: Rethinking Suburban Communities* (Apr. 18, 2010), <http://www.good.is/post/agriculture-is-the-new-golf-rethinking-suburban-communities/>.

community specifically for the courses.²⁴⁶ Similarly, in an agrarian urbanist development, all activity revolves around food production. This is very different from the urban agriculture previously discussed, where “cities . . . are retrofitted to grow food.”²⁴⁷ Agricultural urbanism, on the other hand, is where “an intentional community is built that is associated with a farm.”²⁴⁸ The difference between the two is slightly similar to the difference between infill and new developments. Agrarian urbanism is similar to, and more appropriate for use with a new development, where the planner can control all aspects of the project. Urban agriculture, however, is more suitable for an infill project, where much of the infrastructure is already in place, but with a need for retrofitting.

As part of agrarian urbanism, residents will have gardens instead of yards, and they will be contractually obligated to “hand-tend[]” agriculture, as part of their homeowners’ association agreement.²⁴⁹ Duany understands his proposal will be controversial.²⁵⁰ While this Note does not go so far as to advocate for this extreme position, since it will be hard to garner support for such a proposal in many communities, it is nonetheless promising that planners are discussing and evaluating these new agricultural ideas. After examining agrarian urbanism, urban agricultural, by contrast, appears relatively easy; so easy that residents and municipalities may wonder why they are not doing more to increase the availability of locally produced, urban agriculture. A shift in the conversation to the extreme or perhaps to what is necessary, may help to produce concrete results.²⁵¹

XIII. Conclusion

With the return to traditional zoning practices, form-based zoning, and the SmartCode, the United States may once again be able to recreate its great cities, and return and restore existing urban areas to their former glory. These modern, yet traditionally rooted, zoning practices will help reduce

246. Greg Lindsay, FastCompany, *New Urbanism for the Apocalypse* (May 24, 2010), <http://www.fastcompany.com/1651619/the-new-urbanism-meets-the-end-of-the-world>, (quoting Andres Duany).

247. *Id.*

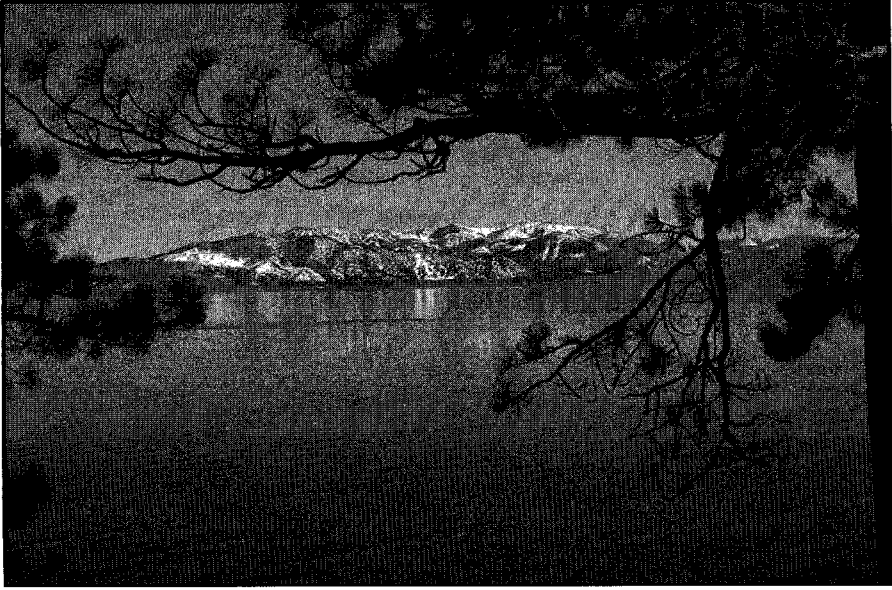
248. *Id.*; It must also be noted that many authors confuse the terms. Duany uses the word agrarian (but also agricultural), while some writers use the word agricultural in order to describe the same urbanist scheme.

249. *Id.*

250. *Id.*

251. Planners are already taking Duany’s proposals and attempting to adapt them to use. See Kaid Benfield, Natural Resource Defense Counsel Staff Blog: Switchboard, ‘Agricultural Urbanism’ That is Actually Urban (Jul. 6, 2010), http://switchboard.nrdc.org/blogs/kbenfield/agricultural_urbanism_that_act.html.

sprawl, automobile dependency, and greenhouse gas emissions, while increasing the sense of community experienced by residents. Just as urban agriculture played a role in the birth of America's cities, so too should it play a role in the rebuilding of cities. Urban agriculture and the principles of New Urbanism share similar goals regarding sustainability and they share the inherent qualities of being both good for the environment and good for the community. Both urban agriculture and form-based zoning techniques can bring livability back to America's cities. Hopefully, with the advent of the SmartCode, urban agriculture and traditional zoning practices will once again work in tandem to encourage and achieve environmentally sustainable and livable communities.



Trees
Lake Tahoe, California

By Steve Nance

Steaming solemnly out of the fjord and down the coast, the islands and mountains were again passed in review; the clouds that so often hide the mountaintops even in good weather were now floating high above them, and the transparent shadows they cast were scarce perceptible on the white glacier fountains. So abundant and novel are the objects of interest in a pure wilderness that unless you are pursuing special studies it matters little where you go, or how often to the same place. Wherever you chance to be always seems at the moment of all places the best; and you feel that there can be no happiness in this world or in any other for those who may not be happy here.

~ John Muir*

* JOHN MUIR, TRAVELS IN ALASKA (Houghton Mifflin Comp., The Riverside Press Cambridge, Boston and New York, 1915), *available at* <http://www.gutenberg.org/files/7345/7345-h/7345-h.htm>.
