MERCATUS SPECIAL STUDY

LESS BUT BETTER ZONING, PART 2
A NEW BASE CODE

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ABSTRACT

Part 1 of this series explains how the flaws of conventional zoning policy are rooted in the vague concept of public welfare. When combined with the current policy-making process, zoning clearly delivers results that align with the preferences of the influential few. That paper argues for a more technical approach and the creation of either a proper definition for public welfare or, ideally, its outright removal. This paper, the second in the series, explores the practical implications of the ideal. The result is the base code, a set of six rules that transforms zoning into a much simpler and more objective set of regulations. The paper demonstrates how this code is superior to conventional zoning for delivering a sustainable built environment that promotes public health and safety. Additionally, the paper provides a foundation for additional regulation—above and beyond the six rules—that can be delivered through a more formal version of public-choice markets via local district referendums. When combined with effective developer exaction programs, the base code and referendum options provide communities with a more sensible, tractable version of zoning that ensures growth will "pay for itself" and provide net benefits to the public. Meanwhile, the opportunity for referendum-based district policies bolsters local choice and gives communities a more justifiable position for preference-driven regulations. The ultimate result of this reform is a "clean slate" that is significantly less, but better, than existing zoning, with more public benefit and a proper avenue for public choice.

JEL codes: R42, R51, R52, R58

Keywords: transportation infrastructure, transportation planning, local government finance, municipal finance, urban government finance, land development, land use, land use patterns, land use regulation, zoning, city planning, development policy, planning, policy making, urbanization, sustainable development planning

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INTRODUCTION

Conventional zoning policy is widely regarded as a costly, confusing instrument that fails to translate growth into sustainable urbanism. Yet, short of an outright abolition, few alternatives have been introduced. Recently, there has been a rise in reform efforts, notably at the state level, but lasting, meaningful change in the built environment remains unlikely. The very impetus of the current reform is also the basis for zoning's original creation. It all comes down to a lack of clear goals and disciplined scope. As argued in part 1 of this two-part series, the concept of public welfare is used in many contradictory, exclusionary ways that can justify a logic for expanding, or contracting, zoning. Today's reform efforts often do a mix of both. They ultimately lean toward an improvement (e.g., Oregon's elimination of single-family residential zoning). But today's progress is merely a variation on a flawed theme.

Because the concept of public welfare lacks any meaningful definition, it does not have any obvious, directly correlated relationship with the built environment. Any sensible, lasting reform effort must address this problem either by creating a definition for public welfare or by removing the concept entirely from the rule set.

At first blush, removing public welfare would seem to be a reckless act. All other reform efforts pull at particular threads, but nothing has been so foundational as this proposal. Like so many hesitant pulls at the Gordian knot, current reforms cannot undo the countless threads of competing policy objectives that make for such a maddening entanglement. Eliminating public welfare is the swift cut that liberates and opens up the rest of the policy for a more profound transformation that is significantly less in its scope, but undoubtedly better in its result—especially for the welfare of the true, total public.

This paper demonstrates the effect through a policy called the *base code*. It is built on the remaining two justifications for zoning, public health and public safety, and pursues both goals

through a strategy that fosters positive constraints on the private realm through a time-tested design for the public realm. The paper describes the rationale for the code by briefly detailing its goals, objectives, rules, and expected outcomes.

In essence, the base code contemplates two distinct areas of responsibility: the public realm and the private realm. The *public realm* is any and all property that the local jurisdiction manages for public benefit. It includes streets, parks, open space, and other public lands dedicated to civil services such as utility substations, police stations, fire stations, libraries, and the venerable city hall. All other property is the *private realm*.

The base code regulates both realms. In the public realm, the base code provides precise, exacting, *prescriptive* regulation to ensure that the public realm (especially its streets) is healthy and safe for all. In the private realm, the base code provides a more general *proscriptive* regulation. It creates a 1,500-foot buffer around all noxious uses and prohibits any new development (noxious or otherwise) from encroaching on the buffer. The code also prohibits disturbance of steep slopes (land contours that are greater than 25 percent). These two rules are all that govern the private realm, and they provide adequate protection from the potential negative impacts that private development often creates.

Adequate protection, in this case, means that the base code does not overwrite, or pretend to compensate for, all other preexisting codes and policies that govern the built environment. As demonstrated in the first paper, much of the private realm is regulated quite effectively through more technical codes, such as building codes, nuisance ordinances, floodplain ordinances, and state and federal environmental codes.

Yet, even with all the additional regulations, there remains a broad lack of attention to the public realm. There is a lack of programmatic mechanisms for creating adequate amounts of parks and open space, a lack of safe facilities for all types of travel, and a lack of connectivity in the travel network. The base code is designed to remedy this issue, doing the work that zoning should have done more than 100 years ago, work that my colleagues and I have tried to restore along the way. By bringing focused, narrowed attention to public health and safety, the base code returns a planner's focus to the form and function of our public realm.

None of this should be considered novel. If anything, the base code reconstitutes the physical planning and design practices that have created the most beloved, and most resilient, parts of any city. The only novelty within the base code is that its purpose stops there. No more, no less. The code is designed to maximize public health and safety through the coordinated expansion of an optimal public realm. In urban environments, this optimal realm happens to be a street grid. As will be demonstrated in the design scenarios ahead, such a grid—when done well—creates the "base" from which great urbanism can emerge. Great urbanism is the material purpose of zoning. A local government should achieve this goal before it seeks to achieve anything else in its built environment, including the regulation of the private realm.

This basic order of responsibility has been surprisingly elusive. Distractions have drawn our local governments' attention elsewhere. It is necessary to remember the priorities.

WHAT, AT A MINIMUM, MUST A CITY (AND ITS ZONING) DO?

A city must provide public goods and services that protect and advance public health and safety. At the local level, a city must provide sufficient and reliable transportation systems; police and fire services; water and wastewater treatment; garbage services; and the mitigation of nuisance, pollution, and blight. These are core elements of municipal operations—all for the sake of public health and safety. Additionally, a city should provide services that advance the general welfare. These services include schools, parks, libraries, and public transit.

All of this can be done without a zoning ordinance. Indeed, these services predate zoning. Thus, for zoning to readily prove its value in the modern era, it is crucial to realize that such a regulatory scheme is not the wellspring of the city's promise to its public. Instead, it is a means by which those benefits can be delivered and improved. Zoning, in other words, is a means to a greater end. This truth is easily forgotten.

Other fundamental truths are forgotten too. Great urbanism has a robust tax base, a great street design, more city blocks, and fewer cul-de-sacs and highways. These are the basic elements of the built environment that, if properly addressed, can provide the city a tremendous foundation for all its goods and services. Unlike the rest of our rule sets, zoning is the one tool that can harness the full potential of these elements and maximize health, safety, and—consequently—public welfare. Yet, for decades, it has been the reason these things are lacking from our communities.

Harnessing the full potential of the city should be the minimum expectation for a zoning code. Yet it is not the way that zoning has been used. Research and firsthand accounts have shown that the original intent is murky and dubious.[1] A new purpose, built on the plain intentions

stated in this article and channeled through a singular goal, would surely do better. I propose the following for the base code:

> This zoning ordinance is established in order to foster an accessible, resilient urban form that accommodates and adapts to human needs over time.

This is the policy's central goal. There is no mention of public welfare in all its nebulous essence. There is only the idea of accessibility, resilience, adaptability, and human needs. Such needs essentially pertain to health and safety, while the idea of welfare (which is undoubtedly important) is left to be addressed by the primary goods and services the city provides, such as the schools, libraries, and parks that we all enjoy.

Because each word matters, the terms of my goal statement are defined as follows:

- **Accessible:** Provides accessibility in all manners of intended use for all residents of a community.
- **Resilient:** Can retain its basic function against external stressors.
- **Accommodate:** To satisfy the needs of the intended party.
- **Adapt:** To adjust to new conditions.
- **Urban form:** The physical characteristics that make up built-up areas, including the shape, size, density, and configuration of settlements.
- **Human needs:** The physiological needs for shelter, safety, accessible travel, electricity, water, and sanitation and the psychological needs for congregation, communication, and commerce.

STRATEGIES AND OBJECTIVES

Along with the unifying goal, the base code needs a strategy shaped by a set of objectives. Some of these objectives may seem redundant, but policy writers embrace a bit of repetition for the sake of "clearer clarity"—especially when it comes to something so abstract as strategy.

If you give 99 planners, architects, and engineers the central goal written above and instruct them to write a policy that will achieve that goal, you will get at least 100 different zoning codes. The reason is fairly simple: each policy writer's strategy (i.e., their rationale and approach) to fulfill the goal will be implied rather than explicit. Their approach will be wrapped in vague, descriptive language (exhibit A: the term *public welfare*). And without a proper testing method, it is very difficult to determine which of the 100 codes will be the most effective.

Typically, zoning codes are written to emulate the language and systems of places the authors admire. Nice suburban communities pluck policy language from the codes of other nice suburban communities. Indeed, mimicry is the prevailing strategy, and the only real debate seems to be around the wordsmithing of the prose.

On the surface, every zoning code seems to be a snowflake, but it is only the superficial elements that set them apart. One city's R1 zoning district is another city's R-1A and another city's SF1. Titles aside, each district will contain roughly the same language, prohibitions, and design standards. The adage among some of us is that our R&D work in zoning policy isn't intended as "research and development" but rather as "rip off and duplicate."

The reasons are many and primarily stem from the feedback loop described in part 1 of this series (see the section titled "The Endless Cycle"). For public planners, innovation in zoning policy is normally punished. At the time of this writing, I am working outside of the public sector for the first time in my 19-year career.

Decades of repeated mimicry and minor variations have caused entire generations of planners to have no exposure to other ways of doing things. The closest we have come is form-based codes. Since the 1980s, the form-based code approach has opened up the thinking. Inspired by the work of the Congress for the New Urbanism, planners have learned a great deal about physical planning through this channel. Yet even the best of these codes has become (or is destined to become) as bloated and use obsessed as everything else. It is not a fault of the authors. The process, over time, pushes all policies in that direction.

Thus, the first, and most important, element of the strategy behind the base code is this:

> To create a technical code that eschews the preference-driven, relativistic feedback loop that governs modern zoning practice.

The code will instill clear, objective standards that define how the city will be built. Like other technical codes, this code will be based on data derived from regular observation. Over time, refinements to the technical standards may be necessary. Determining such refinements will be the work of a technical group that debates such things on their performative merits, à la the technical codes described in part 1.

This idea would frighten any planner who imagined that such an approach applied to today's codes. My colleagues and I would not want to govern in this rigid fashion, given what we know about all the imperfections in our rules. This gets to the next element of the strategy:

> To limit the scope of the code so that it affects only the most critical aspects of the built environment and does so for the sake of optimizing public health and safety.

The problems with zoning have less to do with its imperfections and more to do with its invasiveness. If we discover ourselves using a flawed approach to a very narrow concern, we can fix it. But if we have a flawed approach to everything, we cannot. The base code will be built on a clean slate and kept simple so that readers can judge (and hopefully improve) the efficacy while maintaining the very limited scope. This paper attempts to show how this limited scope is nonetheless profound in its ability to improve the built environment.

This brings about the concept of leverage points. The built environment is a system, and it contains points within it where a small change, at a particular point, can yield large results. These points are located at the intersection of subsystems.

The base code divides the built environment between the public realm and the private realm. As subsystems, the private and public realms intersect—quite literally—in the larger system via the street. Improve the street and you improve both realms. The outsized benefit makes the street a leverage point.

Other leverage points exist within each subsystem. Within the private realm, private land uses intersect with one another. Zoning was originally developed to manage this particular intersection so that something like a smokestack would not be placed next to an elementary school. That would be an obvious degradation to public health and safety. The cascading negative impacts are quite large and show the downside risk of a leverage point managed poorly. So a pol-

icy should, at a minimum, prevent those outsized negative impacts from occurring.

Conversely, a significant amount of zoning regulation doesn't influence a leverage point. Restrictions on commercial signage, landscaping, and rear-yard setbacks don't really benefit society, even if such rules comport with our aesthetic preferences. As a local government administrator, I've spent more time on such things than I care to admit. Indeed, it has been exceptionally rare to work on truly meaningful things—the leverage points. Thus, the final element of the base-code strategy:

> To create a set of rules that solely governs the highest leverage points in the built environment so that all future change is designed in a way that preserves public health and safety while also generating a cascade of indirect benefits to all other aspects of the built environment.

All zoning policies attempt to do this. Most fail to limit themselves to the highest, most powerful points of leverage. The greater the leverage point, the more downstream effect it has. Unless we limit ourselves to those few things, our policies will pull (and currently are pulling) too many levers. In chasing two rabbits, we catch none.

As strategies go, this one is very straightforward—write a policy that only does the things that really, *really* matter.

Further structure is needed. The strategy needs a set of objectives that helps us measure its effectiveness. How will we know this strategy achieves the goal? By observing the way it either does or doesn't create the following characteristics with every facet of new construction: mobility, accessibility, compatibility, and adaptability.

These objectives are explained in the base code itself. The next section explains how the structure works between the goal, objective, rule, and performance measure. Each objective serves as the organizing theme for the rules it informs. Thus, each rule can be judged on its ability to fully meet the stated intent. The idea is to meet each objective through a specific rule, devised through the strategy described previously, to achieve the overarching result captured by the performance measure. Management 101. The goal itself remains untouched and evergreen; the objectives and rules should be revised whenever necessary. If additional rules are added in the future (perish the thought), they should be fashioned in a way that maintains this basic structure (objective, rule, performance measure) and delivers maximal benefits for the corresponding objective. The decision to revise, or not revise, a rule will be informed by a review of the outcomes (i.e., measures) it creates.

THE BASE CODE

The base code's three objectives are mobility and accessibility, adaptability, and compatibility. Each of these three objectives are pursued through two rules of varying detail. This is the entirety of the base code.

OBJECTIVE 1: MOBILITY AND ACCESSIBILITY

One of the built environment's most important characteristics is its ability to create synergy from the proximity of many different things tied together in a network. Mobility and accessibility are the critical factors for making that synergy possible,[2] and each quality is addressed through the public realm and its streets. Thus, the base code must have rules that ensure that streets will provide safe usage for all—from bikes to pedestrians to automobiles to transit. This is something of a moral principle (all residents pay for the infrastructure and thus all residents should benefit from the investment), but it is also a viable economic interest because mobility and accessibility are a requirement for creating the dynamism we enjoy.

Method for Achieving the Objective

A zoning ordinance can require new private development to contribute to the public realm. This is primarily done through exactions. Developers regularly donate land or money to fund improvements that offset the impacts their development will bring to the community. Local governments determine the amount of contribution that is roughly proportional to the impact and exact this donation from the developer as part of the approval process. Sometimes, this donation includes acreage for a public park or a pump station for wastewater conveyance. As will be discussed later in this paper, the exaction process is critical to the base code's success. The most common exaction relates to streets.

The base code requires new development to build or contribute to the street system. It establishes the standard features and design of the street

according to the street's intended function. Five functions are classified and distributed as follows:[3]

- Local—approximately 65 to 75 percent of the total length of all street segments in a network
- Collector—approximately 15 to 20 percent of all segments in a network
- Transit collector[4]—approximately 15 to 20 percent of all segments in a network
- Arterial—approximately 10 to 15 percent of all segments in a network
- Thoroughfare—provided as needed, usually as a beltway or bypass connected to a broader regional network

This is an idealized street system. It prioritizes safety and optionality (multiple routes to destinations) over speed and efficiency. Reality is different. Today's street-grid networks are vestiges of the past; modern networks are built in a dendritic (e.g., branching) pattern of highways that lead to roads that lead to cul-de-sacs. These networks perform like the human circulatory system with its arteries, veins, and capillaries. They are built for speed and efficiency and suffer reduced safety and optionality (e.g., a traffic jam on a modern dendritic system is excruciating because there are no alternative routes).

The base code is designed to bring the system closer to the fine, reticulated weave of a street grid. It is redundant, slow, robust, and safe—providing multiple routes to everything and adequate space for all types of travel. Regional traffic is utterly stymied in this system. Those travelers should take the thoroughfares instead.

The base code requires every new development to contribute to the creation of street improvements through land dedication and civic construction. This requirement will be managed by the local government, which already has a staff dedicated to managing the streets, determining their classification, and reviewing all new development to ensure that access points (i.e., driveways) connect to the system in the appropriate manner. The staff members map their networks according to the basic classification framework previously mentioned (though few have any form of dedicated transit lanes). Again, the ideas here are not novel. If anything, the base code elevates the typical street standard by creating a deliberate, unyielding, "complete" design for pedestrians and cyclists. Most street standards lack those things today. Those specific "complete" requirements are discussed next.

Accessibility and Mobility Rules

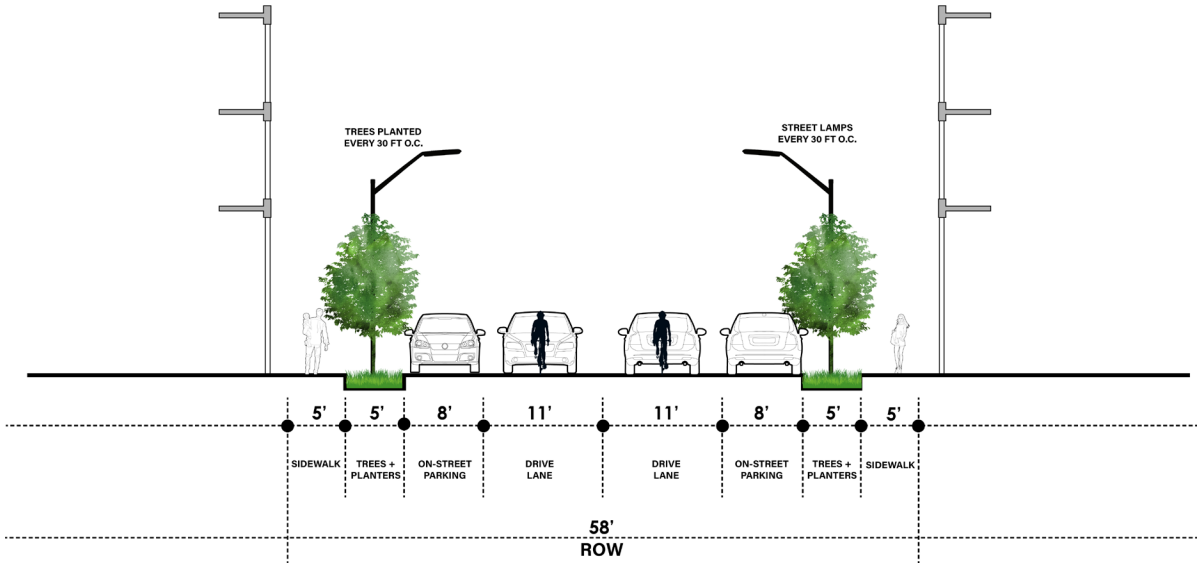
Rule 1. In this ordinance, public streets must be built in a manner that accommodates all types of travel. The standard for each street type is illustrated in the subsection that follows. A street's formal classification is determined by the local government. Street designs will adhere to one of the five categories throughout the entirety of each block segment. In other words, street types cannot be altered midblock; street designs can only be altered along the entirety of its length from intersection to intersection. Additionally, all streets much be built in a manner that satisfies preestablished standards for construction, stormwater conveyance (e.g., curb and gutter), tree plantings, striping, and signage.

Rule 2. Upon development or redevelopment of a lot, the property owner shall either improve the public frontage as needed to conform to the standard or pay a commensurate fee-in-lieu determined by a separate impact fee ordinance. Any proposal that creates new streets (such as a subdivision) will designate each street's intended function using the classifications in the subsection that follows and construct each street according to the relevant standard.

Street Standards

The Local Street Standard. The local street is the typical neighborhood street that serves a low volume of localized traffic and is designed for speeds of 25 miles per hour or less. The local street contains few features (pedestrians, cyclists, and cars can safely share the road) and includes nearly unlimited access for all travelers. Driveways and intersections are plentiful. Figure 1 shows the specifications for a local street standard, and a model is depicted in figure 2.

FIGURE 1. SPECIFICATIONS FOR A LOCAL STREET STANDARD

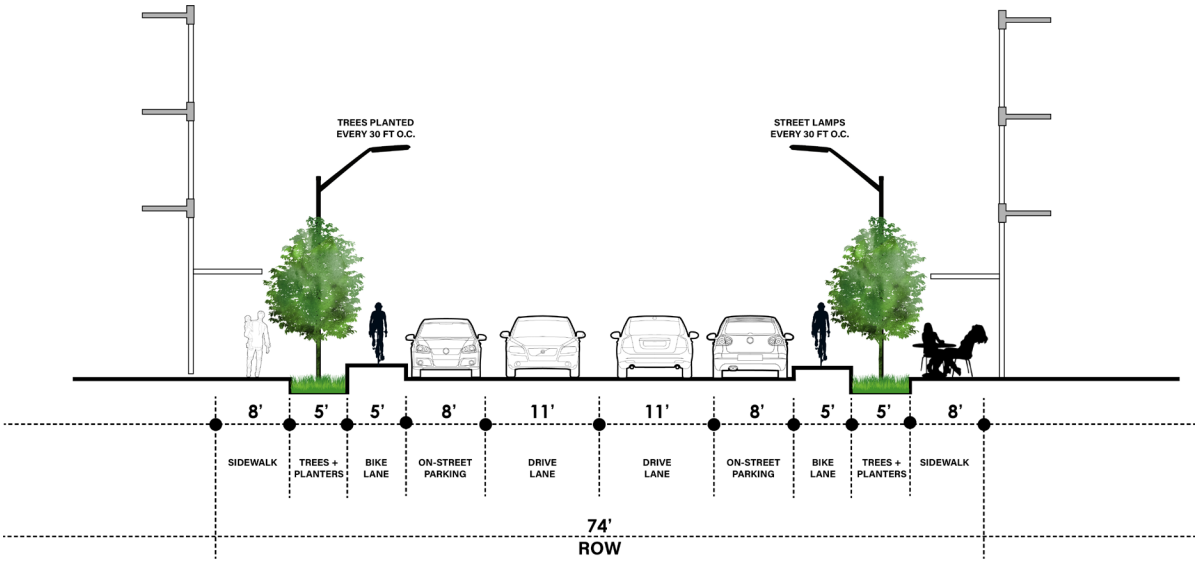


Note: O.C. = on center. This phrase provides a consistent basis for measuring the appropriate distance of the related feature.

FIGURE 2. MODEL OF A LOCAL STREET

The Collector Street Standard. The collector is a more intense street design that serves higher volumes of traffic fed by the local network. The collector street contains all necessary features to accommodate dedicated spaces for pedestrians, cyclists, and automobile drivers. The collector is designed for speeds of 35 miles per hour or less, and driveway access is prohibited 250 feet from intersections to prevent conflict points. Figure 3 shows the specifications for a collector street standard. A model collector street is shown in figure 4.

FIGURE 3. SPECIFICATIONS FOR A COLLECTOR STREET STANDARD

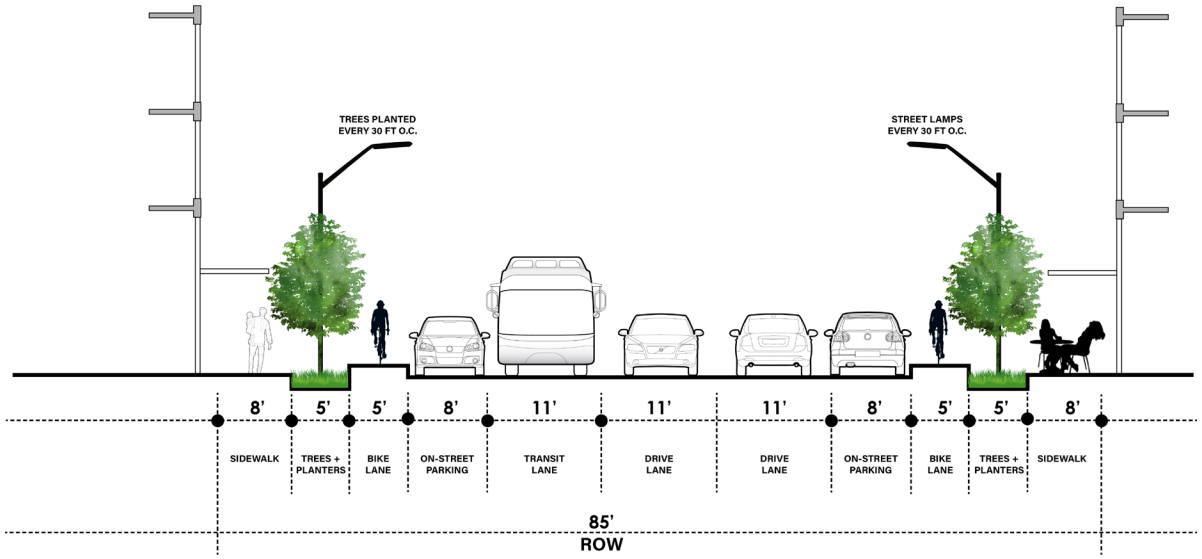


Note: O.C. = on center. This phrase provides a consistent basis for measuring the appropriate distance of the related feature.

FIGURE 4. MODEL OF A COLLECTOR STREET

The Transit Collector Street Standard. The transit collector street is a variation on the collector street with dedicated transit for local service routes. The street contains all the features of the original collector design but adds a dedicated transit lane and additional access management features at transit-stop locations (e.g., on-street parking is prohibited at a transit stop; driveways are offset by 100 feet). The specifications for a transit collector street standard are shown in figure 5. Figure 6 presents a model transit collector street.

FIGURE 5. SPECIFICATIONS FOR A TRANSIT COLLECTOR STREET STANDARD

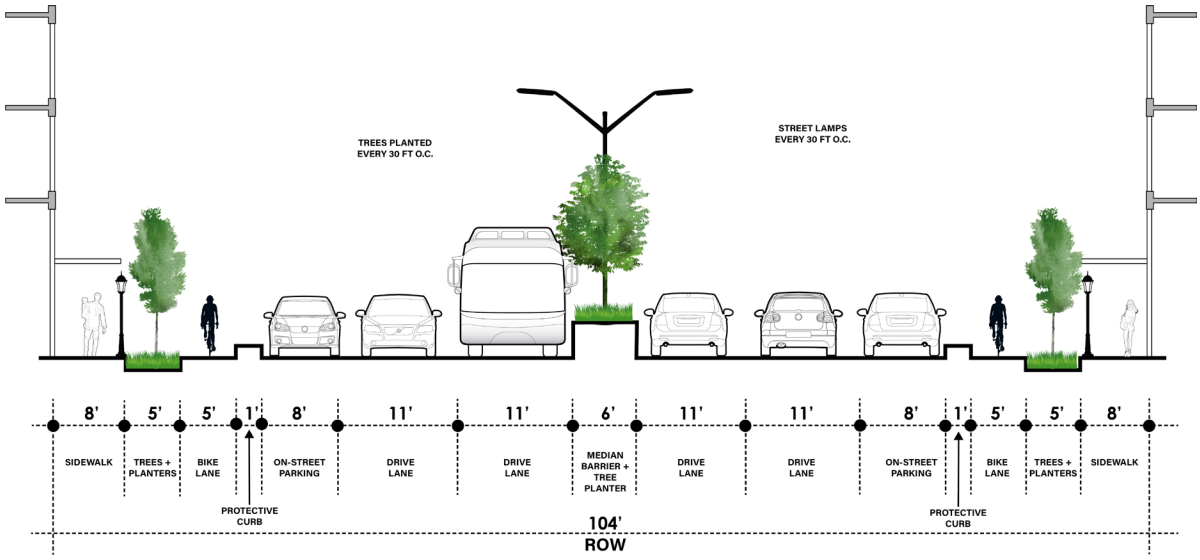


Note: O.C. = on center. This phrase provides a consistent basis for measuring the appropriate distance of the related feature.

FIGURE 6. MODEL OF A TRANSIT COLLECTOR STREET

The Arterial Street Standard. The arterial serves as the backbone for the greater network. The arterial carries a high volume of traffic fed by the collector and local street networks. The design supports travel speeds up to 45 miles per hour. Intersections are routinely signalized and timed to promote steady through traffic. A protected median provides separation between opposing traffic and limits left-turn access to major intersections. All modes of transportation are accommodated with dedicated facilities. Bike lanes are protected by on-street parking and 12-inch curbs, elevated lanes, or plastic bollards. Rights-of-way expand at intersections to provide separate turning lanes when needed. Access is strictly managed, and driveways are prohibited by default. See figure 7 for the specifications for an arterial street standard and figure 8 for a model arterial street.

FIGURE 7. SPECIFICATIONS FOR AN ARTERIAL STREET STANDARD

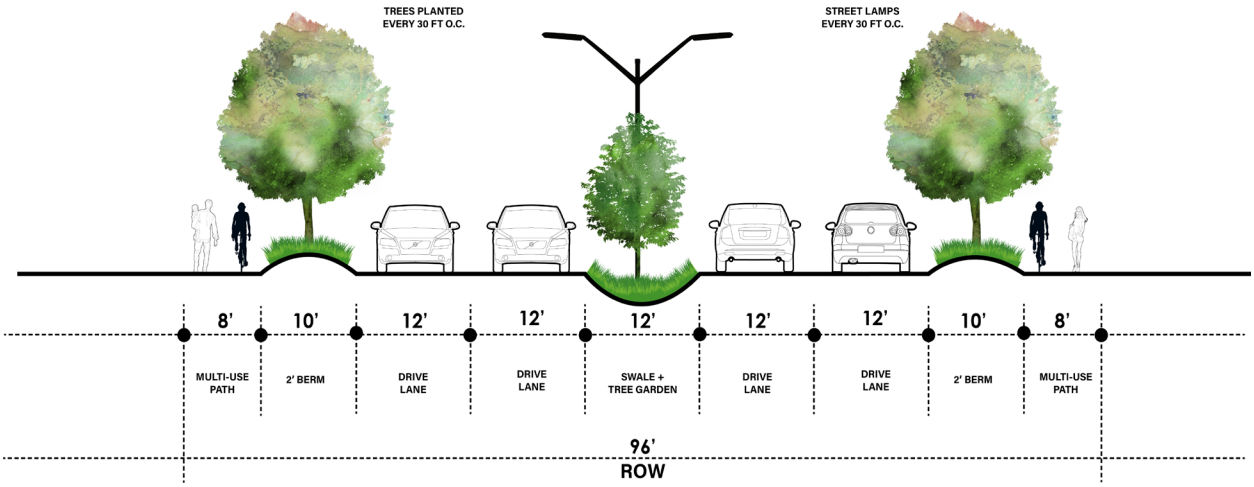


Note: O.C. = on center. This phrase provides a consistent basis for measuring the appropriate distance of the related feature.

FIGURE 8. MODEL OF AN ARTERIAL STREET

The Thoroughfare Standard. The thoroughfare is a limited-access travel route that bypasses the street network and conveys regional traffic at high volumes and speeds. Automobile traffic can reach speeds of 55 miles per hour. Thoroughfares are fed primarily by arterial streets. Intersections are signalized and limited, spaced at least three miles apart. A vegetative swale separates the opposing lanes of traffic. Pedestrians and cyclists are accommodated through a grade-separated, multiuse path that features a protective berm on the vehicle lane shoulder. The protective berm will be at least 2 feet in height and 10 feet wide to provide a minimum offset from travel lanes. Greater offsets are encouraged wherever possible. On-street parking is prohibited. Driveway access is prohibited. Figure 9 gives the specifications for a thoroughfare standard. Figure 10 presents a model thoroughfare.

FIGURE 9. SPECIFICATIONS FOR A THOROUGHFARE STANDARD



Note: O.C. = on center. This phrase provides a consistent basis for measuring the appropriate distance of the related feature.

FIGURE 10. MODEL OF A THOROUGHFARE

TABLE 1. ACCESSIBILITY AND MOBILITY PERFORMANCE MEASURES

Measure	Target
1. Traffic-related fatalities over each 6-month period	0
2. Percentage of street segments that provide bike and pedestrian facilities according to standard	100%

Note: A street segment is any length of street that runs from one terminus or intersection to another terminus or intersection.

Performance Measures

These street standards are designed to maximize mobility and accessibility to all types of travel without any degradation to public safety and health. To gauge the standards' effectiveness over time, the local government will publish a semi-annual report of all reported traffic conditions, all impact fees collected, total budget and actual spending, total amount of street improvements completed in the time period, and any changes to improvements planned in the future. Finally, the report will list any traffic-related fatalities in the time period. The ultimate performance measure for the system is that it achieves zero traffic-related fatalities for all modes of travel. A second measure is the total percentage of street segments that provide bike and pedestrian facilities; ultimately, the street system should provide such facilities on all streets for a target measure of 100 percent. See table 1.

OBJECTIVE 2: ADAPTABILITY

Cities must be capable of changing over time by having the ability to expand vertically without any severe degradation to the systems that support such growth. History proves that the street grid is the best platform to support this type of change. As villages become towns, towns become cities, and cities become metropolises, it is the underlying street grid that allows for the skyscrapers to ascend and the commerce to continue. Street grids create city blocks that can be built to more than 100 times the intensity of a single-story building.[5] Street grids slow the resulting traffic and allow all users to occupy the public realm more safely. Finally, street grids create efficient space for utilities, transit, and other services to be colocated. Some of the greatest urban environments from the medieval era onward have their roots on the same street grid that exists today. Conventional zoning ordinances rarely contemplate this important feature. Often, they inadvertently prohibit its expansion. The base code reverses this problem through simple, yet powerful, rules that require private property to divide itself into a range of minimum and maximum block lengths. The ranges for block lengths are flexible to ensure that intersections are spaced accordingly for traffic volumes. Minor shifts in block sizes, along with the provision of alleyways, allow street grids to be very accommodating to many forms of travel and activity.

Method for Achieving the Objective

A zoning ordinance can make a street grid by requiring all properties to contribute to a city block form. To do so, a zoning ordinance simply creates a standard for block dimensions. Such a requirement will ensure that any assemblage of private lots will be proportioned in a manner that provides adequate right-of-way for the public grid to continue. This is triggered by a minimum and maximum block-length standard. When private land reaches the threshold for maximum block length, land for a public street will be created and dedicated (according to the new street standard), to continue assembling the next segment of private space. Over time, this

method creates a grid pattern of dedicated right-of-way that is later constructed into the street grid. Planners debate the ideal maximum length, but the number ranges somewhere between 450 feet and 1,000 feet. I prefer a number that is near the 500-foot threshold, as it reflects the size of city blocks in downtown Portland, Oregon—my adopted home—and many other great city grids, from downtown Chicago to Manhattan. This number can—and should—fluctuate and should also contemplate the internal distance (i.e., hypotenuse) of the block to prevent oblong shapes. Block lengths change with the street type to balance vehicle traffic volumes with walkable environments. And there must be some level of discretion here, as random, emergent patterns of blocks could lead to offset intersections that are inefficient and sometimes dangerous.

TABLE 2. BLOCK-LENGTH MINIMUMS AND MAXIMUMS

	Block Length	
Street Type	Minimum	Maximum
Local and collector[a]	250 feet	500 feet
Arterial[b]	500 feet	1,000 feet
Thoroughfare[c]	1,000 feet	—

a. Along local and collector streets, traffic can be effectively calmed by reducing the distance between intersections. Inner-ring suburbs and urban downtowns regularly have block lengths that reach 500 feet, but few have any blocks that regularly exceed that distance. Such areas are the model for the local and collector street corridor patterns that this code would produce.
b. Arterial intersection distances vary widely. A 500-foot minimum block length provides adequate spacing for signalization, where needed, and a maximum distance of 1,000 feet provides opportunity for future traffic calming through four-way stops. However, it is important to note that this regulation is not intended to replace traffic engineering practices. I am not a traffic engineer. Instead, this regulation is written to create safe, multimodal street grids through the land subdivision process. The block-length requirements provided here are intended to accommodate all modes of travel and naturally induce speeds equal to or less than 45 miles per hour for vehicles while ensuring that connectivity remains high.
c. Ideally, there are very few intersections along a thoroughfare. But if there must be two intersections within close proximity, the distance should still be enough to allow two-way left-turn lanes and an adequate left-turn queue.

Adaptability Rules

Rule 3. Any combination of platted lots must maintain block lengths that are conducive to the activity generated by the street network. Block lengths will vary by street types, as shown in table 2. Once the length maximum is met, private property must be dedicated to a new street. The street must be platted to create the next block in the grid. New street rights-of-way should align with existing networks to create a 90-degree intersection wherever possible.

Rule 4. Block sections, or the maximum distance between any two points on the perimeter of a block, must measure no less than 283 feet in length and no more than the maximum distances listed for each street type. When the block abuts a local or collector street, the maximum section length is 600 feet. For arterial streets, the maximum block length is 1,500 feet. Minimums and maximums are shown in table 3.

TABLE 3. BLOCK-SECTION MINIMUMS AND MAXIMUMS

	Block Length	
Street Type	Minimum	Maximum
Local and collector	283 feet	750 feet
Arterial	600 feet	1,500 feet
Thoroughfare	n.a.	n.a.

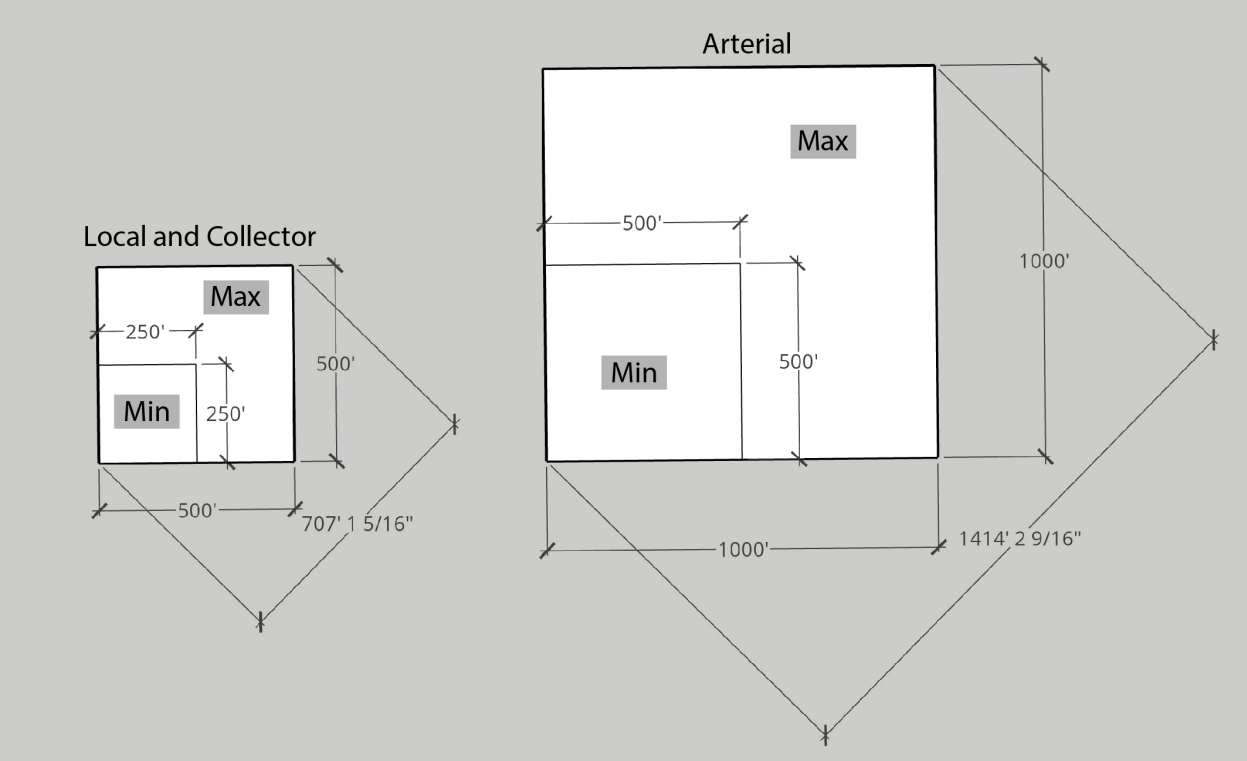
Note: n.a. = not applicable. Thoroughfares are excluded from block-section requirements.

Examples of the measurement and dimensions are provided in figure 11. Exceptions are possible, and will occasionally be necessary, depending on existing conditions and the imperative for street intersection safety.[6]

Performance Measures

A street grid's connectivity makes adaptability possible. The community can measure its connectivity through a series of standard ratios that

FIGURE 11. MEASUREMENTS AND DIMENSIONS FOR LOCAL, COLLECTOR, AND ARTERIAL STREET BLOCK SECTIONS



balance the number of street segments (links) and intersections (nodes). There is a minimum target to achieve and no ceiling or limit beyond that point. The minimum target allows travelers to have sufficient options for alternative routes to any destination by ensuring that nodes have multiple options for route-finding.

Measure 1. The street network should achieve and maintain a minimum connected node ratio of 0.75, meaning that 75 percent of all nodes (e.g., intersections) have multiple connections or "links" to the rest of the network (see table 4).[7] A node that does not have a connection is a dead end. Fewer dead ends mean higher connectivity. Research suggests three connected nodes for every one unconnected node.

Measure 2. The street network should achieve a minimum link-to-node ratio of 1.4, meaning that there should be more than two road segments for each intersection (see table 4).[8] The link-to-node ratio is calculated by dividing the number of street links (road sections between intersections and cul-de-sacs) by the number of street nodes (intersections and cul-de-sac heads).

TABLE 4. ADAPTABILITY PERFORMANCE MEASURES

Measure	Target
1. Connected node ratio	0.75
2. Link-to-node ratio	1.40

OBJECTIVE 3: COMPATIBILITY

As much as the popular literature derides zoning regulations for their exclusionary restrictions to land use, there are several important

benefits that we should appreciate. Even with the best designs and finest technology, there remain some incompatible land uses that should be kept at a distance from one another. Landfills should not be located near residential, civic, or general commercial uses. The same is true for heavy industrial uses, such as oil refineries and chemical plants. Steep slopes should be preserved from disturbance, as the geotechnical challenges are unknown and mobility is limited. Development in 100-year floodplains should be avoided to the fullest extent possible. Development in floodways and wetlands should be prohibited outright. Cities, and the contributing property owners, can flourish in so many more ways without allowing these invasive, noxious, and often dangerous uses.

Methods for Achieving the Objective

Sensitive areas should be treated sensitively. The city's typical land uses (commercial, service-based, residential) are wide ranging but share a common denominator: none of them should be near heavy industrial uses or waste treatment centers. Any great zoning ordinance recognizes and upholds this idea. Noxious uses should be generally kept apart from nonnoxious uses through geographic distance. This is the best solution for mitigating the impacts. The modern city is plagued with far too many heavy industrial uses adjacent to (or embedded within) urbanized environments, and the costs to nearby communities are well documented and enormous.[9] I have no easy solution for the existing conditions, but here, with this prototype, I espouse the idea that prevention is far better than a cure. No amount of nuisance ordinances and code enforcement can effectively prevent something like an oil refinery from having a measurable, negative impact on any community that resides near it.

Likewise, environmentally sensitive areas (e.g., floodplains, wetlands, and steep slopes) are diverse but also share a common denominator: none of these areas should be disturbed by development. Or, at a minimum, such areas should be treated with exceptional precaution. When it comes to floodplain development, there are floodplain ordinances established at the national level and adopted at the local level. I don't think it is worthwhile to rewrite those here. The national framework is effective, when properly implemented, and should be sustained and embraced in every community.

Compatibility Rules

Rule 5. In this ordinance, landfills, waste treatment facilities, heavy industrial uses, and any other noxious use (i.e., any use that carries significant external effects or that poses significant risks because of the involvement of explosives, incendiaries, radioactive materials, poisons, pesticides, herbicides, or other hazardous materials in the manufacturing or other process) are prohibited within 1,500 feet of any residential, office, school, hospital, civic, or general commercial land use or any use where nonindustrial human activity occurs for eight hours or more on a daily basis.[10]

Rule 6. Any topographic slope that possesses a grade of 25 percent or more, for a distance of 50 feet or greater, shall be prohibited from any disturbance.

Performance Measures

As the lone instance of conventional land use regulation, this portion of the base code is supremely

rigid. A minimum undisturbed buffer of 1,500 feet should be established between any and all noxious uses. Such uses should be identified according to the descriptive definition found in this rule, and administrators should be empowered to determine what is, and isn't, a noxious use on the basis of those conditions rather than the simple "use table" that conventional zoning uses. This isn't rocket science. Any use that poses these sorts of threats, even a little, should be subject to the buffering standard.

Conversely, all nonnoxious uses are subjected to the buffer too. One of the worst failings of modern zoning is its inability to do what it promised—keep incompatible uses away from one another. Housing is an encroachment on existing noxious uses just as surely as the reverse is true. The performance measure is quite simple in this case, and it is intended to bolster the resolve of the permitting office so that it doesn't yield to market pressures that can often persuade administrators to vary from this simple, effective standard.

Measure 1. On a semiannual basis, the community will report the number and percentage of new permitted developments of any kind that encroach the protective buffer of an approved noxious use. The target is zero.

Measure 2: On a biannual basis, the community will report the number and percentage of new permitted developments that disturb predefined areas of protected slopes. The target is zero.

RECAP

This is the base code. It pursues three major objectives. Within each objective, there are two basic rules (the street standards are bundled as a single rule—i.e., build to the standard) for a total of six rules. These six rules are the minimum amount necessary to achieve my overarching goal of a dynamic, resilient, adaptive city that can meet the needs of all its residents. It creates a great public realm, especially through a street grid, and ensures that sensitive lands are protected and noxious uses pushed elsewhere. The remainder of the private realm—the buildings and private hardscapes, softscapes, lighting, signage, and more—can be free to assemble itself according to the demand and interest of the market. This is how our downtowns of yore were built.

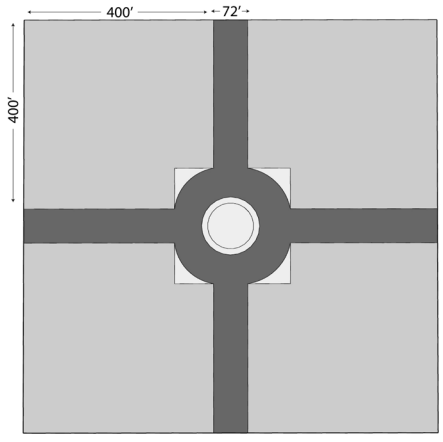
I genuinely feel nervous about the prospect of something so . . . liberal? Yet I take solace knowing that the grand tradeoff here is worthwhile. Zoning's modern obsession with controlling the private realm has come at the detriment of the public realm. Decades of performance suggest that we cannot effectively handle both with our current policies and practices. Far better to shift our resources (our policies, planners, developers, everyone) to the public realm instead and give the private realm a chance to show what it can do without zoning's interference.

Simple research and a few small tests have helped me gain confidence in the idea. One such test is described in the next section.

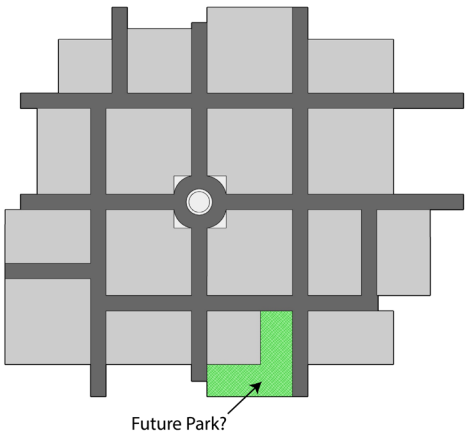
DESIGN SCENARIOS

In a December 2021 publication for the American Planning Association,[11] I provided a demonstration of an early version of the base code. I created a basic design of several city blocks arranged around a generic courthouse square. Using a random number generator to calculate certain values,[12] I drew a basic scenario test that showed how the rules within the proposed base code constrain development just enough to create a harmonious urban environment while also providing enormous flexibility to builders and designers. The illustrations that follow provide a glimpse of the idea:

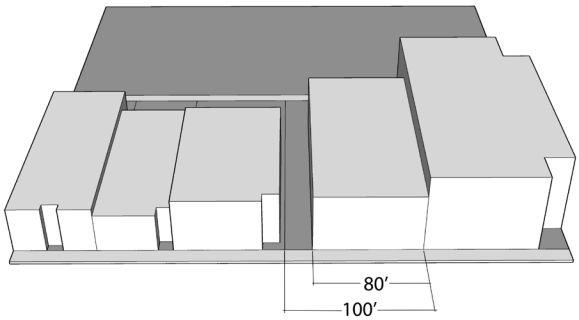
Starting with the simple four-block frame of a courthouse square . . .



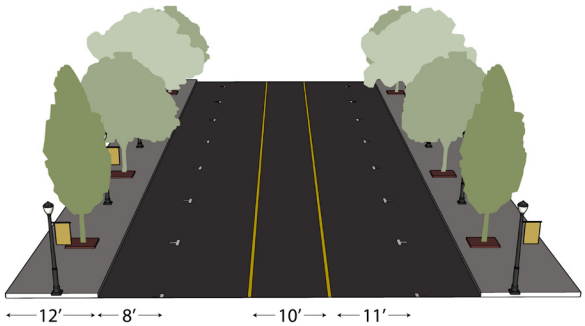
Properties are divided and assembled according to the maximum block-length requirements, with remainder properties turned into city parks . . .



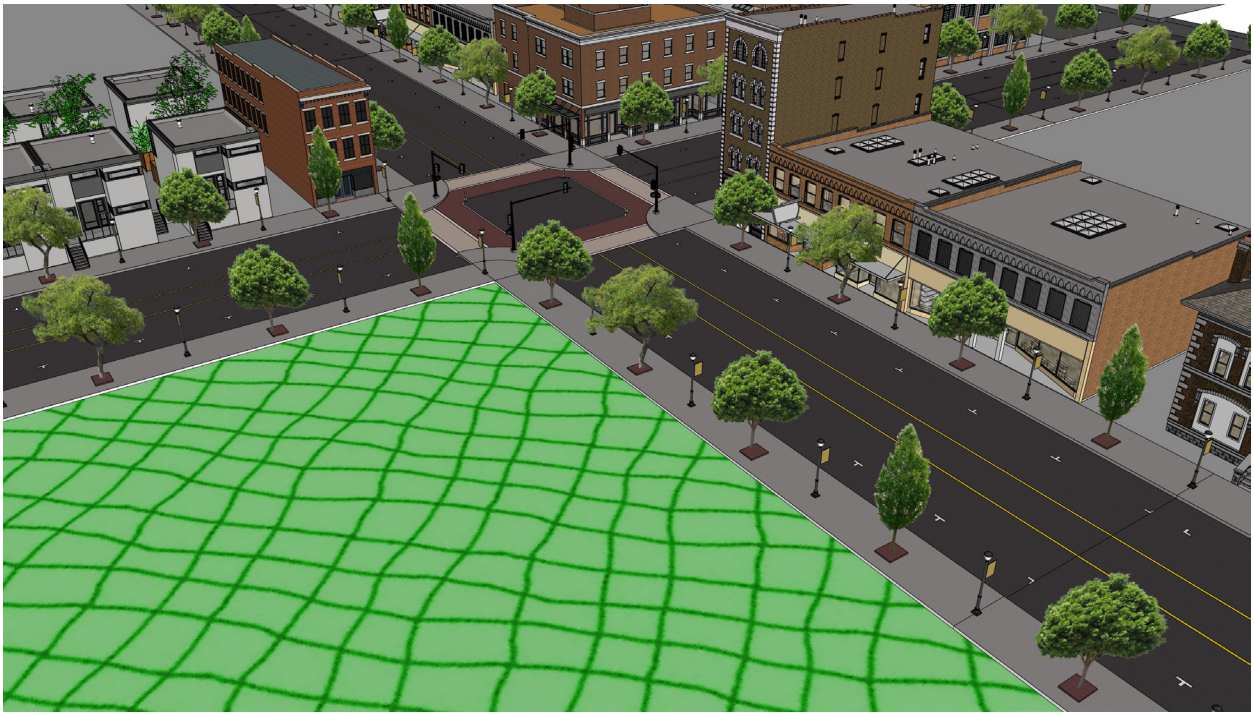
Private development fills in the parcels at their own size and scale, with buildings placed along the frontage . . .



Streets are constructed according to standard . . .



And the process repeats itself from parcel to parcel, block to block. A city emerges from this simple set of rules . . .



In that version, there were 10 rules. Working with the Mercatus Center has helped me see that the vital few are even fewer in their number. Nonetheless, even in the early version, the final illustrations show how every street and building is not only deemed compliant with the code but also imbued with the essential elements of urban design. That rarely happens at such a scale because we seldom regulate systems at the leverage points. Scalability is possible only at the leverage points in a system because that is where positive (or negative) effects actually scale.

The example city is built in ways that are beneficial to health, safety, and (indirectly) public welfare. By focusing on the street grid and mobility, the city is more capable of providing its public goods and services. Street trees and proper lighting fuel the interplay between the private realm and the public realm, allowing the streetscape to be vibrant and full of life—should people choose to have that sort of thing.

There will still be problems, of course. There will be "good" parts of town; there will be "bad" parts of town. The ironclad rule of the world is that there is always a bottom 50 percent. I can't prevent that with a thousand rules. Yet I take solace in the fact that, through this scheme, the less successful parts of town (however that is defined) have the same mobility, accessibility, adaptability, and compatibility and an improved level of public safety and health.

This is what the base code is for. The proposal just so happens to be a case for deregulation too. And a call for efficiency. And equity. And clear, objective standards. And a massive shift in the public involvement process, moving our conversation away from the minority preferences of the private realm and instead to the fundamental needs of the public realm. I don't know a better way to get there.

What is the minimum that a city must do to become a truly modern, successful place? The question isn't rhetorical, yet it is usually greeted with silence. I hope this paper can break that silence. Zoning, like any system, can be optimized. To know the minimum necessary is to know how to find the optimum possible. I think the base code provides that minimum. The "less, but better" minimalist mentality is the path toward optimization.

THE CURATED CITY

I must confess: I want more rules. I want more of the curation that every planner craves. Part 1 of this series castigated zoning for its emphasis on mere preference. Even so, as an author of many zoning policies, I carry a lot of preferences that I want to actuate through a code. For example, I hate commercial signage in all its monstrous variety. I also hate franchise-specific building designs like the old Pizza Huts of yore or the typical suburban Walgreens. Vast asphalt parking fields are a scar on the land. Ugly buildings are an insult to a community. And any commercial development that lacks off-street interconnectivity is an utter failure of basic planning practice.

My preferences are inexhaustible. I want the base code to enforce all of them.

It cannot work that way, of course. Neither I nor the broader planning literature can make a strong, direct correlation between these preferences and the potential impact to public health and safety. We've tried. I've read plenty of research papers that have attempted to explain the dangers of all sorts of urban design faux pas so that we can regulate them. Yet, no matter how offensive, a faux pas remains a matter of style.

Nonetheless, preferences demand attention. Without the enormous, teetering umbrella of public welfare (which can justify anything), there is no good coverage for these preferences in the base code. But preferences can continue to be a major force in future land development regulation.

If a city wishes to curate some manner of stylistic preference, it must first recognize that doing so is secondary to the greater pursuit of public health and safety. Not all parts of the city will want such controls, but those that do can elect it through a standard referendum, creating design overlays and architectural design controls à la historic districts or architectural design overlays.

The affected properties themselves may not be historic, but the process to adopt additional rules should follow the model that historic codes have established. The process involves creating a district boundary. Within the district, residents

are polled, and a simple majority determines whether a set of additional rules will be added on top of the base code.

Like historic codes, these rules would regulate the fit, finish, and design of any future improvements (e.g., buildings, signage). Landscaping could be mandated. Parking configurations and screening walls for dumpsters could be meticulously determined. All kinds of bulk standards could be brought into play. However, unlike historic codes, these rules should not be designed in a way that casts the community in amber. That would run contrary to our goal of adaptive, sustainable built environments. That goal must remain superordinate to all additional rules.

The district should be initiated by referendum, à la historic codes, and should regulate basic urban design fundamentals. That may be a confusing explanation for some, but so too is the general concept. There are many types of code additions, overlays, and design districts across the country.

The central idea—to provide preference-driven policy through separate policies initiated by local referendum—is, I hope, clear. This is a twist on the "Houston Solution"[13] of providing small, localized rule sets for those willing to use them.

My only hope is that these code overlays will steer clear of the wasteful controls that zoning places on land use and density. But a referendum is a referendum, and the idea here is that this level of zoning essentially empowers the willing party to raise its own version of a homeowners association. The lone caveat is that the additional code should remain public, enforced by the police powers of the local government—just like historic districts and common design districts today. None of this should be relegated to deed covenants or some such, not for rules of this magnitude that will invariably affect the public realm and require consistency and due process for enforcement.

There could be plenty of discretionary review items in these additional codes. The discretion would be expressed through a review committee governed by a strong purpose statement, a design plan, and an expressive form-based code. It would be delightful to administer such a thing.

The 51 percent majority would not only vote for the additional regulation and process. They would also need to adopt a small district levy to cover the creation and administration costs of the code they adopt. After all, this is an "additional" code with additional responsibilities that are beyond core government functions. So the district would need to pay for it. This is an important check on those who might want to fashion byzantine local district codes that are costly to implement. It happens today, in many cities and counties, and the administrative costs are currently subsidized by municipal general funds that should go elsewhere.

Of course, if a district must have a levy to support administrative costs, it might as well scale the levy to cover some of its own capital improvements too. This could be a marvelous system and a more transparent, deliberate way to "gate and curate" certain parts of the city according to the will of the owners who occupy it.

To me, this feels like a feasible, exciting, and sustainable reset of zoning—a level of reform that is both feasible and fundamental. My usual qualms are eased by the fact that the base code would remain and would ensure a certain equitable standard for all residents, especially those who do not happen to live in such tightly coordinated, high-demand areas where curation is common. To ensure an equitable standard, clean and simple, is a marvelous benefit. It's perhaps the most important benefit of all.

FUNDING THE URBAN EVOLUTION

Policy isn't enough. Every new development brings new demands on existing streets, utilities, schools, and other public services and systems. To offset the impact of those demands, local governments regularly impose impact fees and negotiate other remedies that compel all new development to "pay for itself" in a fair and reasonable manner (i.e., proportional to the impacts that the development creates). Some of this funding is discretionary and performed on a case-by-case basis. Savvy participants on both the public side and the private side regularly leverage their powers to maximize the possible benefit. In a community starved for jobs, an industrial developer will regularly gain broad concessions. In a prosperous suburban community that has enormous demand for new, luxury housing, the rewards go the other way; the developer goes above and beyond to get a discretionary rezoning approval.

Voluntary exactions are a negotiation game—a very enjoyable negotiation game. It's one of my favorite parts of the job. But that doesn't make it fair, sustainable, or necessarily good for the broader goal that the base code seeks to fulfill.

Impact fees are the involuntary form of exaction that is more aligned with the programmatic, equitable, systemic approach that a good code instills. These fees are the principal method for making the base code viable. As discussed previously, the code sets new standards for public streets. As new development arrives in a community, the base code is designed to require private development to contribute fees proportionate to their impact so that the streets can be built to the standard.

The layperson might assume that private developers would actually build the streets described in the Mobility and Accessibility section of the base code. This occasionally happens, but the more common and reliable way to ensure that private development proffers its contributions is through impact fees.

What, exactly, is the impact that compels such fees? How is it calculated? How does the impact translate to a dollar amount? The answers can vary from state to state, but in essence, an impact fee is established through two basic methodologies: deductive or inductive.

CONTROL AND THE DEDUCTIVE METHOD

Deductive methods depend on a clear understanding within a community of its future growth, its future needs derived from that growth, and a sensible list of necessary capital improvements to meet those needs. For transportation, the community forecasts its future growth through a comprehensive plan that estimates everything from new housing to new industrial and commercial development across its entire geography. Some areas will have more growth than other areas depending on land availability, zoning, and demand. The growth projections can be very fine grained, predicting housing in detached and attached forms and breaking out commercial uses in different retail and service formats. Zoning is a useful tool in this work because the local government can seemingly dictate the location and nature of the growth. It *feels* predictable.

Once a comprehensive plan is complete, its predicted growth pattern is coupled with the existing conditions and needs of the community's public systems to provide a clear sense of where new improvements should occur. Planners and engineers use this information (current and future need) to create a capital improvement plan. Such a plan usually occupies a 10-year horizon. All the needed infrastructure improvements that have the highest priority (based on current and future need) are placed into this plan, representing millions of dollars (or billions in some jurisdictions) of future work.

Because the need for these capital improvements is instigated by future growth, future development can be charged an upfront fee to cover its share. For example, a comprehensive plan might assume 1,000 new dwelling units in the outer suburban ring where there is currently no urban street grid—just a couple long, winding two-lane roads. The local streets serving these new dwellings will be built by the developers in a fashion described in this code. But the original two-lane roads? The same roads that brought development to the area in the first place? Those will need to change too. They will need to become collector streets that connect the local trips to the broader network. As shown earlier, a collector street is significantly larger and more expensive than a local street.

A deductive impact fee is thus calculated by assessing the impact of each dwelling unit—through the number of new trips[14] they generate—relative to the cost of improving the local street to a collector street.

This is a straightforward idea when applied to a single instance. However, the deductive method is quite unwieldy when applied to an entire jurisdiction of, say, multiple square miles with multiple forms of public systems (wastewater, parks, public safety services, etc.). Also, the deduction here is built on plans and projections that are essentially inaccurate. I and countless others before me have failed repeatedly to capture the true nature and quantity of growth over a 10-year period; it reminds me of the old joke that economists have predicted seven of the last two recessions. But unlike economists, planners can gain the upper hand on the future by controlling it through zoning.

As a professional planner who deeply enjoys the level of precision and forethought[15]

that goes into a deductive method, it pains me to admit how harmful it can be. Deductive methods encourage deeper control. The models used to calculate future growth and needs are built with very little margin of error. The models assume total knowledge of systems that are vast and dynamic. Such assumptions doom the approach to failure. We never really know where and how the city will evolve. The only way to prevent such failure of prediction is to prevent any other form of unanticipated change. In other words, such high levels of detailed planning lead us to treat unpredictable behavior (i.e., unplanned growth) as a "variance" and compel us to eliminate such variance through strict zoning systems.

Yet none of my colleagues wish to be so invasive. Controlling unplanned growth is a costly, exhausting endeavor. So we only go halfway through the effort. We create rigid, deterministic plans that imbue a false sense of certainty and watch reality unfold in a manner that is ultimately quite different. This is perfectly normal and would be forgivable, too, if it weren't for the option blindness that these rigid plans create.

The deductive method relies on fixed intentions for capital improvement. It essentially declares that roads X and Y will be improved in the next 10 years because the comprehensive plan justifies it. But when the growth goes to road Z instead and the conditions of roads X and Y are unchanged, we end up with a bad allocation of funds, unspent impact fees, and improvements that go to areas that need them less. This is the option blindness that rigid plans create—along with the sunk-cost fallacy of committing to one course of action, however unnecessary it is, because that's what our plans suggested.

RESPONSIVENESS AND THE INDUCTIVE METHOD

We can do better. Like the rest of the base code, we can embrace uncertainty rather than pretend to eliminate it. Inductive methods show us how. Instead of relying on omniscient planning documents that assume and attempt to control for a precise future (e.g., build-out analyses that show the city to be completely developed in some distant future), inductive methods establish a more responsive approach that is based on the evolving conditions of new growth and development. Such planning starts with what we, the local government, readily observe and understand. Specifically, we can be certain about the type of infrastructure we will generally need, what will precipitate the need, and the costs for providing it.

With transportation systems, the planning starts with the understanding that a community can and will outgrow some of its streets. Knowing the cost of improving those streets and the conditions that compel such improvements *on a simple, universal basis*, the local government can establish an impact fee that collects money with much less complexity and with more honest, transparent assumptions.

That is why a street standard, as described in this study, is so important. A street standard can be used to create an absolute per-unit cost for each improvement that shifts a street from one classification to another (from local to collector, collector to arterial). It's never perfect, but it is easier to understand and to control.

Meanwhile, the streets are regularly monitored for changing conditions: trip counts collected, congestion measured, and accidents and incidents recorded and analyzed. Such monitoring allows the local government to observe when a street is reaching the threshold that necessitates new improvements based on new growth.

Impact fees are collected in all areas and kept in a reserve, interest-bearing account until the local capacity threshold is met. Once a local street gains 2,000 average daily trips, the funds are deployed (along with general funds, grant funds, and other monies) to transform it into a collector street where possible.

Beyond the prudent reservation of adequate right-of-way, there is no fixed plan. In other words, a shrewd administrator would make sure that a right-of-way is dedicated for potential growth in places where a local-to-collector transition is ideal (e.g., preserving 75 feet of right-of-way instead of, say, 60 feet). Otherwise, there are no assumptions or predictions about the future pattern of growth. If anything, this transition is basic system maintenance, akin to an airline upgrading its fleet to accommodate more passengers (i.e., increased demand).

It helps that these things happen very slowly. No single street became overwhelmed overnight. That is why advance planning (à la deductive methods) is unnecessary and inferior. Why project outward growth over 10 years, never to glance at the conditions again, when you can actively monitor the system month to month and plan your projects more responsively?

Acknowledging the emergent behavior of our systems and championing the practices that accommodate that behavior are essential to the base code's fundamental practice. The ideas in this study will not work in organizations that are fixated on long-term planning. Such fixations are fuel for conventional zoning, which runs deep into everything, including impact fees.

With a straightforward street classification system, and a modularized design standard à la the base code, a community could easily calculate its facility costs through simple, pro forma analysis. The subject area, meanwhile, could be calculated for its total level of capacity too. Consider a place like Mesa, Arizona.[16] Within a typical square mile area, the city supports 3,165 people and 3.3 miles of roadway per 1,000 people. This means there are 10.44 miles of roadway within a given square mile. This could serve as a district boundary for our explanatory purposes. If the miles are divided by the general distribution of 68 percent local, 20 percent collector, 8 percent arterial, and 4 percent thoroughfare, the district might have some or all of the street types within it. Most of these streets will not see significant changes in capacity; growth will be steady and slow. Yet the planning director would assess the fee across the entirety of the district and direct the funds to wherever the specific improvements are needed the most when a threshold is met.

This responsive, inductive method can apply to any public service—from schools to wastewater to parks and libraries. Like the base code, an impact fee policy built on the inductive method provides a gentle set of bounds for the built environment's continued evolution. It is rigid but consistent, and consistently applied to all areas. Together, these policies relieve a community of the endless discretionary rethinking of how to handle growth by ensuring that the growth is priced appropriately (impact fee) and managed for health and safety (base code). Capital improvements emerge with the necessary conditions that justify them. Until then, the base code ensures that the new growth remains beneficial to all.

CONCLUSION: A PRESUMPTION TOWARD URBANISM

Say what you will about the ten commandments, you must always come back to the pleasant fact that there are only ten of them.

—H. L. Mencken

Six rules. There are only six rules here. Yet experienced readers know that challenges abound with the base code. It would face enormous resistance from all sides. It strips away the public input process by trading discretion for technical objectivity; it shifts the problem of excessive parking and ugly buildings to the private market or other regulatory tools; it eliminates sprawl through a new kind of regulation that is highly limited in scope yet brutish in its conformity. I can already imagine the sense of misfortune when a developer finds its property is at the threshold of the 500-foot block-length requirement, thus requiring it to build a new street to extend the grid to continue its project. Few would accept such news in stride.

Yet preserving the block length and providing the street improvements are essentially all that would be requested. Everything else would be unregulated. Most developers would embrace that tradeoff.

There are many other things that developers would embrace if it were easy for them to do so. My confidence in deregulation is bolstered by my recent efforts to buy a house. I have been unsuccessful. It seems that everyone wants exactly what I want—a modest dwelling in a walkable, urban community. I do not exaggerate. For decades now, the market demand for classic urbanism delivered at the hamlet or village scale has been relentless. Larger cities ebb and flow in their popularity, but practically everyone wants the essential qualities they offer—connectivity, mobility, human activity on the street level. Provide these essentials at the cozy scale of a village enclave and you get million-dollar bungalows. All this demand should tell us something: it should demonstrate a presumption of urbanism.

We should presume, in other words, that a private realm left to its own devices will ultimately urbanize in the resilient, supportive, attractive manner we all seem to value.[17]

In other words, the status quo is not natural. Zoning has warped our perspectives on human settlement and has caused us to think about urbanism on its terms instead of the reverse. Case in point: the notion of "multifamily" as a distinct type of land use is utterly absurd. It is a confection of policy language and a flawed categorization of human settlement patterns that predate recorded history. According to zoning, Mont Saint-Michel and the Taos Pueblo are "multifamily developments" that would be outlawed in most suburban communities.

This problem will lead some to want to fix zoning to allow such development patterns—hence, the reforms we see today. But it presumes that such development won't occur without proper zoning policy. That is a terrible presumption.

It is far better, and far better proven, to presume that urbanism will occur in *greater numbers and with higher quality* when there is a public realm that supports it (à la base code) and a policy that does not prohibit it. The incentive (profit) for building such urbanism is readily apparent to those of us who are priced out. The lucky ones who can afford such places pay a high price to do so. They paid that price under the unfortunate yet valid presumption that such places would continue to be scarce.

In conclusion, imagine a state adopting the base code for all local governments. That would be an astounding, far-reaching act of preemption. Or so it would seem. But local agency remains. Those who want to retain zoning control would quickly pursue referendum. Many neighborhoods would form districts (they already do) and adopt tighter regulations on the private realm. Those groups would be empowered by the simple foundation that the base code provides, just as other groups outside the district would be empowered by the base code's freedoms. We would eventually see districts with tight controls and scarcity surrounded by areas of greater abundance and adaptation. Underneath it all would be a solid public realm of safe, healthy public infrastructure and noxious uses that are safely distanced from everything else.

This is what our best places already provide. We would have more of it. It is all very straightforward. The initial effort is provided here. When we limit the scope, sharpen the goal, and make this a technical code, we make a great zoning ordinance possible.

NOTES

1. Seymour I. Toll, *Zoned American* (Grossman, 1969).
2. Juan C. Duque et al., "Urban Form and Productivity: What Is the Shape of Latin American Cities?" (Policy Research Working Paper 8697, World Bank, Washington, DC, 2019).
3. Distribution is based on personal observation and the ranges provided by the Federal Highway Administration (FHA); see section 3 of "Highway Functional Classification Concepts, Criteria, and Procedure," on the FHA website at https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm.
4. A more recent concept, the *transit collector* is a collector street type (as defined by the Federal Highway Administration) that features a dedicated offset transit lane for regular fixed-route service. Details on the lane's function and design are best illustrated in *Urban Street Design Guide* (2nd ed.), provided by the National Association of City Transportation Officials (Washington, DC: Island Press, 2013).
5. Steffen Lehmann, "Sustainable Urbanism: Towards a Framework for Quality and Optimal Density?" *Future Cities and Environment* 2 (2016): 8.
6. Block sections, as a concept, were introduced by Paul Stangl as a superior method for establishing well-connected street grids. See Paul Stangl, "Block Size-Based Measures of Street Connectivity: A Critical Assessment and New Approach," *Urban Design International* 20, no. 1 (2015): 44–55.
7. Todd Litman, "Roadway Connectivity: Creating More Connected Roadway and Pathway Networks," Victoria Transport Policy Institute, updated January 2017, https://www.vtpi.org/tdm/tdm116.htm.
8. Susan Handy, Robert G. Paterson, and Kent Butler, "Planning for Street Connectivity: Getting from Here to There" (Planning Advisory Service Report 515, American Planning Association, 2003); Wesley E. Marshall and Norman W. Garrick, "Street Network Types and Road Safety: A Study of 24 California Cities," *Urban Design International* 15 (2010): 133–47.
9. Two notable, more recent studies are Jill E. Johnston et al., "Respiratory Health, Pulmonary Function and Local Engagement in Urban Communities Near Oil Development," *Environmental Research* 197 (2021), and Evans K. Lodge et al., "The Effect of Residential Proximity to Brownfields, Highways, and Heavy Traffic on Serum Metal Levels in the Detroit Neighborhood Health Study," *Environmental Advances* 9 (2022).
10. The usual distance requirement for noxious uses is 1,500 feet. The exposure period is inspired by Occupational Safety and Health Administration regulations; fumes, particulates, and noises roughly associated with these types of uses require personal protective equipment when exposure is at eight hours or greater. Being 1,500 feet removed should prevent impacts.
11. Norman Wright, "Practice Zoning Minimalism" (Zoning Practice 12, American Planning

Association, Chicago, December 2021), https://planning.org/publications/document/9226389/. All illustrations in this section are reprinted courtesy of the American Planning Association.

12. A technique that I developed while creating an online course, "The DIY Form-Based Code," for Planetizen.com in 2015; see https://courses.planetizen.com/track/form-based-codes.
13. See M. Nolan Gray and Adam Millsap, "Subdividing the Unzoned City: An Analysis of the Causes and Effects of Houston's 1998 Subdivision Reform, *Journal of Planning Education and Research* (2020): 990–1006.
14. Projections are typically used to calculate future vehicle trips using the *Trip Generation Manual* (Washington, DC: Institute of Transportation Engineers, 2021)—a technical document now in its 11th edition that is well known and somewhat infamous in the planning world.
15. A favorite example of the deductive method is Seattle's recent impact fee study. In that study, page 4 captures the process with excellent clarity. See "Seattle Impact Study," Fehrs & Peers, Seattle, WA, January 2023, https://www.seattle.gov/documents/Departments/Council/Issues/ImpactFees/Impact-Fee-Rate-Study_Draft_January-2023.pdf.
16. See the FHA's Office of Highway Policy Information webpage at https://www.fhwa.dot.gov/policyinformation/statistics/2017/hm72.cfm#foot2.
17. The notion of a presumption toward urbanism is inspired by Professor Jonathan Levine and his 2006 book *Zoned Out*, which was an important influence on this paper.

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