

ZONING PRACTICE

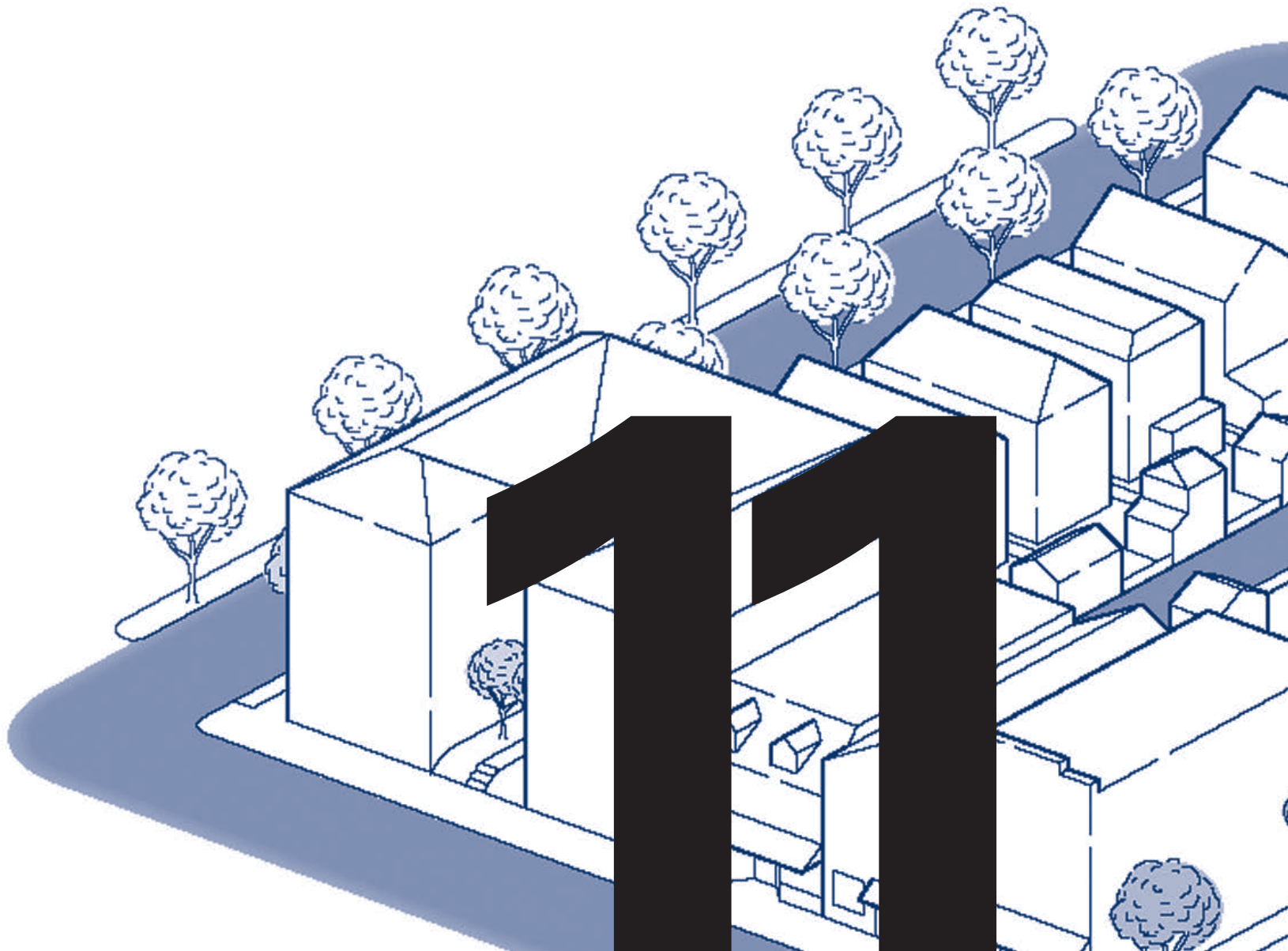
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PRACTICE FORM OVER DENSITY



Beyond the Density Standard

By Norman Wright, AICP

Density requirements are a well-intentioned idea with unintended consequences. Fortunately, there are better solutions available.

For decades, cities have used density as one of the principal means for regulating the built environment. In virtually every instance, from rote limits such as units per acre to more elaborate approaches such as floor area ratio, these standards have dictated much more than just the amount of development that can occur on a given acre of land. And for all the attention that has been directed toward land-use requirements, the use of density standards has largely gone unquestioned in general zoning practice.

While the relationship between the absolute separation of land uses and sprawl is well documented, it is important to note that conventional density requirements also contribute to sprawl. When residential development is artificially limited to a finite number of homes per acre, more land is needed to satisfy residential demand and greater subsidies are required to encourage provision of affordable housing in desirable neighborhoods. The good news is that zoning techniques rooted in the form and character of development can address community concerns about compatibility better than simple density limits.

PERCEPTIONS ABOUT DENSITY

One of the common motivations for regulating density, especially in residential development, is to preserve or improve an area's "quality of life," a term that changes meaning with every new development proposal. The logic is that the number of units allowed is inversely correlated to the "quality of life" for the surrounding area. As density increases, "quality of life" decreases. This argument is familiar to planners, and it is raised by the public in virtually every apartment building or town house proposal. Communities seldom agree on what "quality of life" is other than to suggest that they

know it when they see it. In fact, a community's judgment of new development often hinges on aesthetics. A good example of this comes from a recent case in Iowa City, the home of the University of Iowa.

In early 2012 Iowa City received a development proposal that sparked such a public outcry that the entire zoning ordinance had to be reexamined and parts rewritten in reaction to the protest. The controversy surrounded a pair of four-story structures that would be built in a block of town surrounded by single-family neighborhood. The development would feature a mix of commercial and residential space, and the developer would need to demolish three existing structures (including a restaurant and bookstore) to make way for the new construction.

The proposal complied with all zoning regulations at the time, but the community resisted the change. Petitions were circulated and 4,600 residents signed their disapproval. Specific concerns covered the gamut of common arguments where high-density development is involved. For example, like most high-density housing—especially in a university town—the proposal was for rental housing, and some commenters worried that the lack of home ownership would mean a lack of proper maintenance. There were also concerns over the potential for nuisances such as loud noise and vandalism. Others mentioned the likelihood of parking shortages as more people moved into the area.

Weeks after the initial proposal, these concerns and many more continued to grow and crystallize until the city council decided to review its density regulations. The city declared a 60-day moratorium on all projects related to any proposed zoning change in order to give staff time to evaluate regulatory alternatives. The subject development was initially included in this decision until

officials discovered that certain permits had already been issued. Even so, the effort to reexamine the city's attitude toward high-density development was under way.

Two months later the city council voted to make three changes to its zoning ordinance. All three changes were designed to limit the density of future developments like the one proposed. First, the number of unrelated persons allowed to live together in a dwelling unit dropped from five to three. Second, the number of parking spaces required for large apartment buildings increased by an additional space per unit, and third, the number of allowable bedrooms for multifamily uses was lowered to a maximum of three.

While the city adopted these amendments in order to preserve the existing fabric of the neighborhood and minimize nuisances associated with new student housing, density regulations may not be the ideal tool to achieve these goals.

For example, residents in the Iowa City case voiced concern over potential nuisances such as noise, vandalism, and late-night activities. The solution was to lower the number of potential inhabitants in the area. This action assumes that it is the number of people living in the area that determines the likelihood of nuisances, but a visit to any desolate, blighted neighborhood illustrates how fewer people often leads to more nuisances. Though high-density development may increase the potential for nuisances, the better solution for such problems is likely outside the realm of zoning and is found, instead, in the city's actual nuisance ordinance. A well-crafted and well-enforced nuisance ordinance can eliminate the issues of excessive noise not only for high-density development but for all developments in all parts of the city.

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About the Author

Norman Wright, AICP, is the director of development services for Columbia, Tennessee. He holds a master’s degree in City and Regional Planning from Clemson University. His recent work includes writing the first adopted plan under the Partnership for Sustainable Communities and the first citywide form-based code for a major town in Tennessee. His writings have been published in *Practicing Planner* and *Planning*. The author extends his appreciation to Charles Marohn, Peter Katz, Steven Price, and the firm Moule & Polyzoides for their contributions to this article.

Meanwhile, the other major concern voiced by project opponents related to potential parking shortages—that greater housing density would attract more residents and more demand for parking spaces. The community’s opinion was that the proposed development did not have enough parking spaces to serve its clientele and that all parking should be self-contained within the property. Shared parking or on-street parking was apparently not supported by the community. Thus, the solution in Iowa City was to require more parking spaces for multifamily uses. This standard creates a disincentive for future development, but in cases where new development does occur, the existing neighborhood fabric may be disrupted by large parking areas.

COMPATIBILITY IS THE REAL ISSUE

There was an online petition titled “Save the Red Avocado,” a reference to the restaurant that was demolished to make way for the proposed four-story development. The petition is a beautiful, heartfelt entreaty from many residents who love this portion of the city. The second line in the petition’s narrative goes to the heart of all anti-density arguments: “The proposed new development building’s size, height, and residential density are incompatible with the residential character of the neighborhood.”

But in doing so, this same statement points to the real limitations of density regulation. In any instance where the density of a given area is subject to change, the concerns that surround that change are not focused

on the plain, numerical shift from three units per acre to five units per acre. They aren’t even a concern of multifamily housing versus single-family housing. The true focus of such concerns relate to compatibility, or the perceived impact a proposed change will have on the existing character and form of its surrounding area.

In the December 2010 issue of *Zoning Practice* author Bret C. Keast, AICP, offered the following description of community character: “Community character is based on the relative balance of design elements. This means that, within reason, development may have different uses, mixed housing and building types, varying densities, and different lot and street patterns while being of the same character.”

In his article Keast makes a convincing argument that focusing on community character can lead to much greater success in realizing the desired future of a community. As he points out, land use and density do influence traffic, parking, and utility capacity, but these characteristics don’t adequately capture the concept of character. Best of all, the concept of “character” and “compatibility” is just as tangible and easily measured as density and land use when proper form-based elements are applied. With such analysis, an area’s character can be boiled down to the physical composition of its built environment. Suburban areas can be recognized not solely for the presence of single-family homes on quarter-acre lots, per se, but rather as a collection of buildings set on lots with moderate setbacks, consistent building heights, porches facing the street, and so forth. These physical characteristics are what people use to interpret an area as being a neighborhood versus a downtown. And these characteristics can be defined in



Image courtesy Charles Marohn at www.stonycorps.org

ⓘ An example where density is the least of the issues at hand. Incompatible development takes many forms, and it is the form itself that makes it so harmful to its surroundings.

clear numerical values, allowing planners and officials to focus on concrete variables instead of wrangling with vague, contextual ideas such as “quality of life.”

The citizens of Iowa City, along with countless other cities, would likely agree that their concern is one of community character and compatibility and not solely focused on the number of dwelling units or type of ownership involved. Concerns surrounding traffic, parking, infrastructure, and more are legitimate matters in any proposed development. Nuisance concerns are also prominent and absolutely real. But from all these issues, the central phenomenon that motivates citizens to demand change (and planners to alter their zoning ordinances) is the threat of development that is incompatible to the area.

SOLUTIONS FOR INCOMPATIBLE DEVELOPMENT

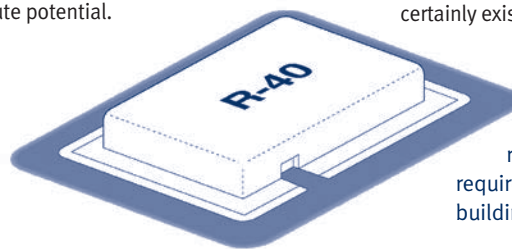
For a zoning ordinance to better address incompatible development, the first step is to define the existing character of a given area. For example, Columbia, Tennessee, recently wrote a new zoning ordinance in which all districts are first described by their actual physical form and intensity of use (i.e., level of noise, traffic, hours of operation, etc.). Built from the framework of the rural-to-urban transect, this new set of zoning districts focuses on the physical characteristics that make each environment unique. Each element is selected based on the ability to measure them in exact detail. For example, while a suburban neighborhood might be “quiet” and “safe,” the elements that dictate the actual character are form based and include components such as the following:

- Setbacks
- Yard types (presence of front, rear, or side yards)
- Building Height
- Block Length
- Lot Coverage
- Frontage Type
- Facade to Lot Frontage Ratio

These measures, which are increasingly common in contemporary zoning ordinances, provide clear, measureable information on the physical traits of any given area. As Dan Parolek, coauthor of the book *Form-Based Codes*, describes, the combination of these numbers constitute the “DNA” of a particular place. Each value is established by measuring the existing features of each zone or “transect.” For example, the lot coverage of an urban zone is established by defining the

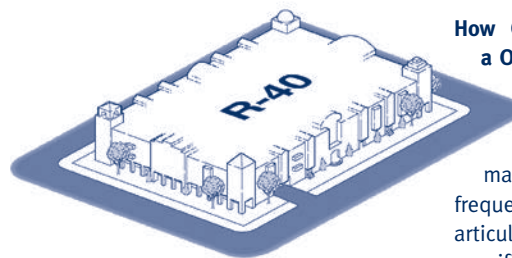
actual lot coverage of the area that will be emulated. This is a critical aspect of form-based standards. The values are not based on vague concepts or arbitrary desires about what looks good. They are instead rooted in plain, detailed numbers based on the ideal environment that the city wants to replicate.

These measures include no mention of density. However, density is impacted, and often controlled, by each of these factors. To extend Parolek’s metaphor, our own human DNA doesn’t dictate our adult height, but it certainly determines our potential growth. Likewise, the built environment’s DNA doesn’t dictate density but certainly establishes the absolute potential.



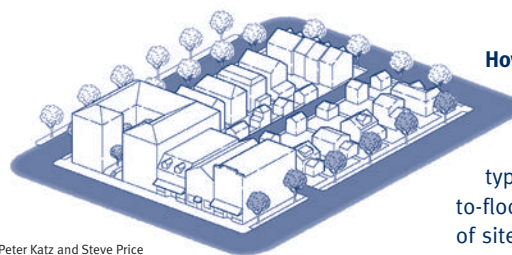
How Zoning Defines a One-Block Parcel

Density, use, floor-area ratio, setbacks, parking requirements, and maximum building heights specified



How Guidelines Define a One-Block Parcel

Density, use, floor-area ratio, setbacks, parking requirements, maximum building heights, frequency of openings, surface articulation, and landscaping specified



Peter Katz and Steve Price

How a Regulating Plan and Codes Define a One-Block Parcel

Street and building types, build-to lines, floor-to-floor heights, and percent of site frontage specified

This notion may seem faulty at first glance. A collection of form-based elements governing setbacks, lot coverage, and building height may not appear to impact density at all, particularly when compared to the ultimate regulation for density potential: the common maximum density standard. Zoning ordinances typically do a terrific job of defining the absolute potential for density by stating that no more than, say, four units per acre may be developed in a given district.

But density aside, what else is known or assured with the future development? The land use is likely restricted, but is there any other regulation that will ensure that the right form of development takes place? For example, if a

development is to be single-family residential with a density of four units per acre, it is no exaggeration that a common zoning ordinance would then allow a plain building devoid of any architectural features to be developed so long as it complied with building codes and setbacks. This building would likely be incompatible with the defined character of the area. After all, most single-family residential areas are identified not by the families who live there but by the unique buildings they occupy. These buildings commonly have pitched roofs, front porches, facade widths around 30 to 40 feet, building heights of 25 to 30 feet, side driveways, and rear parking. Variations certainly exist between each individual house

but, on the whole, buildings in a neighborhood possess some version of these aesthetic features in a consistent manner. And when one building along the street happens to lack these features, surrounding residents naturally become concerned since the physical character of the area is no longer maintained. In short, it is the lack of these physical features that creates the visual cue that something is amiss. From that initial discovery, discussion often leads to questions about density or land use, but those are secondary to the issue of compatibility.

Without form-based regulations, density standards cannot ensure compatible development. The Iowa City case shows firsthand that a request can meet the zoning



➡ An image of compatible development as defined by rote density and land-use regulations.

ordinance standard for density and land use and still be unwelcome. But the problems run deeper. Not only does density regulation not ensure compatible development, it often makes great development illegal.

In any scenario where density is completely removed from the picture, form-based elements can provide a more defensible, and understandable, basis for judging good development. A prime example of this is the Mission Meridian South development in South Pasadena, California. Designed by the architectural firm Moule and Polyzoïdes, the development features 37 dwelling units per acre. If judged solely from a density and land-use perspective, as in any conventional zoning ordinance, this type of development would often be prohibited. Not because of land use (many zoning ordinances embrace mixed use concepts) but because the density appears quite incompatible with its surroundings. Outside of major downtown districts, few ordinances permit 37 dwelling units an acre by right.

However, with the focus on form alone, this uncommon development is recognized to be fully compatible with the area's character as an urban neighborhood. The scale of development, its footprints and placements, are examples of ways in which the existing form is maintained. There is a great deal of focus on the frontage for the residential buildings. Each frontage features California

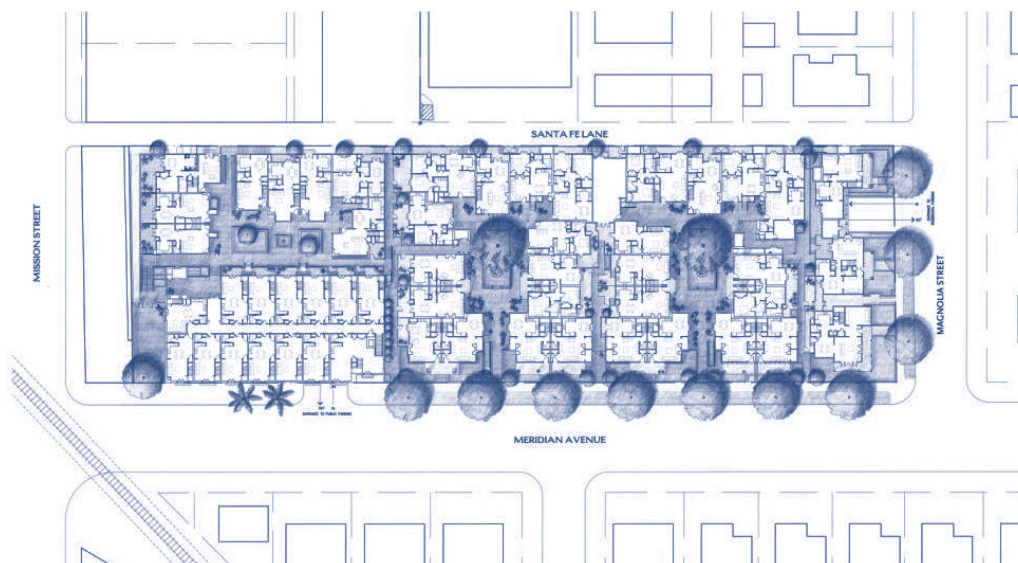
bungalow architecture with windows, awnings, stoops, and cupolas, all designed to the style of single-family homes. Facade widths and building height, meanwhile, maintain a consistent rhythm that decreases in scale as the development shifts closer to the adjacent blocks of single-family homes.

When these form-based elements are the focus of a proposed development, the actual density of the site becomes inconsequential. One can't help but imagine that residents of Iowa City would be more welcoming of a project of this density if it was designed with these character elements in mind. The best solutions respect and emulate physical attributes that residents love about their respective neighborhoods.

Real concerns still exist, of course. Aforementioned issues such as traffic, parking, and noise still have potential impacts no matter what type of development is proposed. In these instances, there are better, more direct methods of addressing the issues.



© Moule & Polyzoïdes, Architects and Urbanists



➡ (Center) Street level view of Mission Meridian South's "bungalow" units. Each unit features several dwelling units in a single-family form. (Left) Plan for Mission Meridian South. The image shows a design for attached housing in building footprints that are consistent with the scale of adjacent development.

TRAFFIC AND DENSITY

Congestion and density are often tied together when examining the impacts of growth—the greater the collective density of an area, the greater number of cars on the road. This is true, but the actual relationship to congestion is quite difficult to measure. The entire science of transportation planning constantly searches for the next best predictive tool to define this relationship. But if the goal is to prevent congestion, zoning ordinances and their density limits are not the best solutions. After all, some of the most congested roadways—commercial highway corridors—are notorious for being devoid of residential development at any density. The problem, then, is not the amount of density in any given area but the design of the road network.

Planners are often fully aware that a network that funnels many small roads into a few major collectors and arterials is the true cause of congestion. Local densities are seldom a contributing factor when regional traffic is diverted onto major highways. These common networks should be redesigned to provide more route options, such as grid networks, rather than propose limited density somewhere along the outer reaches of the highway. And when a solution does involve residential densities in some respect, that solution is often not in limiting density in each development but allowing more through urbanized infill development.

After all, each city has a certain amount of market demand for new housing. If that demand is for 4,000 new homes in a given year, but zoning requires these homes to occupy no more than four units an acre, that leads to 1,000 acres of development, with each house placed increasingly further away from destinations. As these houses are placed further away, their dependence on automobiles and limited road networks becomes greater. This is a prime example of how low and medium density (e.g., two to six units per acre) can exacerbate congestion.

When viewed in light of the long history of sprawl development, density regulation to manage traffic congestion is neither a direct, effective solution for the problem or a sustainable practice when an area experiences demand for more growth.

A 2012 study of the Arizona Department of Transportation finds this very condition to be the source of many traffic issues today. The solution? More grid streets and higher density development of the sort proposed in both the Iowa City

development and Mission Meridian South. This finding is supported by a careful analysis of four different areas of development. Each area features differing levels of development density and design, and the result is that the highest density areas featuring the best design actually perform better at mitigating congestion when compared to lower density areas.

is often drafted to the detriment of the community’s character. In this respect, there is a fine balance between too much and too little parking. The more parking that a multifamily development is required to build, the larger the parking lots become, creating empty space along street frontages and creating an “island effect” where the multifamily building is often surrounded on all sides by more and

COMPARATIVE CHARACTERISTICS AND PERFORMANCE OF THE FOUR STUDY AREAS				
	Scottsdale	Bell Road	Central Avenue	Tempe
<i>Land use</i>				
Density	High	Low/Medium	High	Medium/High
Mix	Good/Very good	Poor	Fair/Good	Good/Very good
Design	Good/Very good	Poor	Good/Very good	Good/Very good
<i>Road network</i>				
Alternate routes	High	Poor	High	Very good
Manageable grid	High	Poor	High	Good/Very good
<i>Traffic congestion</i>				
Midday	Moderate	Very high	Moderate	High
Peak	Moderate	Severe	Moderate	High
<i>Transit</i>				
Service/Serviceability	Good/Good	Low/Poor	Very good	Good/Good
Utilization	Good	Low	Very good	Good/Very good
Through traffic	Moderate	High	Moderate/High	Moderate/High
<i>Internal trip capture</i>				
Work	Moderate	Low	Moderate	Moderate
Nonwork	Very High	High	Low	Moderate/High
<i>Average trip length</i>				
Work	Third shortest	Longest	Shortest	Second Shortest
Nonwork	Shortest	Longest	Third shortest	Second Shortest
<i>Walkability</i>				
Walk/bike trip rates	Second highest	Lowest	Third highest	Highest

Summary Chart from Arizona Department of Transportation study “Land Use and Traffic Congestion,” March 2012.

PARKING AND DENSITY

When Iowa City considered the proposal for a new, high-density residential development, opponents raised concerns about a potential parking shortage. This impact can often be very real, but the typical solution

more parking. Such requirements often run counter to the established form of an area and add to the incompatibility issue.

Recent publications and advances in parking technology (such as demand pricing for parking meters) indicate that better



Norman Wright

This multifamily development faces single-family homes on the other side of a highway. Poor design creates high degrees of separation between the neighboring areas.

solutions do exist. Unfortunately, many of the best new practices do not necessarily translate into simple changes in a zoning ordinance. Even a straightforward shared parking ordinance requires a comprehensive parking study to be effective. But solutions do exist, and most focus on the actual issue of parking demand, not housing density. Multifamily residents need parking spaces, certainly, but ensuring too many visitor spaces to alleviate any further concerns could lead to even greater issues. Large parking lots, especially in residential settings, create broad, empty gaps in the urban fabric. When multifamily housing is seamlessly integrated into a neighborhood, it is often because the development acquires the same lack of parking and same subdued, consistent building form. Broad expanses of asphalt change that. Large parking lots appear incongruous with the surrounding neighborhoods, so much so that residents often ask for screening and fences, essentially cutting off the multifamily development from the rest of the neighborhood. When a development requires screening, it is an acknowledgment of incompatibility, the very danger that citizens wish to avoid. Furthermore, the desire for larger parking lots runs counter to a neighborhood's character since parking lots require intense lighting at night, leading to nuisance concerns, and reduces or eliminates the iconic lawns that define a neighborhood setting.

NUISANCES AND DENSITY

As I stated before, no density requirements can replace the effectiveness of the enforcement of a good nuisance ordinance. Nonetheless, planners often face pressure to alter density allowances based on the bad experience of neighbors living close to apartment complexes and other high-density residential areas. When such cases arise, and nuisance issues continue despite the best enforcement efforts, the likely second-best solution is to consider greater screening and buffering requirements. Too often, quality residential developments, no matter the density, are hampered by regulation written in reaction to a few unruly tenants.

DENSITY AND RURAL AREAS

Finally, though the provided case studies focus mostly on urban and suburban developments, the classic case of rural land being converted into higher density developments cannot be ignored. As stated before, many density requirements are designed to preserve rural land or, at least, prevent the overdevel-

opment of such land. Overdeveloping rural land has countless impacts on more than just the character of its surroundings. Rural roads can become overrun with new traffic, crucial habitat can be lost, and city resources can be extended beyond budgetary means.

In these instances, though, rote density maximums are still inadequate to address the potential issues for reasons already stated. Thus, physical form and character elements should be combined with other policies. The best possible means of preventing the negative effects of greenfield development is to forego density maximums and focus, instead, on crafting a strong open space protection policies. Crucial habitats and viable agricultural land will be far better protected by policies that require their preservation rather than allow low-density development intrusions. Great examples of sustainable open space protection programs include conservation subdivision ordinances, which dictate the form of lot sizes and their arrangement around crucial natural lands. Notice in this case that "form" deals with something greater than building design. For conservation subdivisions, form is a matter of lot design, showing that form-based standards have a great deal of versatility. It isn't solely a tool for making sure that front porches are provided for each house. It is also a tool to ensure that site plans are designed to meet conservation needs.

CONCLUSION

The use of density regulations often leads to unintended consequences and is often a symptom of an incomplete zoning ordinance. Density is a very limited tool for long-term, comprehensive planning. When used to address so many of the issues that planners deal with,

such as nuisance complaints, traffic and parking concerns, and character compatibility, the consequence is that more effective approaches are ignored. It is important to remember that the underlying issue facing a city's growth and change is not a matter of the number of units allowed on a given acre of land. The true issue, as expressed by citizens of Iowa City and so many others, is one of incompatible development or development that does not respect, conform to, or positively enhance the established character of the places they love.

The result, then, is that the focus on density comes at the cost of less focus on character. When new development fails to respect its surroundings, density is not the primary concern. Incompatible development harms an area—whether it is "high density" or not.

This is to say nothing of the impact density regulations have on housing markets. New studies and publications are showing that areas such as San Francisco and New York City are suffering from distorted housing markets where the demand for more homes is high but the supply is kept deliberately low through density limitations. This phenomenon is still under examination, but the findings from authors such as Matthew Yglesias and Ryan Avent are showing that density regulations carry even deeper impacts that go beyond the scope of this article.

In conclusion, modern zoning practice must acknowledge the limits of density regulation. Whether the goal is to curb traffic congestion or make development more compatible, there is likely a better means to accomplish the goal at hand. The best policies are written to affect the direct relationship between causes and effects. Density is seldom a direct cause of any effect planners hope to manage.

Cover image: Form-based codes control the physical characteristics of development with much greater precision than simple density standards. © Moule & Polyzoides, Architects and Urbanists

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