

# How Dimensional Standards Shape Residential Streets

by Joel S. Russell

Dimensional standards, which regulate building setbacks and height, lot coverage, minimum lot area, and similar matters, have been one of the basic building blocks of zoning since its inception. If a community's goal is to create a suburban environment of widely spaced buildings surrounded by lawns and parking lots, then the dimensional standards found in most communities' land use regulations today work well. However, if a community's goal is to create more compact neighborhoods, with an attractive public realm conducive to walking, it may need to re-examine its dimensional standards to ensure that they will help achieve this goal.

This article will explore some of the key differences between dimensional standards that have fostered our conventional development pattern, and those which underlie the growing "new urbanism" and "smart growth" movements – standards designed for what new urbanists call "traditional neighborhood" developments. But first, it helps to look back and consider the origins of the suburban dimensional standards commonly in use today.

## LOOKING BACK

The origin of dimensional standards harkens back to the original purposes of zoning, which arose in the industrial age both to protect residential uses from the harmful effects of industry and to ensure that homes and workplaces would not be overcrowded and would have sufficient light and air. The impulse behind both use and dimensional regulation was to separate things: to separate incompatible uses from one another and to separate buildings so that there would be enough breathing room. This made sense in its time. But as the 20th century progressed, local governments extended and inflated

dimensional standards to the point of creating an enforced no-man's land between buildings, a spatial geography that inspired the title of James Howard Kunstler's book, *The Geography of Nowhere*.

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The tendency toward increased separation of buildings was also influenced by the American landscape architecture movement, especially the work of landscape architect Frederick Law Olmsted. His notion of the "house in the park" gave rise to many beautifully landscaped subdivisions in early 20th century suburbs. Olmsted's idea went far beyond providing sufficient light and air for human health. By widely separating houses in a naturalistic setting, Olmsted believed residents would feel a closer connection to nature.

Unfortunately, the Olmsted ideal of the house in the park has too often degenerated into the reality of the "cookie-cutter" style suburban subdivision. Many developers clear sites and carpet the land with houses following the simple geometry of the dimensional standards of zoning and subdivision ordinances, with little regard for vegetation, topography, natural systems, or the creation of a sense of community.

For cities and towns concerned about controlling growth and development, a common "solution" has been to increase minimum lot sizes and setbacks, pushing houses even further apart. Not

surprisingly, this results in neighborhoods even less conducive to walking.

The widely spaced housing pattern found in much of suburbia neither harmonizes with nature nor creates the sense of neighborhood found in a traditional village, town, or city. Olmsted's ideal was to use design to combine the best aspects of both the city and country. As embodied in conventional zoning practice, however, the outcome has often been the worst of both worlds: the isolation and automobile dependence of rural areas – without their peace and natural beauty; and the traffic congestion of urban areas – without their convenience, walkability, and sense of community.

## CHANGING PURPOSES: TOWARD THE SHAPING OF PUBLIC SPACE

In response to a growing dissatisfaction with this low-density, land-consumptive pattern of suburban development, a new movement emerged in the late 20th century, one which has turned dimensional regulation on its head. The "new urbanism" movement has understood that dimensional regulations can be used to shape and define public, neighborhood-oriented space, rather than to separate and frame individual buildings. Indeed, "new urbanism" is often a form of "old urbanism" since it draws on patterns of neighborhood and village development common before the widespread adoption of local zoning in the early 20th century. *Editor's Note: For more on the new urbanism movement, see Philip Langdon's, "New Development, Traditional Patterns," in PCJ #36 (Fall 1999).*

Conventional dimensional standards, by focusing on the goal of separating buildings from one another, give little attention to the design of the "streetscape," that is the street and the space surrounding it. To shape this space, planners and landscape architects are realizing that it is necessary to pull



Widely spaced homes with deep setbacks – a common pattern across America.



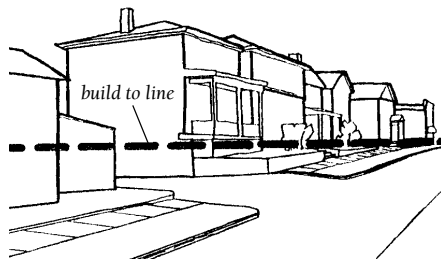
buildings close to the street so that they create a sense of enclosure and make the street into an open air “outdoor room” in which the “walls” are the front facades of buildings and the “floor” consists of the street, sidewalk, and the front yards of buildings. This also creates a much more compact form of development, encouraging walking and social interaction.

### SETBACKS AND BUILDING HEIGHT

The front setback is perhaps the most obvious dimension that must be modified when the objective changes from separating buildings to shaping the public space of the street. With conventional dimensional regulations, minimum front setbacks ensure that houses are set far away from the street, generally too far back to enclose the space of the street. When the goal becomes shaping the space of the street, it is important

instead to reduce the front setback.

Buildings that face each other across a street should be close enough to frame the street space and make it feel more like a room. Dimensional regulations that shape this public space therefore do not rely on minimum front setbacks, which often result in building separations that are far too large. Instead, such regulations use either a combination of minimum and maximum setbacks (sometimes referred to as a “setback zone”), or a “build-to” line. A build-to line is set parallel to the street at a fixed



distance from it. Building facades are aligned along the build-to line, creating what is sometimes referred to as a “street wall.”

To maintain the continuity of the street wall, it is also important to have a dimensional regulation not found at all in conventional zoning, a “minimum frontage build-out” requirement. This is a requirement that the building facade must occupy a minimum percentage of the lot width (usually between 70% and 100%). This ensures a relatively continuous street wall without large gaps between buildings. By contrast, minimum side yard setbacks found in conventional zoning often serve exactly the opposite purpose: keeping buildings widely spaced.

Generally, the farther apart buildings are as they face each other across a street, the taller they need to be to enclose the streetscape effectively. Thus, the wide boulevards of Paris still feel intimate because they are enclosed by six-story buildings. While most conventional zoning ordinances regulate building height only by establishing a maximum height, traditional neighborhood regulations establish both a maximum and a minimum height, determined in large part by the width of the streetscape (i.e., the street, sidewalk, and front yards). The use of only maximum height requirements in most zoning ordinances has allowed the proliferation of single-story buildings, especially in commercial areas. These cannot effectively enclose any but the narrowest of streetscapes.

Street trees can also do much to shape the space of the streetscape. Where large shade trees are aligned at regular intervals in a tree lawn along a street, they define space in several important ways. They create a kind of soft street wall along the street, while simultaneously framing the space between the sidewalk and the buildings. In addition the trees create a partial “roof” canopy over both the sidewalk and the street. Shade trees can help create an intimate pedestrian-oriented feeling even in neighborhoods where houses are more widely spaced, because the trees divide up and shape the public spaces.

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## The "Street Wall"

The design of the public realm is the essence of traditional neighborhood regulation, and building facades are the "walls" of that realm. Thus, the design of building facades takes on a critical importance. There are many ways to regulate facades, from prescribing minute architectural detail to the use of very general design criteria. However, certain basic facade design features are essential to creating a pleasing and inviting public space. The most fundamental is the avoidance of blank walls by requiring windows and doors that are regularly spaced. It is desirable to also prescribe such basic architectural features as acceptable roof types and roof pitches, building materials, and percentages of glazing.

There is a fine line between requiring that buildings create an attractive public space and legislating architectural taste, and different communities draw that line in different places. This may seem unrelated to dimensional regulations, but if the goal of traditional neighborhood dimensional regulations is the design of public spaces, then these issues should also be addressed.

*Editor's Note:*

### Designing Better Residential Streets

In recent years planners and landscape architects have started to pay more attention to the design of residential streets. As Michael Southworth and Eran Ben-Joseph note in *Streets and the Shaping of Towns and Cities* (McGraw Hill 1997): "Rethinking of suburban street standards is needed today to create more cohesive, livable, and energy-efficient communities. ... Simple dimensions for minimum street width, sidewalks, or planting strips may seem innocuous, but when applied to miles of streets in hundreds of subdivisions occupied by millions of people, they have an enormous impact on the way our neighborhoods look, feel, and work for us."

### How Dimensional Standards...

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*Building closer to the street and reducing side yard setbacks is actually a return to an earlier suburban pattern. Above left, homes in DuPont, Washington (between Tacoma and Olympia) built circa 1910. Above right, a block in the "new urbanism" Northwest Landing development, also in DuPont. Below left, homes in one of Chicago's typical 1910-20's era bungalow suburbs. The new community of Celebration, Florida (bottom right) returns to a similar pattern of modest setbacks aligned close to the street.*



### DESIGNING THE STREETScape

Conventional zoning and land use practice ignores the relationship between the street and the individual building or lot. This relationship is central to the traditional neighborhood approach. In conventional practice, design specifications for streets and sidewalks are completely independent of zoning regulations, which relate only to the individual lots that line the street. Specifications for new streets are also treated entirely differently from specifications for existing streets. New streets are governed by design specifications in subdivision regulations, while existing streets are controlled by specifications of

the city, county, or state agencies that maintain them. The result is that it is very difficult to coordinate development of the streetscape with the lots that shape it. Traditional neighborhood planners have had to develop new kinds of codes that simultaneously regulate the streetscape and the buildings that frame it.

Conventionally, the dimensional standards for streets are intended to maximize the speed and flow of traffic, and minimize obstacles to access by fire trucks and other emergency vehicles. The result has been very wide streets with few street trees and large turning radii at intersections. This directly

opposes the goal of creating a pedestrian-friendly public realm. Highway and fire departments, concerned respectively with moving vehicles efficiently and maneuvering large fire trucks, frequently square off on these issues against community activists, planners, and designers who are concerned with making livable communities.

There is, however, a growing body of engineering knowledge showing a middle way, that is, more sophisticated street standards that allow for both the efficient movement of vehicles and a more pedestrian-friendly environment (sometimes on different street types). One of the keys is the restoration of the interconnected street grid with small blocks and many street connections. This grid pattern disperses traffic and enables emergency vehicles to use alternate routes when there is an obstruction on a street.

The grid and its variations once formed the basic skeleton of American towns and cities. But over the last 50 years, the grid has been largely abandoned in favor of a street system consisting of a hierarchy of arterials, collectors, and local access streets (many of which are cul-de-sacs). These are arranged in a pattern similar to the branches and trunk of a tree, with traffic funneled onto congested arterials.

In contrast, regulations designed to promote traditional neighborhood development provide for narrower streets, shorter block lengths, and shorter distances between cross-streets. The use of alleys is encouraged, while cul-de-sacs are often prohibited. The newer regulations use street cross-sections that show wide sidewalks, lawns with street trees between the sidewalk and the street, and relatively narrow streets with on-street parking.

#### SUMMING UP:

The challenge for planners and planning commissioners is to determine what pattern of land development the community wants to see: auto-dependent with low-density, widely spaced buildings, or pedestrian-oriented with more compact, closely-woven neighborhoods. If the community wants to move towards

the latter, it is essential to re-examine dimensional standards to ensure that they will, in fact, support achieving this goal. ♦

*Joel S. Russell is a planning consultant and land use attorney based in Northampton, Massachusetts. He is an active member of the Congress for the New Urbanism and works with municipalities, land trusts, landowners, and developers on traditional neighborhood design, open space preservation, land use regulation, and community consensus building. Russell's previous articles in the PCJ include: "Land Trusts and Planning Commissions: Forging Strategic Alliances, in PCJ #34 ; "Diagnosing Your Community Before You Plan," in PCJ #26; and "Rethinking Conventional Zoning," in PCJ #15.*

