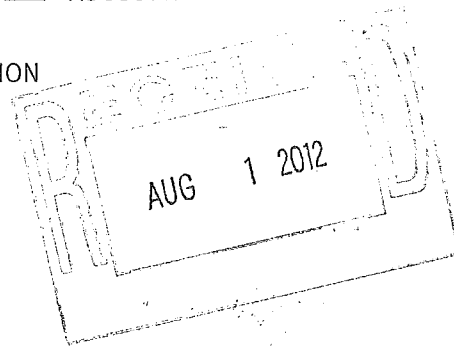# ZONING PRACTICE

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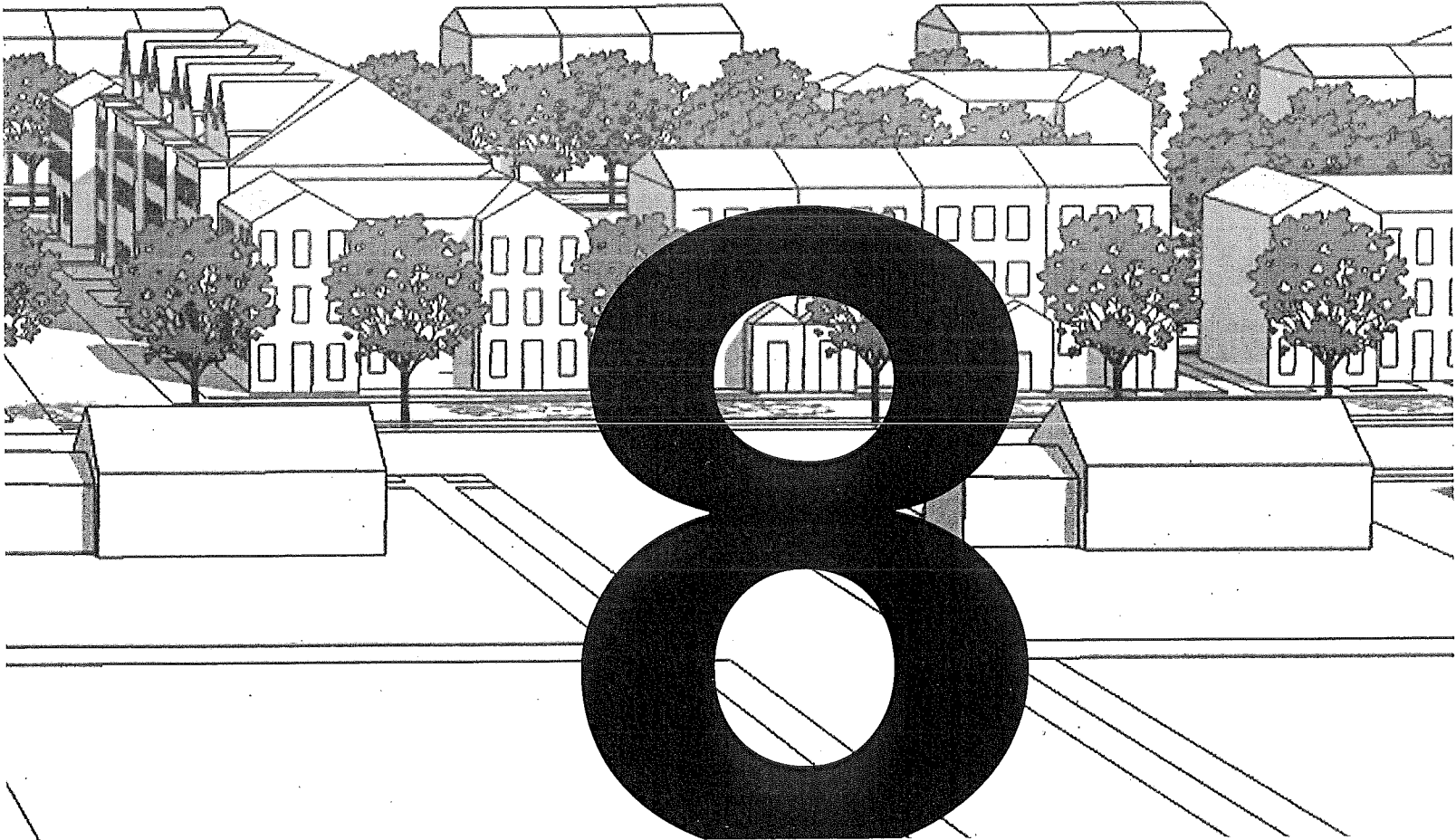
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PRACTICE PLANNING FOR EDGES

Density and the Planning Edge

By Lisa Nisenson

The growing demand for city living naturally boosts demand for building rehabilitation and redevelopment.

Why are Americans opposing development in their communities?
Saint Consulting

- to identify the full range of participants needed throughout the life of the project and get them to the table at the front end of the process;

- to give stakeholders an organized, comprehensive resource; and

- to change the dynamics of land-use battles where the urge to say "no" occurs because information on neighborhood-friendly redevelopment is not readily available.

However, urbanists hoping to accelerate the renaissance need to reckon with market and other forces that still hold back redevelopment. Ask developers, smart growth advocates, planners, and local officials to name the greatest barrier to redevelopment and infill, and there is one answer common to all: neighborhood opposition to new density and redevelopment.

This is not a new observation. Smart growth and housing advocates have developed a range of tool boxes, guides, and graphics to address the main points of opposition: reduced property values, traffic, and livability factors. Common resources tend to address these fears in three main ways:

- by debunking property value and traffic arguments through research and "myth and fact"-type documents;

- by listing the redevelopment benefits for watersheds, transportation, and housing supply; and

- by using graphics, photo galleries, and photo-edited images to highlight amenities.

These responses help make the case for why density and redevelopment should occur in the first place but do not address neighbors' legitimate concerns about introduced impacts. Instead, what is needed is a focused effort to identify potential impacts and methods to prevent, mitigate, or manage them throughout the life of the project.

This article begins a conversation on higher density redevelopment to answer a fundamental question: If neighborhood opposition is a predominant barrier to redevelopment and infill, why not dedicate more attention to design solutions and livability where new density meets the neighborhood?
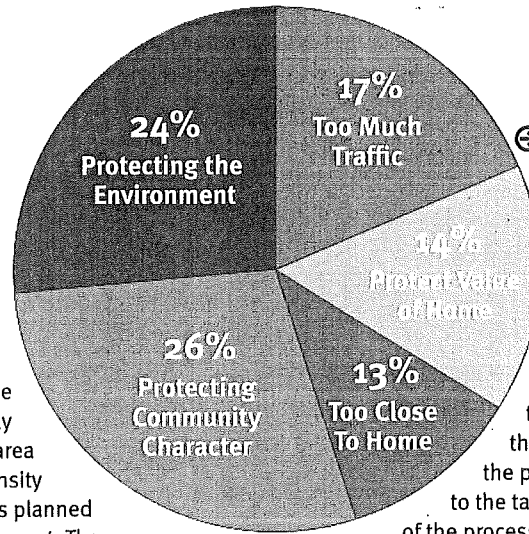
THE PLANNING EDGE

What is the planning edge? Typically this edge includes the zone immediately surrounding an area where higher density redevelopment is planned or under development. The planning edge can also extend from the project area to include residential and commercial areas impacted (positively and negatively) by transportation, economic development, and infrastructure.

Several terms are used when describing the transition between areas of development intensity. For example, the term "interface" is used commonly between undeveloped open space and rural housing. Some form-based codes include a category called "planning edge." For purposes of this article, the edge is defined functionally as the area where a higher level of impacts can potentially occur due to redevelopment.

A FRAMEWORK FOR THE PLANNING EDGE

First, it is helpful to think about what a specialized planning process can, and cannot, do. Focused planning can help shape neighborhood-friendly redevelopment with the following objectives:

- to signal an honest, dedicated approach to identifying and addressing potential impacts;

- to provide solutions in the design process that will lower costs and improve operation and maintenance throughout the life of the project;

- to strengthen decision support analyses;

However, such a process cannot be expected to stop opposition and lawsuits altogether, change the human fear of change and need to guard investments, prevent poor quality projects from coming forward, or substitute for vision-based and participatory planning that determines the appropriate location for density and redevelopment.

TWO-PART FRAMEWORK FOR ADDRESSING NEIGHBORHOOD OPPOSITION AND CONCERN

Saint Consulting conducts an annual survey to gauge the politics of land use. The 2011 Saint Index provides a snapshot of sentiment, including the types of development projects most opposed and the reasons. Responses tend to be a mix of emotional and rational concerns. The emotional reasons are personal and close to home while the rational concerns are directed at measurable impacts anticipated with higher density infill development and redevelopment.

As such, the planning edge requires a two-part framework:

1. A general collection of planning, design, and policy approaches that can be used to prevent and mitigate impacts related to redevelopment and infill

2. A local approach focused on working with adjacent neighborhoods to address both rational and emotional concerns related to new projects

This article primarily discusses the first part of this framework, with an emphasis on a process for identifying best practices related to planning and zoning. It is this author's hope that the following sections represent a first step in developing a robust program to comprehensively address impacted edges through design and policy.
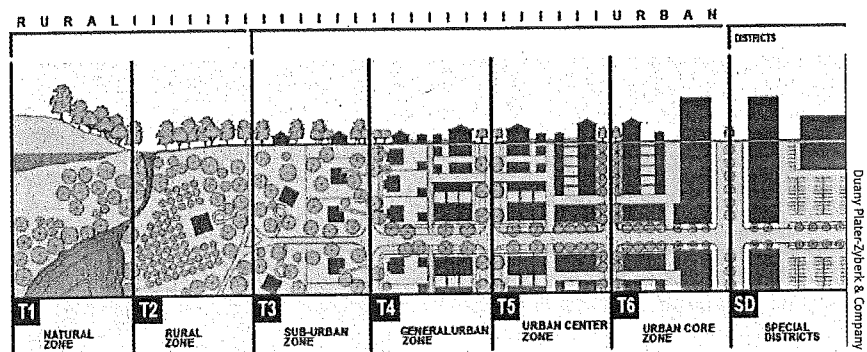
➔ The new urbanist transect can be a useful tool for organizing discussions about how to mitigate the impacts of higher density infill or redevelopment on existing neighborhoods.

A FRAMEWORK FOR THE PLANNING EDGE

Part 1   Scale: National

Content: Examples that address prevention/mitigation of commonly cited impacts. Includes data, legal documents, "lessons learned," maps, site plans, and photographs. Provides information by impact (for example, policies, planning documents, and photos on spillover parking prevention).

Objective: To develop a comprehensive set of design solutions, policy, developer agreements, and other successful mechanisms for preventing or mitigating impacts related to redevelopment and infill.

Political Approach: Decrease opposition to redevelopment and infill by showing successful policies and practices. Provide decision makers and other stakeholders with credible, documented examples.

Part 2   Scale: Local

Content: Local planning documents, local analyses (stormwater, traffic, economic development), citizen engagement techniques.

Objective: To address concerns and tailor policies and practices in order to reduce impacts.

Political Approach: Maximize outreach to neighborhoods, address impacts to the degree possible, negotiate community benefits, and highlight the benefits of the project area to both neighbors and the entire community.

PLANNING, DESIGN, AND POLICY FOR THE EDGE

The general component of the planning edge framework consists of six areas described in detail below:

1. Determining the development context

2. Determining the planning and zoning context

3. Analyzing potential impacts

4. Addressing impacts through policy, design, and transportation infrastructure

5. The process for addressing impacts

6. Long-term operations, maintenance, and enforcement considerations

Determining the Development Context

The development context is important since the degree of density, infrastructure, street network, and other aspects of the built environment will direct design and policy options. The most general descriptors are rural, suburban, and urban. New urbanists use the transect to describe the landscape from a natural undeveloped state (T1) up to the most intensely developed urban core (T6).

The development context will be important when matching design and policy solutions to localized impacts. In many circumstances the planning edge will be a tran-

sition from one transect zone to another. In the case of a transit-oriented development for rail stations, the change may be abrupt where T6-related density and architecture are located next to a T4 neighborhood.

Determining the Planning and Zoning Context

Project sites are often contained within, and governed by, one or more plans and zoning documents; these plans will influence the array of practices available to project planners and neighborhoods. A redevelopment project might be subject to several nested plans; for example, a comprehensive plan, a corridor plan, transit station area plans, and a detailed neighborhood plan. Likewise, federal and state rules may direct design details, such as postconstruction stormwater rules or brownfield redevelopment requirements. Therefore, a locality and neighborhoods will need to consult these documents prior to embarking on project design.

Analyzing Potential Impacts

A careful consideration of potential impacts can help local planning and zoning officials mitigate potential flashpoints ahead of infill projects. The following list contains concerns commonly raised by existing residents and businesses. (Goldberg 2004):

- Visual changes
- Changes to greenspace
- Changes to community character
- Increased traffic
- Parking problems
- Operational impacts such as noise and light pollution
- Property value decline
- Disruption during construction
- Loss of spaces for local businesses and affordable housing

This list is by no means complete or static. For example, reflection and glare off of windows in high- and mid-rise buildings are growing concerns and difficult to correct after the fact. As such, any database will need to adjust over time.

Impacts can also be categorized based on development phases. Consequently, any database will also need to collect mitigation practices based on the timing of impacts:
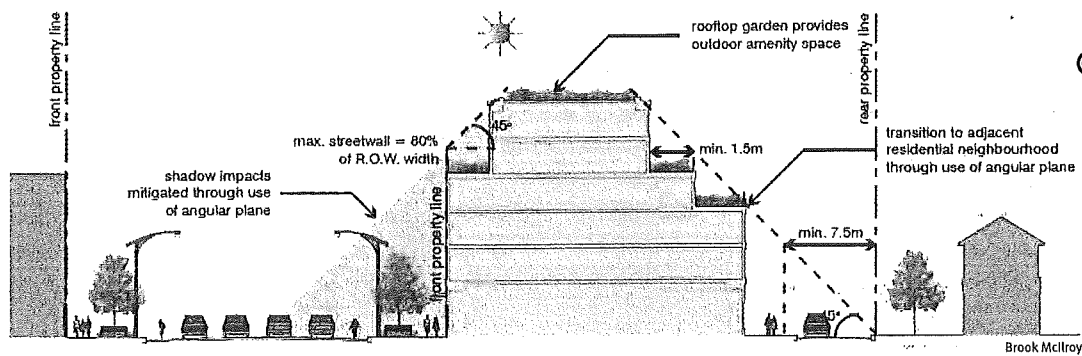
- Short- or near-term impacts related to preconstruction, construction, landscape installation, or utilities

Summary of Impacts	Sample Approaches to Address Impacts
Visual	
Incongruous height and massing of buildings	Design guidelines on building massing and form, setbacks, and lot coverage. Height limits, taper (or step-down) ratios, form-based codes, density bonus criteria
Lack of building quality	Visual Preference surveys and design guidelines
Shadows	Shadow modeling
Character	
Loss of historic buildings and features	Historic preservation overlays, tax credits, and renovation incentives
Changes to community character	Design guidelines and preferred building materials, guidelines for infill housing, and community improvement funds
Loss of privacy and sense of safety	Design for privacy (location of windows and balcony design) and Crime Prevention Through Environmental Design (CPTED)
Loss of affordable housing or retail	Inclusionary zoning and small business support programs
Loss of park space	Level of service requirements for park space per person
Environmental	
Poor air circulation (wind tunnels or lack of circulation)	Design guidelines on building arrangement and air flow studies
Loss of green space	Tree canopy retention requirements, open space dedication requirements, and natural buffer requirements
Urban heat island	Low albedo roof design and landscape design for lower heat island effects
Increased stormwater runoff	Light imprint or Low-Impact Development (LID) requirements
Traffic and Transportation	
Increased congestion	See table on page 5
Cut-through traffic	
Parking	
Insufficient parking and loading space	See table on page 5
Operational	
Noise and odor	"Good neighbor agreements" and noise ordinances
Light pollution and glare	Low reflective glass requirements
Financial	
Decreased Property Values	Before-and-after studies from similar projects

- Mid-term impacts related to opening, phased construction and infrastructure, or landscape maturation

- Long-term impacts related to operations and maintenance, adaptive management, or mature landscaping care

The ability to predict and mitigate infill-related impacts is heavily dependent on forecast models and methods. As such, any effort to compile policies and design solutions will also need to include the growing list of forecast models for traffic, parking demand, economic impacts, and the like. The stakes in model outcomes can be high, ranging from project disapproval to the size of proffers and impact fees. The choice of models used, inputs, and use of outputs can become the center of controversy in any land-use debate. For infill, that controversy may grow as a new generation of forecast

Labels in illustration: front property line · rooftop garden provides outdoor amenity space · rear property line · max. streetwall = 80% of R.O.W. width · 45° · min. 1.5m · transition to adjacent residential neighbourhood through use of angular plane · shadow impacts mitigated through use of angular plane · front property line · min. 7.5m · 45° · Brook McIlroy

⊖ This illustration from a presentation about Barrie, Ontario's urban intensification guidelines shows how new buildings can be required to step back to create a softer transition to adjacent lower density development.

Transportation Practice Area	Potential Impacts	Sample Approaches to Address Impacts
Street network	Increased congestion, cut-through traffic, loss of privacy and sense of safety, increased stormwater runoff, urban heat island, and noise and odor	Transportation improvement plans, street connectivity requirements, complete streets policies, street design standards, corridor improvement plans, alley design guidelines, light imprint or LID requirements, and traffic calming techniques
Transit network	Increased congestion, loss of privacy and safety, changes to community character, and noise and odor	Transit plans and facility siting and design guidelines
Nonmotorized transportation network	Increased congestion, changes to community character, decreased property values, increased stormwater runoff, and insufficient parking and loading space	Nonmotorized facility plans, sidewalk requirements, on-site circulation requirements, light imprint or LID requirements, and nonmotorized facility siting and design guidelines
Off-street parking and loading	Increased congestion, insufficient parking and loading space, loss of privacy and sense of safety, increased stormwater runoff, urban heat island, and noise and odor	Transportation demand management programs, shared parking incentives, light imprint or LID requirements, and off-street parking and loading requirements

models emerges, for example the MXD traffic generation model developed specifically for mixed use development.

Addressing Impacts

The table on page 3 summarizes common infill-related impacts cited by neighborhoods and examples of policy and design options for mitigation. The table on page 5 takes a closer look at potential impacts and mitiga-

tion techniques related to transportation infrastructure. These tables are intended to be a summary to show how policies can be assembled, but the suitability of a particular practice will depend on location-specific considerations. Likewise, planners should scrutinize the specific design practices to make sure they do not undermine other objectives. For example, the desire to limit light may impinge on safety.

Process

Neighborhoods will also have concerns related to the process of project approval. As cities seek incentives and streamlined processing for desired infill, neighborhoods often push back, seeking greater control and as many concessions as possible. The legal structure for obtaining and maintaining conditional approvals is important. Different communities rely on a wide range of tools, such as use permits, stipulations, exemptions, developer agreements, monitoring reports, and community benefits agreements. A nationwide database of development approval processes would allow communities to compare their process against others.

In some municipalities (e.g., Arlington County, Virginia, and Lawrence, Kansas) developers have the option of developing under the underlying zoning or choosing a parallel form-based code in order to obtain higher densities, a more valuable use mix, or other benefits. In exchange the neighborhoods can obtain amenities such as parks, better design and building materials, improvements to drainage, and landscaping.

Finally, communities will want to address management during the construction phase as part of an infill program. Because the construction phase can cause considerable disruption, zoning and planning departments need to carefully plan for construction, anticipate problems, and have a list of remedies. Neighbors will want enforceable provisions to limit hours, noise, and dust. After project approval it is important to signal to developers and neighbors which kinds of variances to approved project plans are acceptable (e.g., minor modifications) and which are not (e.g., backing away from major commitments).

Operations, Maintenance, and Enforcement

While project approval is a major milestone, neighbors will be thinking about the long

term and how to enforce commitments made during the approval process, such as hours of loading, landscaping maintenance, and parking. Because many aspects of maintenance will be shared between a private property manager and the local government, planners must draw clear lines of responsibility during the design phase and spell out these responsibilities through stipulations, use permits, and developer agreements.
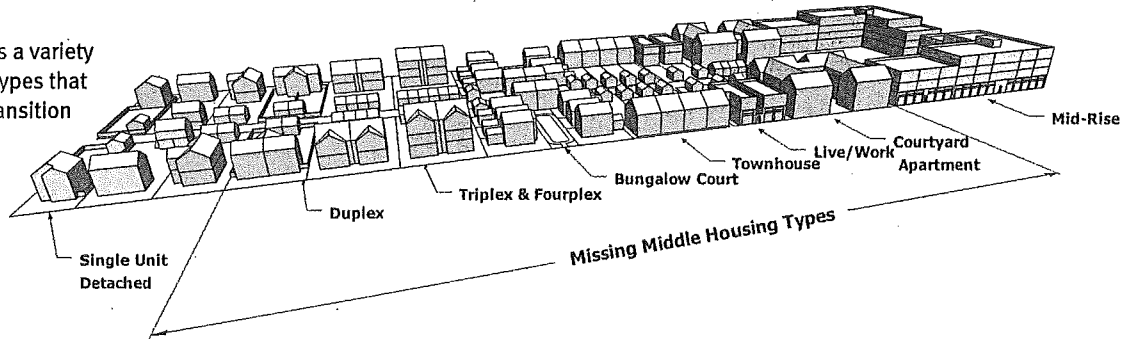
East Greenwich, Rhode Island, Cottages on Greene
The Cottages on Greene project is comprised of 15 units of mixed income housing on a 0.85 acre lot that was once an auto repair shop near downtown. The cottages are organized around a linear court and gardens that also serve to manage stormwater with landscaping, bridges, and boardwalks. The architect, Don Powers of Union Studio in Providence, Rhode Island,

knew the neighborhood was reluctant to see such density. Powers took the unusual step of going to public meetings with the project fully designed. Because there was little room for negotiation, he did not want to risk reducing the number or type of units. He was confident that the quality design and landscaping would win over critics. The project was approved in 2009 despite last-minute questions on traffic counts and water.

⊕ This image shows a variety of infill housing types that be used in the transition from detached, single-family housing to higher density, mixed use projects.

Daniel Parolek

- Single Unit Detached
- Duplex
- Triplex & Fourplex
- Bungalow Court
- Townhouse
- Live/Work
- Courtyard Apartment
- Mid-Rise

Missing Middle Housing Types

CASE STUDIES
The following case studies illustrate how cities and neighborhoods have addressed planning and design for infill.

Eugene, Oregon, Infill Program
Neighborhood opposition is not just about stopping infill but instead bringing about better infill. In 2001 several neighborhoods in Eugene formed the Heritage Crescent Neighborhood Livability Project after zoning code changes resulted in boxy, oversized development. Working with the city, the neighborhoods formed the Infill Compatibility Standards Task Team. Rather than relying solely on city staff, volunteers helped collect data, develop sample code language, conduct walking tours, and engage university students in research. Neighborhoods are actively involved in Eugene's Opportunity Siting process to identify appropriate new sites where medium- and high-density residential development would be compatible with the overall neighborhood. The city has produced brochures and videos and has a YouTube channel to showcase aspects of compatibility standards.

⊕ The design for the Cottages on Greene in East Greenwich, Rhode Island, references the compact workers' cottages built in the area during the late 19th and early 20th centuries.

Donald Powers

EXAMPLES OF PRACTICES
- *Building design for height and massing:* Arlington County, Virginia's Columbia Pike Form Based Code contains building envelope standards for main-street, local-avenue, and neighborhood-facing sites.
- *Streamlined Code:* Raleigh, North Carolina, is updating its unified development ordinance to streamline permitting for certain infill housing activities while increasing standards. The new code is popular with neighborhood groups in the city, who have started an online petition in support.
- *Parking Survey for Affordable Housing:* The city of San Diego surveyed residents of affordable and workforce housing on car ownership. In general car ownership was higher for larger units and higher incomes and lower for residents of the downtown core.
- *Before-and-After Study:* Idaho Smart Growth and the Urban Land Institute Idaho conducted a resident survey and before-and-after after data collection related to traffic, parking, and property values.

Austin, Texas, Special Use Infill Options and Design Tools

In 2010 Austin developed eight different infill districts and corresponding regulations. As in other cities, the tools focus on residential infill; however, they also include three categories with commercial uses: neighborhood mixed use building, the corner store, and neighborhood urban center. Neighborhood residents then vote to incorporate one or more of the desired categories into their neighborhood plans.

CONCLUSION

While infill studies typically focus on land use and transportation performance, this article adds another dimension: livability where new density meets the neighborhoods. Many concerns raised by neighborhoods are legitimate and, when handled from the first stages of planning, can be prevented or mitigated through design and policy.

At present, most resources on design and policy options are scattered. A comprehensive resource would include a searchable database by type of impact, location, and development context. This information could be crowdsourced (having users contribute content) and distributed through social networks, websites, and print. This database could include photos of design and architectural "tricks" used to enhance compatibility; examples of site plans; zoning code language and design guidelines for neighborhood edges and infill housing; language for stipulations and use permits; innovative language from developer agreements; practices to limit impacts from construction; model policies for park design, tree canopy, and parking; and success stories on how developers, planners, and neighbors came together.

This resource would also collect best practices for local approaches to civic engagement. It would include methods for engaging the most affected neighbors; use of new models and technology (such as computer renderings, visualization tools, and use of smart phone/tablet apps to show how a project looks in situ); important local data; identifying locally relevant management practice; and running effective charrettes and workshops.

REFERENCES AND ADDITIONAL RESOURCES

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www.columbiapikeva.us

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Crime Prevention Through Environmental Design
www.cpted.net

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http://idahosmartgrowth.org/index.php/projects/project/creating_quality_infill

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www.cityofmadison.com/planning/DesignStandardsBookFinal%204.pdf

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Raleigh, North Carolina, Unified Development Ordinance
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San Diego Affordable Housing Parking Study
www.sandiego.gov/planning/programs/transportation/mobility/affordpark.shtml

Cover image created by Renaissance Planning Group for the Town of Blacksburg, Virginia; design concept by Lisa Barton
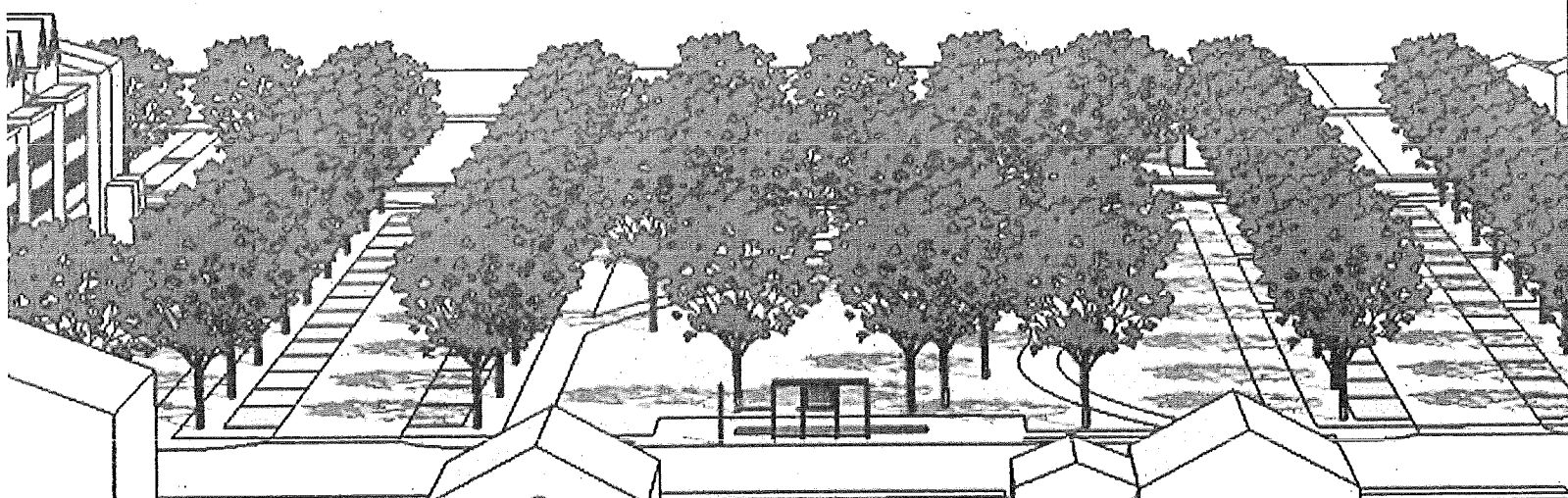
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WHAT HAPPENS WHEN NEW DENSITY MEETS THE NEIGHBORHOOD?

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