

# ATHENS-CLARKE COUNTY INFILL HOUSING STUDY



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### Project Overview

The purpose of this study is to examine infill housing trends in Athens-Clarke County to better understand issues related to new construction in existing neighborhoods. This effort begins by defining the infill focus area, clarifying reasons for an infill examination and revisiting current policies and ordinances that influence infill construction. While new construction and other reinvestment in established areas inevitably affects the stability of property values and may raise questions about affordability and gentrification, the focus of this study will be primarily limited to the “physical environment,” highlighting design and construction issues.

Next, the study reviews recent infill construction trends in Athens-Clarke County, noting infill's role in the larger A-CC residential market. Addressing specific design and construction issues, the study provides examples of both compatible and incompatible elements evident in new construction. To provide a point of comparison, the study also highlights a few examples of new construction within major subdivisions, to which architectural design standards were applied during the permitting process.

The study then reviews strategies employed by other communities to facilitate compatible new residential construction. These varied approaches range from modifications to base zoning regulations to establishing conservation overlay districts. Finally, the study concludes with recommendations for next steps.

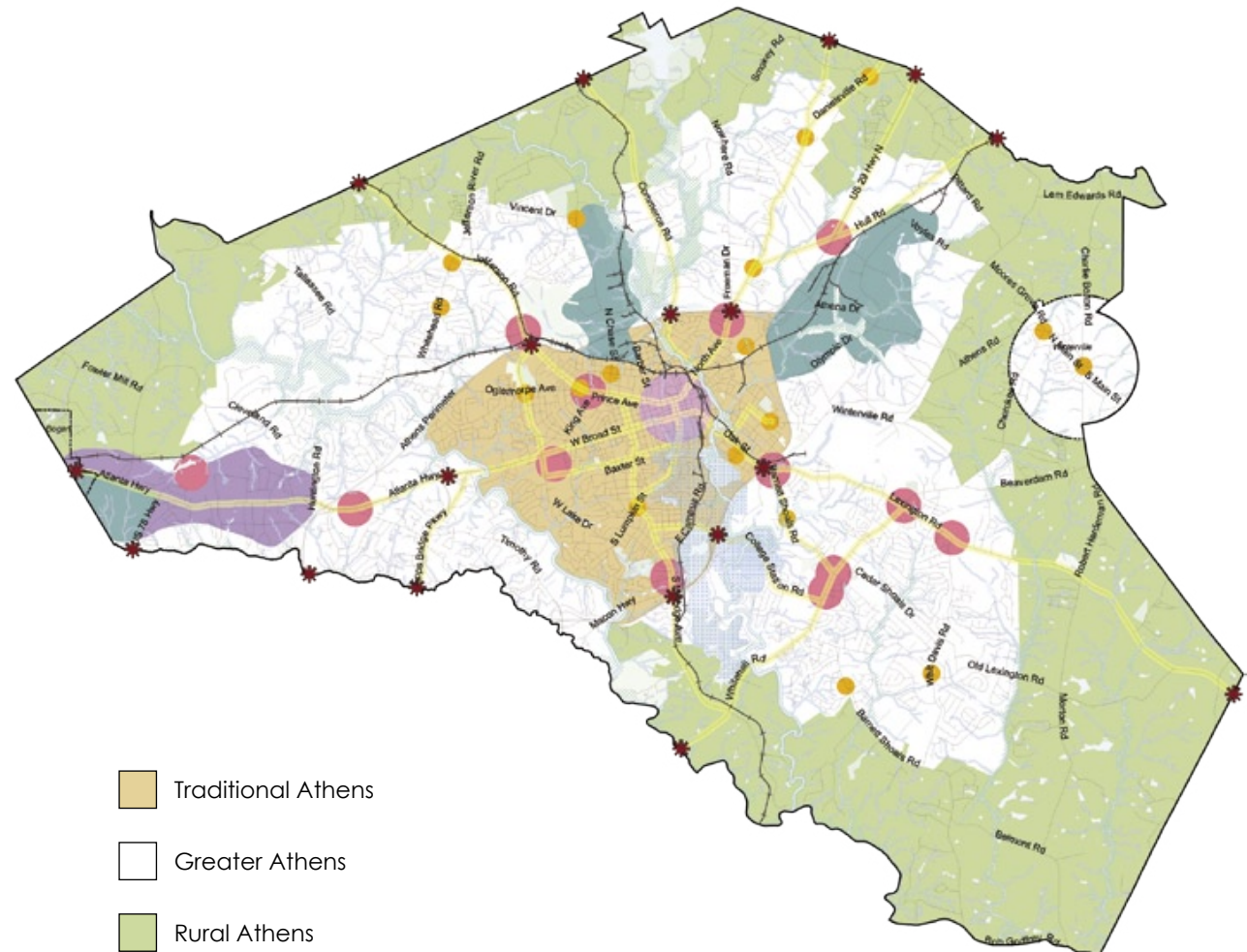


Figure 1 - The Growth Concept Map divides Athens-Clarke County among three general future growth areas: Rural, Greater Athens, and Traditional Athens. Traditional Athens is the primary focus area of the Infill Housing Study.

# INTRODUCTION

## What is Infill?

# INFILL HOUSING STUDY

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### Various Infill Definitions...

- State of Massachusetts-Developing on empty lots of land within an urban area rather than on new undeveloped land outside the city or town. ([commpres.env.state.ma.us/content/glossary.asp](http://commpres.env.state.ma.us/content/glossary.asp))
- WCEL, British Columbia-Building housing or other buildings on a site already containing existing buildings, some or all of which are retained. ([www.wcel.org/issues/urban/sbg/glossary/](http://www.wcel.org/issues/urban/sbg/glossary/))
- Las Cruces, NM-Infill is the concept of utilizing for building or similar development purposes, those lots and small parcels of land within the developed areas of the City. In all instances, infill addresses those lots which already have sufficient City services immediately available to them. ([www.las-cruces.org/comm\\_dev/development/comprehensive/Comp\\_Plan/glossary.shtm](http://www.las-cruces.org/comm_dev/development/comprehensive/Comp_Plan/glossary.shtm))
- Burlington, CA-Development on vacant lots or through redevelopment to create additional new residential units. ([www.burlington.ca/Planning/Official%20Plan/Part\\_VII/](http://www.burlington.ca/Planning/Official%20Plan/Part_VII/))
- Hillsborough, NH-Refers to the construction of a building that fills a void between two existing structures or a vacant space in the core downtown. ([www.hillsboroughpride.org/guidelines/GlossaryofTerms.html](http://www.hillsboroughpride.org/guidelines/GlossaryofTerms.html))
- Cape Cod, MA-Is the development of new housing, commercial or other buildings on scattered vacant or underutilized sites within existing substantially built-up areas. ([www.capecodcommission.org/bylaws/feedefine.html](http://www.capecodcommission.org/bylaws/feedefine.html))
- Canberra, Australia-The construction of new buildings on previously undeveloped sites within established areas but not on public open space. ([www.actpla.act.gov.au/spatial-plan/6\\_glossary/](http://www.actpla.act.gov.au/spatial-plan/6_glossary/))
- Cascade, OR-Infill development is the construction on scattered vacant lots in developed neighborhoods as opposed to building on large parcels of vacant land in relatively undeveloped areas. ([www.cascadelink.org/neigh/ghfl/pcpAppendixB.html](http://www.cascadelink.org/neigh/ghfl/pcpAppendixB.html))

### What is Infill?

Before embarking on an analysis of recent trends in infill housing, it behooves us to first establish what “infill” is in Athens-Clarke County. There is no singular definition of infill, and numerous communities have defined the concept by terms that fit their own set of developmental characteristics. Broadly understood, infill is development on vacant or underutilized parcels within previously developed areas that already have access to community infrastructure and services. Infill is not limited by use; it may serve residential, commercial, institutional, or other users.

For the purposes of this study, Planning Staff have identified single-family residential infill examples that are primarily located within the *Traditional* area of the Growth Concept Map (an area that roughly corresponds to the Urban Service District). The rationale for this emphasis is twofold:

- Comprehensive plan goals call for infill and increased density in the *Traditional* area, and
- The infrastructure and services available within the *Traditional* area best approximate the developmental characteristics associated with infill locations nationally.

Nonetheless, some examples are drawn from what may be termed suburban infill, or new construction in older suburban areas. Excluded from the infill analysis is construction within new, “major” subdivisions of land over 5 acres in size as this land size is a reasonable threshold over which we may consider the



development to be of a “greenfield” nature, or development on previously undeveloped lands. While major renovations and additions are often characterized as infill construction, this overview omits these projects from analysis.

### Why Study Infill?

In recent years, Athens-Clarke County has experienced a substantial amount of infill development in existing neighborhood areas. Figure 3 illustrates the percentages of single-family residential new construction from 2004 to early 2007 occurring in suburban versus urban areas as well as the amount occurring in subdivision developments versus infill lots. This type of residential construction activity has responded to past and current Comprehensive Plan goals calling for higher densities in intown areas in order to reduce housing pressures on undeveloped, “greenbelt” areas.

These higher “prescribed” densities are reflected by zoning, as Figure 2 highlights parcels within the urban growth concept area that are at least twice the minimum lot size for their zoning designation. While the mapping exercise does not account for existing uses or densities on the parcels or other regulations such as minimum lot width, the image nevertheless draws attention to areas of potential subdivision and infill.

Despite infill's general role in advancing local growth objectives, concerns have been frequently raised that individual projects may at times be at odds with other Comprehensive



Figure 2 - In the map above, the parcels that are highlighted by their respective zoning classification colors are at least twice the minimum lot size for their district, an indication of infill potential.

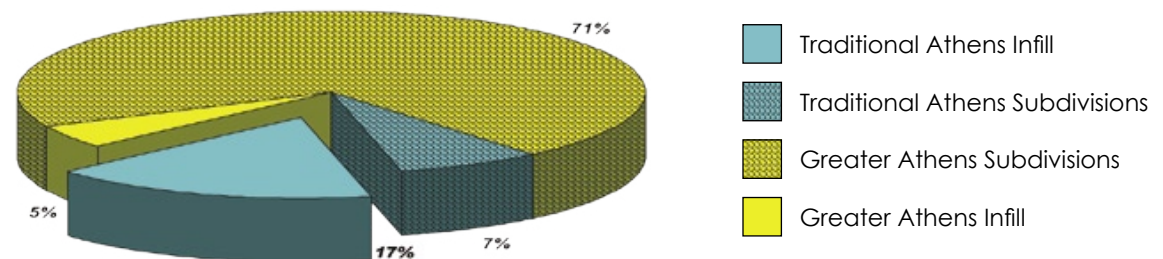


Figure 3 - The pie chart illustrates the proportional amount of new single-family residential construction occurring between 2004 and 2007 in infill locations vs. new subdivisions, as well as within Traditional vs. Greater areas of Athens-Clarke County. (Source: Athens-Clarke County zoning permit data)

# INTRODUCTION

## Why Study Infill?

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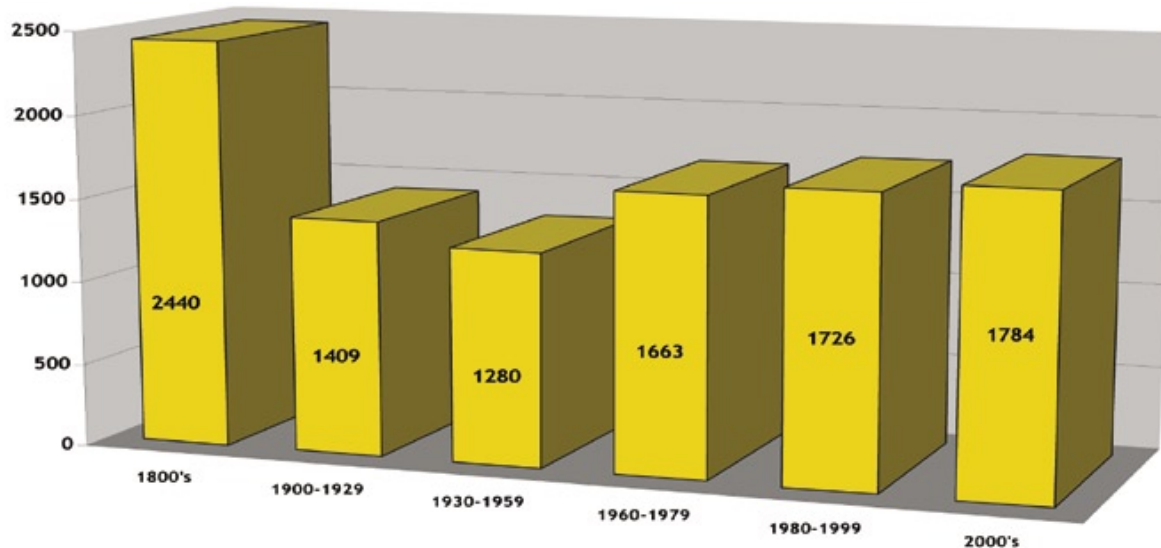


Figure 4 - Comparing the average square feet of Athens-Clarke County's existing housing stock, homes built have been steadily increasing in size since the period between 1930-1959. (Source: ACC Tax Assessor data)

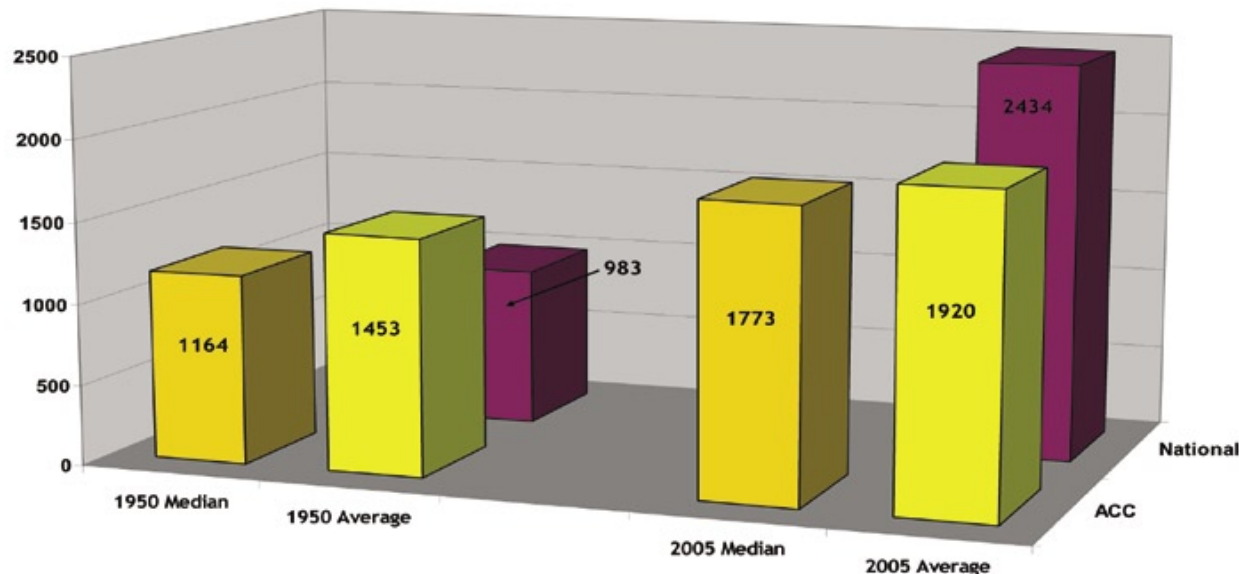


Figure 5 - The increase in average home size locally does not appear as dramatic as the national increase. Local figures, though, are based on the existing housing stock, including homes that have been expanded since their original construction date in 1950. (Source: ACC Tax Assessor data and Nat. Assoc. of Homebuilders)

Plan goals to preserve neighborhood character. An often universal challenge for infill compatibility is the sheer contrast between typical home sizes that were built during a neighborhood's initial development and those that are built for the modern market. Figures 4 and 5 depict the growth of home sizes over the decades.

Incompatible scales are among a variety of infill issues that have been voiced by participants in the Comprehensive Plan workshops, by neighbors of new infill, by citizens at public hearings, and by members of the Athens-Clarke County Commission. Specific issues and opportunities related to infill cited by subcommittees of the Comprehensive Plan Steering Committee are:

- Some infill development—both residential and non-residential—adversely impacts the character of existing neighborhoods.
- Infill development can drive up property taxes/values and gentrify a neighborhood.
- We will support opportunities for residential and non-residential infill development that positively impacts the character of existing neighborhoods.
- Encourage redevelopment and infill over development of new property on the periphery of the urban area.



- *Inappropriate infill development threatens the character of both urban and rural areas of ACC both in scale of the construction and through the creation of inappropriate parcels.*

- *Integrate planning for the protection of cultural resources with other protective measures such as environmental, open space, recreation, and infill character areas through more comprehensive reviews of proposed development / construction.*

- *Sensitive areas, both urban and rural, need to be identified and protected from inappropriate infill development through the use of historic districts, conservation districts, or other measures.*

Infill issues are not new to the Athens-Clarke County Mayor & Commission, who have addressed a number of specific concerns related to intown growth over the years. The Background section that follows will highlight a variety of both long-standing and recent policies and ordinances that directly affect local infill construction. The section will conclude by drawing attention to current infill considerations raised during the development of the draft 2008 Comprehensive Plan.

## Summary of Infill Housing Study Sections

### Introduction

The introduction section provides an overview of the study, explaining its purpose and focus areas.

### Background

The background section delves into earlier policies, projects and zoning ordinance changes that have had an influence over the past decade on the development of infill in Athens-Clarke County. These influences are still exerting a role in current construction trends, and their impact merits exploration before considering further actions.

### Infill Trends

The trends section documents the amount and location of current residential infill construction; then the section turns to the range of issues that affect the compatibility of individual infill projects with their neighborhood context. Infill Trends includes a brief summary of emerging how ACC's existing architectural design standards are applied to major subdivisions that are sometimes found amid traditional infill areas.

### Infill Strategies

The strategies section highlights the various tools and techniques that communities utilize to achieve compatible residential infill. These range from regulatory approaches like additional zoning requirements or special districts to incentives and educational approaches.

### Recommendations

The concluding recommendations summarize Mayor & Commission comments as well as Planning Commission feedback about the Infill Housing Study's initial outline. Recommendations draw from several promising strategies outlined in the preceding section as well as from a number of issues noted in the Trends section.

### Appendix

The appendix includes a bibliography of resources as well as a summary of several infill design and compatibility documents.

Figure 6 - Summary of Infill Housing Study sections

# BACKGROUND

## Local Historic District Designations

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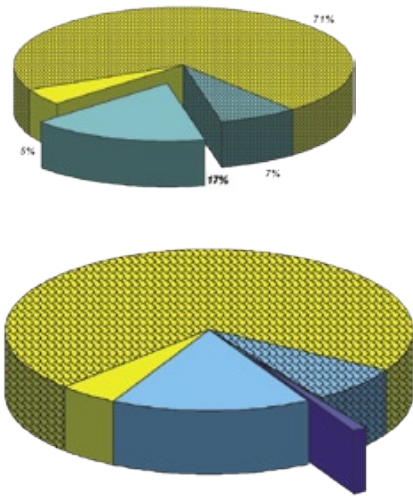


Figure 3 (from page 7) & Figure 7- Historic districts were home to 1% of all new single-family permits from 2004-2007, or 6.5% of all urban infill.

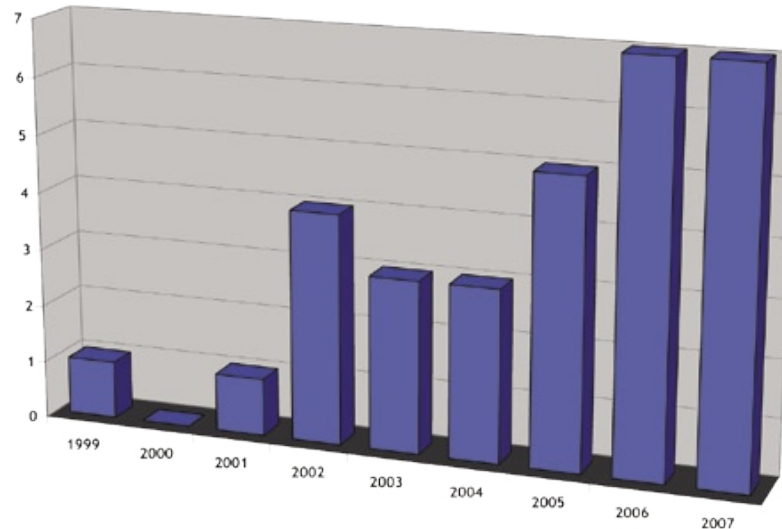


Figure 8 - The number of new construction permits in historic districts has been steadily increasing.



Figure 9 (on left) - The fourth house (roofline visible) is the contributing historic dwelling in the Boulevard Historic District. The three in the foreground are new infill construction. Figure 10 (on right) - Contemporary infill design in the Cobbham Historic District.

## Earlier Projects Affecting Infill

### 1988- Local Historic District designations

In 1988 the first local historic districts were established in four Athens intown neighborhoods, including Bloomfield, Boulevard, Cobbham, and Woodlawn. The number of designated local residential districts has since grown to eight with Dearing, Henderson, Rocksprings, and Cloverhurst-Springdale added in subsequent years.

Properties within locally designated historic districts require a Certificate of Appropriateness (COA) for construction to insure that infill is compatible with historic buildings and development patterns. The architectural review process is administered by the Historic Preservation Planner and the Athens-Clarke County Historic Preservation Commission, who apply a set of guidelines that evaluate compatibility in light of placement, orientation, massing, scale, façade elements, materials and ornamentation.

Despite the limited geographic area of locally designated historic districts, the number of new infill homes permitted each year in historic districts has been increasing. Infill in local historic districts accounts for 1% of all new residential construction and for 6.5% of the urban residential infill construction since early 2004.



# ATHENS-CLARKE COUNTY

## Planning Department

# BACKGROUND

## Model Infill Housing Plans

### Earlier Projects Affecting Infill

#### 1996- Model Infill Housing Plans

Athens-Clarke County commissioned architectural drawings for one-, two-, three- and four-bedroom/duplex infill houses as part of a Certified Local Government grant received from the Historic Preservation Division of the Department of Natural Resources. The project's premise was to demonstrate that three goals (infill development, affordable housing and historic preservation) can be combined to the benefit of both individual neighborhoods and the community. The project's product, a variety of housing plan sets, continues to facilitate the construction of compatible infill.

Local designers/builders, Van Strickland Residential Design Services and D.O.C. Unlimited (Carl Martin and Dennis Harper) produced the plans in collaboration with a committee of representatives from the Historic Preservation Commission, Human and Economic Development Department, Planning Department and the Athens Housing Authority.



Figure 11 - Four-bedroom model infill house plan.



Figure 12 - An example of 2003 infill construction in Newtown that utilized the four-bedroom model plan.



Figures 13 & 14 - Two-bedroom model infill house plan (on left) and an example (on right) of 2002 infill construction in Normaltown that utilized the plan.





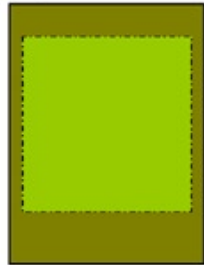
# BACKGROUND

## Adoption of New Zoning Ordinance

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**THEN:** RG- 6



**Arterial Road/ Major Collector:**

30,000 min. lot area  
150' min. lot width  
40' front yard setback  
25' rear yard setback  
10' side yard setback



**Local:**

6,000 min. lot area  
60' min. lot width  
30' front yard setback  
25' rear yard setback  
10' side yard setback

**NOW:** RS-8 & RS-5 & RM-1



**All Streets:**

8,000, 5,000, & 4,000 min. lot area  
60' & 50' min. lot width  
80' min. depth  
15' front yard setback  
10' rear yard setback  
6' side yard setback

Earlier Projects Affecting Infill

*2000- Adoption of New Zoning Ordinance*

After the completion of the 1999 Comprehensive Plan, Athens-Clarke County adopted a new zoning code to help implement the goals and objectives outlined in the Plan. The revised standards encouraged infill development with more flexible minimum setback distances and an elimination of the larger lot size requirements for parcels on arterial or collector streets. The new code's introduction of flexible lot sizes and density bonuses also made larger infill parcels (over 2 acres) more attractive for development.

A series of zoning amendments were passed between 2003 and 2007 in response to development trends that emerged upon implementation of the new development code. A summary of these amendments follows on the proceeding pages.

Figure 15 - In order to illustrate the changes implemented with the comprehensive rezone of Athens-Clarke County in 2000, this diagram provides the minimum lot sizes and maximum buildable areas within those lots permitted by comparable zoning categories prior to and after the new code's adoption.



### Zoning Amendments Affecting Infill

#### 2003- Flag Lots

Concerns with the incompatibility of new “flag lots” within the context of existing neighborhoods compelled the adoption of an amendment to the code in July of 2003. Under the revised code, minimum lot width is measured at the front lot line and maintained to the required minimum front setback for all new lots in subdivisions of land creating less than 20 lots. The “less than 20 lots” provision focuses the prohibition of flag lots to small, often infill, subdivision circumstances. While this amendment was intended to preserve streetscape and setback patterns within established residential areas, it also limited the ability to maximize housing opportunities in areas designated for greater densities.



Figure 18 & 19 - The flag lots shown in these images were created in 2003 as a part of a small, “major” subdivision of 9 lots in traditional East Athens. Only major subdivisions of 20 or more lots are now permitted to utilize flag lot configurations, and only then for up to 10% of the lots.



Figures 20 & 21 - This four-lot “minor” subdivision was also created in 2003. The three restored historic dwellings located on the properties were relocated from nearby locations where they were scheduled for demolitions.



# BACKGROUND

## Manufactured Homes

# INFILL HOUSING STUDY

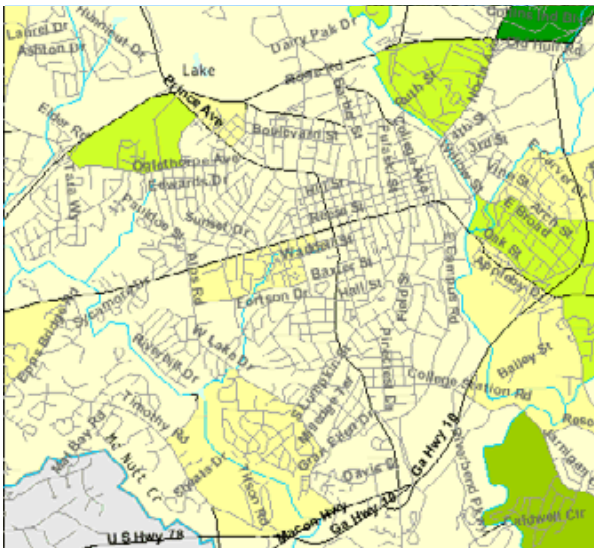
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Figure 22 - A stick-built home (1966) and a manufactured home (1998) share ranch-style massing but differ in materials and detailing in one west side neighborhood.



Figure 23 - The manufactured home (on left) within the street context of this single-family zoned subdivision.



Figures 24 & 25 - This map illustrates the percentage of dwellings that are manufactured homes in A-CC census blocks. The darkest shade represents 67-76%, then 26-44%, 11-22%, 4-8% and 0-3% in the lightest (Source: US Census 2000). At right, another contextual image of a new manufactured home in an older stick-built subdivision.

## Zoning Amendments Affecting Infill

### 2003- Manufactured Homes

The often tenuous relationship between infill, affordability, and compatibility was perhaps most evident in the debate surrounding manufactured homes. The permitting of manufactured homes in residential subdivisions primarily comprised of stick built homes raised concerns about the compatibility of this form of residential infill. These concerns were compounded by the expiration of subdivision covenants that had previously dictated construction standards and styles in a number of older subdivisions. Weighing apprehension about the loss of affordable housing options with the goal to insure compatible new residential construction, the Mayor & Commission adopted amendments in December 2003 to prohibit manufactured housing in single-family zones, except in those subdivisions in which 60% or more of the existing homes are manufactured.



### Zoning Amendments Affecting Infill

#### 2005- Final Plat Sequencing

Prior to the final platting stage, subdivisions of five or more lots require the additional review and approval of a preliminary plat in all cases and of site construction plans meeting minimum design standards in most cases. Subdivisions of four or fewer lots are exempt from the application of these more detailed reviews and standards. The intent of the threshold is to not overburden minor projects while establishing minimum standards such as sidewalks and street trees where new density is concentrated.

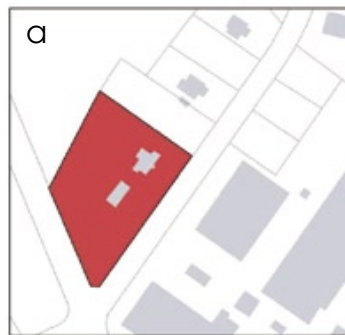
In order to circumvent these residential subdivision design standards, a trend emerged in which infill properties would be first subdivided into four lots and, immediately upon approval, be subdivided again. In October 2005, the Mayor & Commission adopted a text amendment that restricts subsequent subdivisions of the same property for a minimum period of one year.



Figure 26 - These 12 lots were created in a series of four subdivisions to avoid basic site construction standards.



Figure 27 - Architectural variation, sidewalks, and landscaping are among the unapplied standards.



Figures 28 & 29 - The final plat sequencing above shows the pre-existing lot (a), the first subdivision (b), and the second subdivision (c). This practice to avoid development requirements created jumbled, incompatible building orientations, setbacks and heights.



## BACKGROUND

### Continuous Linear Street Frontage

## INFILL HOUSING STUDY

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### Zoning Amendments Affecting Infill

#### 2007- Continuous Linear Street Frontage

After the restriction on flag lots was established in 2003, a new trend of "easement lots" emerged that effectively duplicated the streetscape pattern previously indicative of flag lots. Because all new lots were required to have "frontage" only for water and sewer main access, developers willing to pay for the extension of water and sewer mains in utility easements were still able to create new lots at the rear of existing lots. Due to the considerable expense of main extensions, easement lots carried higher land development costs and were somewhat less frequent than flag lots.

The same concerns of incompatibility raised with respect to flag lots compelled the adoption of another amendment in February of 2007. The revised code now requires continuous linear street frontage for all subdivisions of land less than 2 acres in size and for all but 10% of the lots within a subdivision greater than 2 acres in size. Again, the maintenance of historic lot patterns and consistent setbacks are prioritized over density goals by recent code updates.



Figure 30 - Three 2005 single-family lots are stacked behind one another and served from a common, private drive. Owing largely to their compatible scale and retained landscaping, this infill has little visual impact on neighboring properties.



Figure 31 - Two 2005 single-family structures on rear lots with no street frontage. Unlike the above example, this infill construction was not built with sensitivity to the neighborhood context. Incompatible scale and parking design as well as a dearth of retained mature landscaping contribute to the incongruous new homes.



### Zoning Amendments Affecting Infill

#### 2007- Residential in Commercial Zones

Several commercially zoned intown properties have recently been developed with multiple single-family residential structures on one lot, marketed individually as condominium units. This type of development posed an unusual “use” scenario. Although multiple dwellings on the same lot are often interpreted as multi-family for the purposes of zoning, in the A-CC zoning code multi-family is not defined in terms of use but instead as a structure type that includes three or more attached dwelling units.

Multi-family uses on the ground or primary floor are permitted only as Special Uses in the commercial zones in order to preserve or encourage more active streetscapes in these areas. These particular developments were permitted outright as single-family uses because the individual buildings were single-family structures and state law prohibits discriminating between real property and condominium ownership forms.

In February of 2007, the Mayor and Commission adopted an amendment to the zoning code to require a Special Use permit for single-family developments in the commercial zones. While this amendment may limit residential infill opportunities in commercial zones, it preserves the intent of the commercial designations to compel the development of businesses and other more active uses.



Figure 32 - Seven single-family structures occupy this Commercial-Office zoned lot adjacent to a concrete manufacturing site. Utilizing condominium platting, these dwellings share improvements like the parking lot on common area space.



Figure 33 - This condominium development of single-family structures is also located within the Commercial Office zone. Sales and leases for developments such as these are marketed to the university population, an indication of the growing popularity of single-family type housing for investment-minded students and parents.



# BACKGROUND

## Comprehensive Plan: Workshops

# INFILL HOUSING STUDY

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Figures 34 & 35 - Participants at the Comprehensive Plan land use workshops examine future growth and zoning maps while discussing a set of priorities for the land use and development in their neighborhoods.

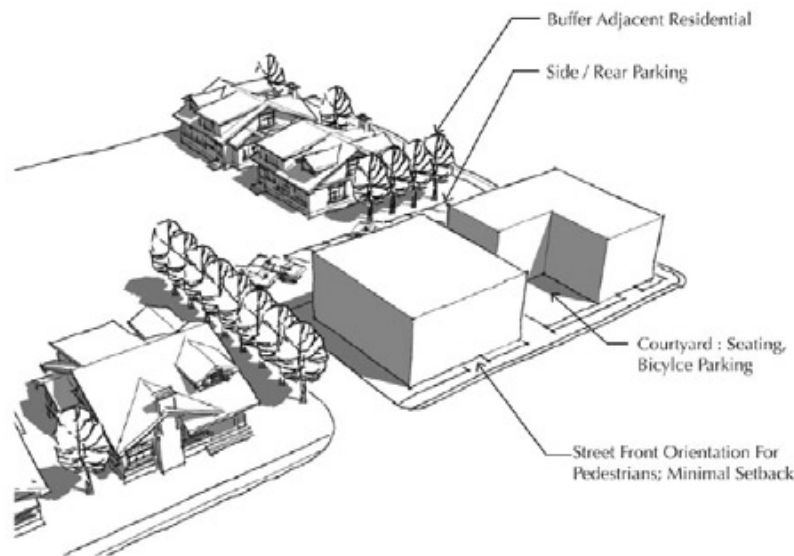


Figure 36 - This image from The Jaeger Company report on the Comprehensive Plan Workshops shows how neighborhood-oriented commercial uses should be designed to sensitively relate to nearby dwellings.

(Source: Comprehensive Plan Workshops Report, The Jaeger Company)

## Related, Ongoing Policy Considerations Affecting Infill

### Comprehensive Plan 2008: Workshops

In conjunction with the Community Agenda portion of the 2008 Comprehensive Plan, a series of community workshops were conducted to focus future land use discussion on a variety of areas. The final workshop studied urban neighborhoods and sought to elicit input from residents, civic groups, and businesses about future growth in these areas. The focus of this workshop in particular may aid the public decision-making process with respect to infill housing issues.

Several important intown neighborhood priorities that are summarized in the Jaeger Workshop Report include protecting home ownership by long term residents and the character of traditional residential neighborhoods through a combination of the following:

1. Encourage senior citizens to take advantage of existing tax benefits with an informational/ educational program. Consider any potential local tax options that may benefit seniors.
2. Establish an overlay district to promote compatible architecture and design. The requirements should address size and scale of new construction as well as location and extent of parking areas.
3. Consider historic district designation for some areas (it was noted that regulations may be challenging for some residents to negotiate).

# ATHENS-CLARKE COUNTY

## Planning Department

# BACKGROUND

## Accessory Dwelling Units

Related, Ongoing Policy Considerations  
Affecting Infill

### Accessory Dwelling Units

Both the 1999 Comprehensive Plan and the draft 2008 Comprehensive Plan have favorably identified the potential of accessory dwelling units (also referred to as granny flats, in-law suites or garage apartments) to provide affordable housing opportunities as well as to increase urban densities. Both documents added the caveat that when these types of units are introduced in single-family zones, they should be limited to only owner-occupied properties.

As Athens-Clarke County struggles with often-competing goals to provide affordable, diverse housing options, to reduce housing pressures in rural areas, and to achieve compatibility between old and new development, accessory dwelling units may provide another proactive opportunity to address the community's needs. If guided carefully, this may be a particularly relevant housing option as we restrict the capacity to develop at permitted densities due to other constraints such as limited road frontage.



Figure 37 - An existing legal, non-conforming accessory dwelling unit above a detached garage in Five Points.



Figure 38 - Maintaining a legal, non-conforming accessory dwelling unit in the historic district prevents this property from being able to utilize the tax assessment freeze.



Figure 39 - This infill dwelling is located on its own lot but its deep setback reads as if it were an in-law suite, accessory to either adjacent older home with traditional street setbacks.

### *The purpose of allowing ADUs is to:*

1. Provide homeowners with a means of obtaining, through tenants in either the ADU or the principal unit, rental income, companionship, security, and services.
2. Add affordable units to the existing housing.
3. Make housing units available to moderate-income people who might otherwise have difficulty finding homes within the (city/county).
4. Develop housing units in single-family neighborhoods that are appropriate for people at a variety of stages in the life cycle.

(Source: Model Accessory Dwelling Unit Ordinance, Washington State Dept. of Community, Trade, and Economic Development)

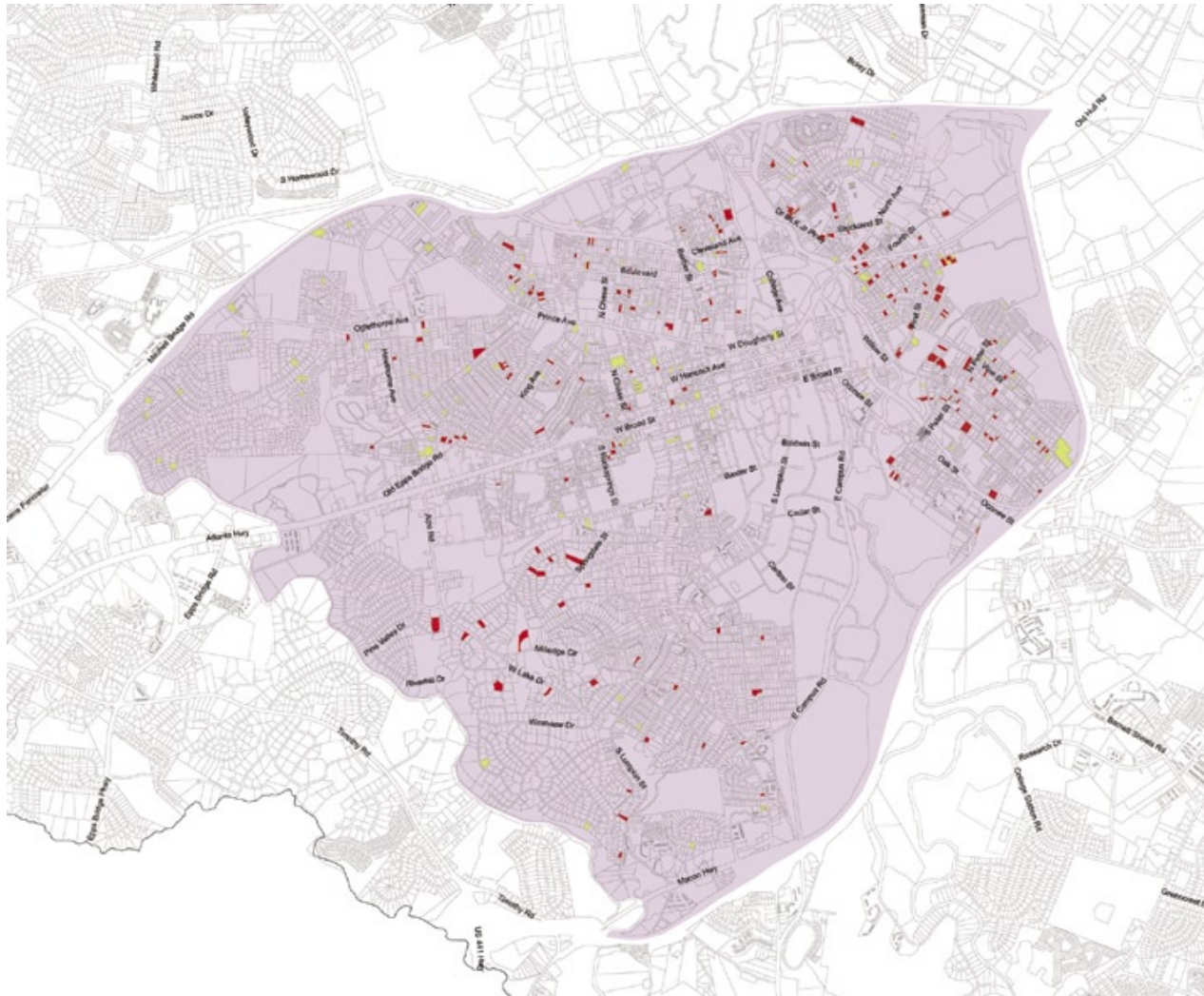


# BACKGROUND

## Summary of Actions Affecting Infill

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## Summary of Actions Affecting Infill

Planning Staff stresses the importance of highlighting past policies and ordinances affecting infill development as our community explores additional opportunities to guide this type of growth. Athens-Clarke County has repeatedly recognized the role that infill residential construction should play in reducing growth pressures in more rural areas of the county; in providing affordable housing options; and in contributing to the vibrancy and health of intown neighborhoods. Actions in recent years have nevertheless [consistently] limited infill opportunities largely due to compatibility concerns. Establishing a clearer picture of how new residential development in existing neighborhoods might achieve this elusive compatibility, without overly taxing the community's other goals of urban density and affordable options, is the primary goal of this study.



# ATHENS-CLARKE COUNTY Planning Department

## INFILL TRENDS Amount & Location of Infill

### Amount & Location of Infill

Infill residential construction is occurring in all of Athens-Clarke County's intown neighborhoods. Some construction occurs on existing vacant parcels; some after lots at least twice the minimum lot size for the area's zoning are subdivided to create new buildable lots; and some after older homes are demolished to make way for new ones. Figure 40 highlights, in green, new infill lots created since 2003 and, in red, zoning permits issued for single-family residential in infill locations since 2004.

Grouping these newly permitted structures into approximate neighborhood areas, the pie chart in figure 41 indicates a significant amount of infill construction activity occurring in the traditional east Athens neighborhoods. As figure 2 in the Introduction section demonstrated, this growth could be anticipated from the sheer number of lots in this area that are at least twice the minimum lot size for their zones. Another indication of infill growth potential is provided by Census 2000 mapping of median home values in figure 42. As land costs escalate across Athens-Clarke County, those areas with the lowest improvements values are often targets of redevelopment.

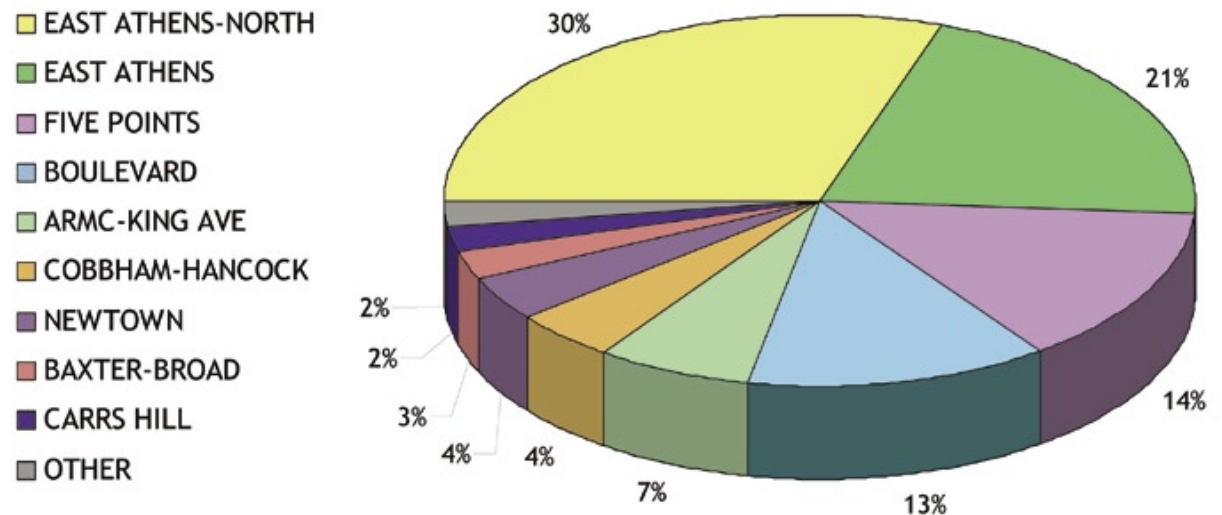


Figure 41 & 43 - This pie chart illustrates the amount of infill from 2004-2007 occurring in different neighborhood areas of Traditional Athens. The informal neighborhood areas are mapped below (right).

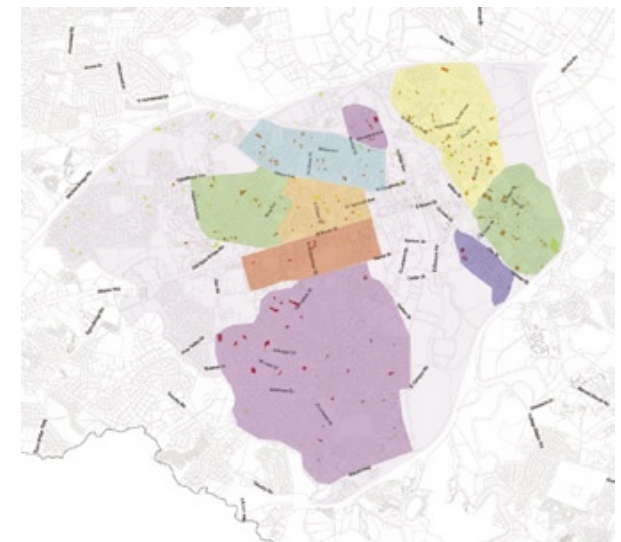
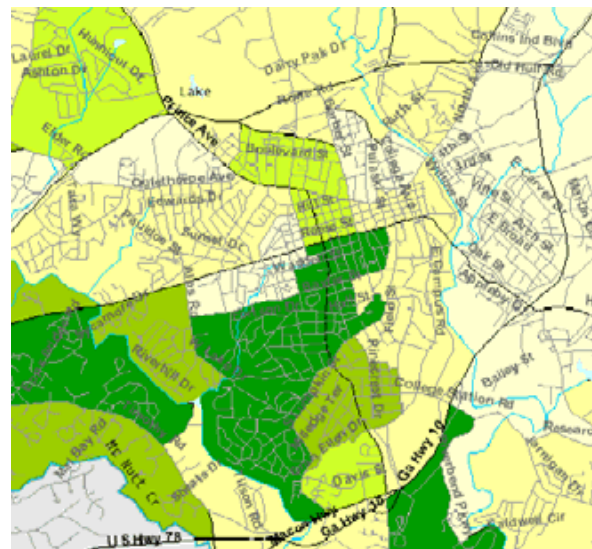


Figure 42 - This map illustrates owner-occupied reported median home value by A-CC census blocks. The darkest shade represents \$194,000-270,000, then \$153,000-183,000, \$108,000-140,000, \$73,000-104,000, and \$0-65,000 in the lightest (Source: US Census 2000, SF3 Sample Data).



Figure 44 - The scale contrast of the three-story infill dwelling uphill to its one-story historic neighbor is exacerbated by the unbroken side plane of its rectangular mass.



Figure 45 - Topography and massing again contribute to an exaggerated scale contrast between old and new dwellings.



Figures 46 & 47 - The infill home (at center left in aerial) is over 3000 square feet, twice the size of most nearby dwellings, yet its sensitive massing, that breaks up façade planes into moderately scaled elements, masks the size difference.

### Typical Compatibility Issues:

#### *Scale & Massing*

The scale and massing of new construction within existing neighborhood contexts is perhaps the most obvious compatibility challenge for infill. Noted earlier in the Background section, the size of a typical new single-family home has been climbing since the 1950's as the contemporary housing market places a premium on square footage. Finding ways to "fit" larger homes within older neighborhoods of smaller homes is often the central issue in many infill housing ordinances and plans.

Two characteristics of a home's design have the greatest impact on the perception of its size within a street, block, or neighborhood context: scale and massing. Scale refers to a building's size in relation to other buildings while massing refers to the arrangement and proportion of its basic geometric components. Sensitive massing often may reduce the impact of a discordant scale.

Current residential zoning regulations in Athens-Clarke County have minimal effect on influencing compatibility of scale and massing. The three-dimensional potential building envelope is simply defined by minimum required setbacks and the maximum structure height.



### Typical Compatibility Issues:

#### *Height*

As our community encourages density in urban areas with small lots and simultaneously demands more square footage out of new homes, the number of new two-story or taller homes in characteristically one-story neighborhoods is rising, along with compatibility concerns. One concern frequently highlighted by neighbors of new construction is the proximity of starkly different heights that produce a towering effect from new construction over older homes. Another is the somewhat unclear method for measuring the height of new structures.

As defined in the zoning code, height is “the vertical distance measured from the average elevation of the proposed finished grade to the highest point of the coping of a flat roof or to the deck line of a mansard roof, or to the average height of the gable(s) of a pitch or hip roof.” In most Athens-Clarke County residential zones, maximum height is limited to 40 feet, with additional rear setback distance required for heights exceeding 20 feet. No additional setback distance is required along side or front property lines.



Figure 48 - Height contrasts create less visual impact with larger setbacks.



Figure 49 - This 37-foot dwelling adjacent to a 14 foot dwelling is within the maximum limits of the current code for all residential zones.



Figures 50 & 51 - Incorporating additional living area within the roof line is one tool to gain a compatible second-level in a predominantly one-story neighborhood (left). For two new lots on Reese Street (right), the taller of two infill house plans is sited on the block corner, creating a more gradual shift in heights along the street.



# INFILL TRENDS

## Setbacks & Orientation

# INFILL HOUSING STUDY

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Figure 52 - New construction in background maintains a consistent front setback line with older homes on Marlin Street.



Figure 53 & 54 - The contrast in mass and height of this contemporary design is softened by the deeper setback and retained vegetation. (Bottom: view from adjacent home)



Figures 55 & 56 - The red blocks in the aerial view represent the three additional dwelling footprints recently constructed. The jumbled orientations and inconsistent setbacks are evident in the image that includes portions of five dwellings.

### Typical Compatibility Issues:

#### *Setbacks & Orientation*

Minimum required setbacks establish the base distance from which a proposed structure must be "set back" from the property lines. Orientation refers to the relationship of the primary or focal façade of the building to the street. In general, compatible new construction will honor the established setback and orientation patterns of a street's or block's earlier development. Maintaining similar setbacks and orientation preserves the rhythm of the streetscape and thus contributes to the neighborhood's historic character.

The revised 2000 ACC Zoning Code created more flexible setback requirements in most zones in order to encourage infill development. In many older neighborhoods, the new flexibility allows a return to historic, shallow front setback patterns which were disrupted by zoning standards that emerged after the neighborhoods' development. In other later areas, the new standards permit drastic deviations from the developed character.



### Typical Compatibility Issues:

#### *Fenestration*

Fenestration refers to the design and placement of “openings” such as windows and doors in a building façade. Fenestration may have a substantial negative impact on the visual character of a neighborhood street when the proportion or placement of openings contrasts sharply with typical patterns. This is especially true of front (and side facades on corner lots) when blank expanses of wall dampen visual interest along the streetscape.

The Athens-Clarke County zoning code includes minimum design standards for dense, new residential developments with an overall density exceeding 2.5 dwellings per acre. Among these standards are fenestration requirements stipulating that walls facing public streets must contain windows and doors in at least 20% of the wall area. However, because these development standards are only required in the review of “major” subdivision projects (those that create five or more lots), they frequently do not apply to infill scenarios in which four or fewer lots are commonly developed together.



Figures 57 & 58 - Two examples of inadequate fenestration on façades that are adjacent to public streets. Landscaping may soften the blank walls over time.



Figures 59 & 60 - These infill examples include attention to door and window rhythm on all four façades of the homes.



# INFILL TRENDS

## Driveways & Parking Areas

# INFILL HOUSING STUDY

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Figure 61 - A paved front yard is inconsistent with traditional neighborhood development patterns. Here the parking area usurps the public sidewalk.



Figure 62 - Quality materials and edging do not soften the impression of a commercial parking lot for this shared drive serving two single-family structures.

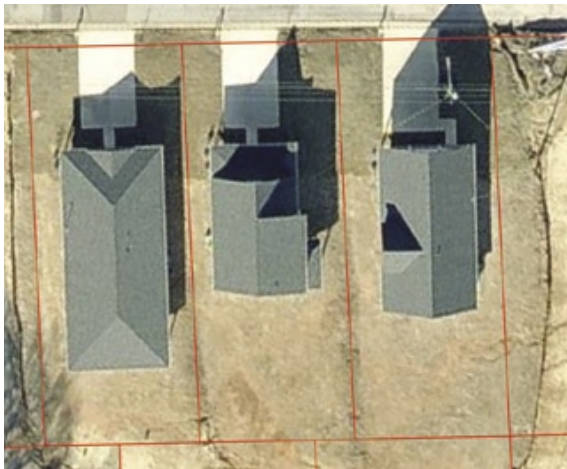


Figure 63 - On the right are site plans submitted with the zoning permits. On the left is an aerial image of what was actually constructed. Less concrete was utilized and the construction meets code requirements, but the front yard parking design lacks streetscape sensitivity.

### Typical Compatibility Issues:

#### Driveways & Parking Areas

Driveways and parking areas constructed to serve new homes can reinforce established neighborhood patterns or deviate substantially from them. Common driveway design in Athens-Clarke County's traditional residential neighborhoods includes a 9- to 11-foot wide paved or gravel drive, constructed perpendicular to the roadway and extending to a carport, garage or widened paved area at the side of the home. More contemporary modifications include circular drives in the front yard to add a second access point and the addition of paved area for second and third vehicles.

Compatible driveway design for infill construction is often challenging for several reasons. Smaller infill lots often have tighter area constraints and limited allotment of impervious surfaces. Installing drives that run to the side or rear yards of new homes can cover more surface area than those that are confined to the front yard. Also, fewer home buyers and investment buyers are satisfied by stacked parking or two or fewer spaces. While the ACC code limits the provision of parking spaces for all single-family structures (regardless of zone) to three or fewer spaces, rental homes in multi-family zoned areas often have four or more vehicles parked on the premises in stacked configurations or on unimproved areas. How to accommodate vehicular storage without losing the traditional front yard character of Athens-Clarke's neighborhoods is a compatibility challenge.

The ACC Code of Ordinances requires that residential drives serving one dwelling be a minimum of 10 feet in improved width. Maximum area in the front yard is limited to 25 feet wide by the depth of the front yard or 25% of the front yard, whichever is greater. These limitations do not apply cumulatively across lot lines when shared drives are utilized to serve more than one dwelling, and the resulting visual effect on the streetscape can be similar to that of a multi-family parking lot, rather than a single-family residential drive.

Enforcement of these regulations has presented its own challenges, as drives and parking areas are often constructed or expanded without proper zoning permits. Recent changes in the inspection process for Certificates of Occupancy should help ensure that new infill driveways are at the very least in compliance with zoning codes.



Figure 64 - Shared driveway design helps reduce numerous curb cuts but can leave large swathes of paved front yard areas.



Figure 65 - Shared drives that access rear yard parking are often the most sensitive to traditional streetscapes.



Figure 66 - This gravelled parking area (left) that stretches across three lots does not meet current code.  
Figure 67 - Retained landscape features (right) help soften the visual impact of front yard parking areas.







Figure 68 - While the infill structure in this aerial image is exemplary in meeting several compatibility challenges, its metal roofing material contrasts sharply with the context.



Figures 69 & 70 - Lack of plan variation and poor details (above) are not synonymous with affordable housing, as the four infill homes below demonstrate.



Figure 71- Trim-less windows float across a facade.



Figure 72- Attention to details ties this infill structure to historical architectural elements in its neighborhood.

### Typical Compatibility Issues:

#### *Details & Materials*

Another area in which residential infill may either contribute to or detract from overall neighborhood character is in the choice and application of details and materials. Variations in roof forms, façade elements or other details contribute to an interesting streetscape; conversely, monotonous façade repetitions, limited attention to architectural details, and poor quality or installation of finish materials impart an air of indifference and disinvestment.

The Athens-Clarke County zoning code regulates these residential design issues in dense major subdivisions by requiring:

- variation in adjacent single-family home plans;
- minimum incorporation of design features such as dormers, gables, or front porches;
- and exterior finishes of masonry, brick, stucco, wood or wood product siding.

Again, these requirements are not usually applicable for infill construction.



### Typical Compatibility Issues:

#### *Grading & Stormwater Runoff*

New construction in established residential areas inevitably contributes to stormwater runoff as new impervious surfaces are introduced. A number of innovative design techniques can be implemented with single-family home infill construction in order to maximize the capture of stormwater runoff onsite. Unfortunately, there is currently little local government incentive for utilizing these tools. For example, maximum lot coverage regulations do not differentiate between pervious and impervious driveway and walkway materials, so homebuilders have little motivation to use the often more costly pervious surfaces.

Grading and fill also can aggravate stormwater runoff issues by compounding erosion and the velocity of runoff. Grading regulations that apply to major subdivisions are not applied in infill scenarios that affect less than five lots and do not involve public road construction. Grade changes between existing homes and new construction may be significant, contributing to incompatible height issues. While some municipalities limit grading and the use of fill on infill lots by measuring maximum height of new construction from the pre-existing grade, this approach involves a much lengthier and labor-intensive review and inspection process for every new permit.



Figure 73 - Gravel-covered surfaces with neither edging material nor vegetation become compacted and impervious to stormwater.



Figure 74 - Pavers designed to allow water filtration provide an attractive and beneficial surface for residential parking, but they are included in the lot coverage area.



Figures 75 & 76 - Without regular maintenance and upkeep, graded sites associated with infill construction projects contribute to erosion sediment in stormwater flows. The trail of red clay along the street surface above demonstrates how, even with silt fencing in place, some degree of erosion on graded sites is inevitable.



# INFILL TRENDS

## Landscaping & Tree Protection

# INFILL HOUSING STUDY

February 2008



Figure 77 - Four new single-family dwellings (two at rear on flag lots) amid retained tree canopy immediately after Certificates of Occupancy issued in 2003.



Figure 78 - Same four dwellings in 2007 after significant loss of tree canopy. Grading and construction without regard for tree root zones quickly kills established trees.



Figure 79 & 80 - Grading, structure placement and a general lack of protective measures within the drip line of this mature hardwood (left) do not bode well for the tree's survival. On a previously undeveloped lot, the mature pecan (right) is left with a fraction of its root surface area after recently completed construction.

### Typical Compatibility Issues:

#### *Landscaping & Tree Protection*

New infill lots are frequently the product of minor splits or subdivisions producing four or fewer lots from original tracts that were less than 2 acres in size. As such, tree protection and other landscaping regulations do not apply to these projects. Nevertheless, because more and more builders recognize the market value of mature tree canopy, construction plans on infill lots often accommodate older trees with modified building footprints.

While trees are often retained, they are not often adequately protected from surface root damage during grading and construction. Within several years, these damaged trees die, falling on the infill or neighboring homes or requiring removal by the new homeowner. Those infill projects that do retain and properly protect mature trees and other landscape features are often cited as good examples of compatible new construction even when other design elements depart substantially from the neighborhood pattern.



Other than the retention of existing landscape features, additional plantings may help an infill project fit into its surroundings in a number of ways, masking excessive bulk or breaking up a wall with few variations or details. Alternatively, inattention to the most basic amount of landscaping in an infill project may not only exacerbate an incompatible design, but often contributes to stormwater runoff problems on surrounding properties.



Figure 81 - Attention to landscaping softens the contrast of this two-story contemporary infill dwelling on an historic district street dominated by single-story homes.



Figure 82 - Though out of character with typical setbacks and height of other dwellings on the street, exemplary landscaping anchors the new infill to the site.



Figures 83 & 84 -Retained landscape features, with ample undisturbed area (on the left) and with younger trees that can sustain altered site conditions (on the right), help infill projects blend more seamlessly into their respective neighborhoods.



## INFILL TRENDS

### Teardowns & Subdivisions

## INFILL HOUSING STUDY

February 2008



Figure 85 - The hip roof of this 1930's one-story dwelling is typical of the historic dwellings on this street just outside the Boulevard Historic District. (Infill from 2004 in background)



Figure 86 - After the permitted "renovation" work to the structure seen in figure 85, the only discernable element of the earlier dwelling is its setback line.



Figures 87 & 88 - The infill roofline in the background may provide an orientation basis in this "before and after" photo pair. The demolished structure was originally a duplex plan constructed in the 1920's. Characteristic of Traditional Athen's minor residential blocks, the number of these small historic dwelling types is decreasing.

### Typical Compatibility Issues:

#### *Teardowns & Subdivisions*

Among the compatibility issues most often cited by the Athens-Clarke County Mayor & Commission at their August 14, 2007 Work Session is that of the teardown trend, whereby existing, well-maintained homes are demolished and replaced with new infill homes. As land prices for scarce intown lots escalate, the pressure to remove or demolish existing smaller homes, especially on lots at least twice the minimum size for their zone, is increasing. Even on lots incapable of being subdivided, older, smaller homes are demolished and replaced with structures that maximize the lot's buildable area, a pattern frequently referred to as McMansion-ization. Compared to areas within larger metropolitan housing markets like Atlanta, this trend is not as prevalent in Athens-Clarke County.

Nonetheless, several local teardown-infill scenarios have surprised ACC leaders and led them to question what kind of standards should be applied to this infill trend. Often the solution varies according to the resource in need of protection. For example, protection of historic dwellings in a turn-of-the-century neighborhood and preservation of general setback and bulk patterns in a 1960's ranch-style subdivision are different goals that may warrant distinct approaches.



Predicting when and where teardowns are likely to transform neighborhood character is not easy. Generally, when property values surpass improvement values, redevelopment is a likely next step, as in the examples on the preceeding page where land values were almost twice that of improvement values.

For residential lots that are twice the minimum size for their district, redevelopment may be driven by far lower ratios of property to improvement values, as in the example on this page. Recent amendments requiring minimum lot width and street frontage in addition to minimum lot size may inhibit the tear-down trend in some Athens-Clarke County neighborhoods.



Figure 89 - Single-family residence in Five Points on lot twice the minimum size for its RS-15 zoning district. The parcel is among the larger ones on its cul-de-sac.



Figure 90 - Same property after demolition, subdivision into two lots, and new construction underway.



Figure 91 - Streetscape view of the new lots and dwellings, each appraised at over \$500,000. The original lot and dwelling had a reported sales price of \$200,000, a 500% increase in property values.



# INFILL TRENDS

## Existing Design Standards

# INFILL HOUSING STUDY

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Figure 92 - Design standard subdivision Towns Walk off Timothy Road.



Figure 93 - Attached single-family residential in Bridgewater off Dr. Martin Luther King Parkway.



Figures 94 & 95 - Single-family homes in The Retreat (left) and Bridgewater (right) were reviewed for compliance with architectural design standards during the permitting process.

## Existing Design Standards

The ACC zoning code currently has residential design standards that apply to single-family residential subdivisions of five or more lots with an overall density exceeding 2.5 dwellings per acre or with lots less than 8,000 square foot. The two areas in which these standards typically apply are major subdivisions within the RS-5 and RS-8 zones. These regulatory design parameters are somewhat limited, prescribing minimum standards and allowing for a large range of styles and materials. As such, subdivisions subject to these regulations vary tremendously in home price and overall quality. Specifically, the architectural design standards require:

- The inclusion of at least two of design features on the front of every dwelling, including dormers, gables, recessed entries, front porches, cupolas, pillars or posts, or a bay window,
- Front garage limitation to 40% of front façade,
- Variation in adjacent homes' design and plan,
- Doors or windows covering at least 20% of walls facing public right-of-ways,
- Trim and architectural surround on all windows,
- No flat roofs on primary structure,
- Exterior finishes of horizontal wood or wood product siding, brick, stucco, or other decorative masonry, and
- Lot must be at least the square footage of the dwelling (FAR of 1.0) or lot must be 150% of dwelling's footprint, whichever is greater.

Although not applied to most infill situations, several intown developments such as Dorsey Village and the Retreat have met the threshold for the application of these standards.

### Condominium "SFR"

Related to the compatibility issues explored in this section, another infill housing trend emerging nationally with several local examples is the condominium single-family development. Rather than subdividing fee simple lots, developers are pursuing more flexible design and construction options for condominium units on a single common parcel. Overall density and dwelling types follow that which is permitted by the underlying zone, but improvements such as parking areas, drives, and utility connections are located in the common area. Homebuyers typically have exclusive rights to the area of the home's footprint and share responsibility in maintaining the common area.

The challenge for planners, builders, and home owners alike is to reconcile these new residential types with existing regulations. Because this development form is neither purely multi-family nor single-family, existing guidelines for reviewing initial construction and any subsequent changes to the properties are cumbersome at best.

### Summary of Infill Trends

The varied issues and trends identified in this section underscore the complexity of compatibility concerns. No singular issue is paramount to the achievement of good infill, but neither can any of these elements be ignored in healthy, evolving neighborhoods. The next section will address strategies to encourage or compel better practices in the development of infill housing.



Figures 96, 97, & 98 - Three of seven dwellings in this condominium single-family residential development front Arch Street in traditional East Athens. The other four front Herman Street. Although the two-story structures depart from a one-story pattern in the neighborhood, traditional setbacks and landscaped front yard areas help ameliorate the contrast.



Figure 99 - Under construction in this oblique aerial image (left), the drive and parking improvements are shared and interior to the development, with one curb-cut serving all seven houses.  
Figure 100 - The parcel image (right) highlights the lot in red and condominium units in dark red.



# STRATEGIES

## Modified Zoning Standards

# INFILL HOUSING STUDY

February 2008

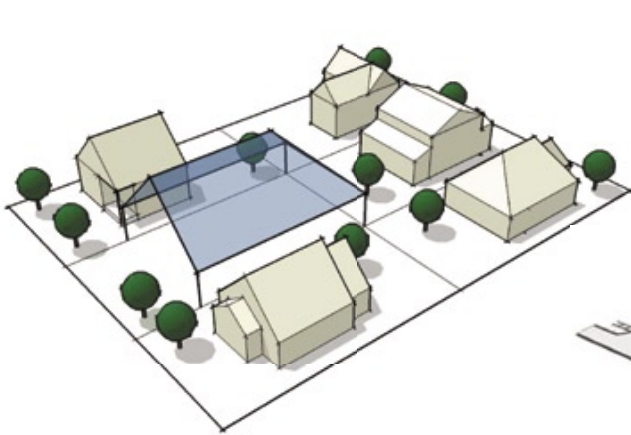


Figure 101 - Diagram illustrates the height limits set by an angled setback plane. This tool limits towering effects of taller structures near property lines. (Source: City of Austin)

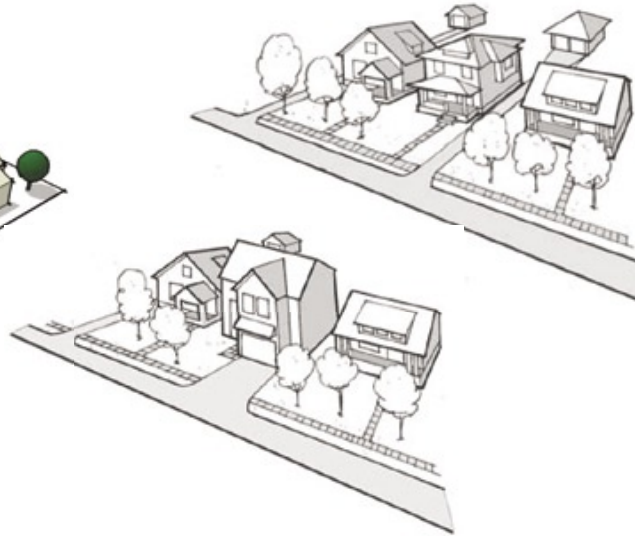


Figure 102 - Height, setback, and front yard parking that are permitted by zoning ordinance (bottom) do not reflect traditional patterns (top). (Source: National Trust for Hist. Pres.)

## Modified Zoning Standards

Infill construction in dense, older residential areas often magnifies the gap between the maximum building envelope that basic zoning standards allow and the traditionally smaller, average homes built in earlier decades. Many communities have dealt with the discrepancy by adjusting the basic standards to better reflect the existing housing stock. These adjustments may include altered maximum height, minimum setback distances or maximum lot coverages.

The challenge to planners, builders and civic leaders is to agree upon appropriate limits that are context-sensitive but that do not overly constrain potential infill opportunities. This broad approach is the most general and easy to apply, as it applies across entire zones and does not alter the permit submittal requirements or review process.

## Additional Zoning Standards

While modifications to existing standards rely upon older, somewhat crude tools to shape new development, the introduction of more nuanced standards may offer another approach to guide context-sensitive infill. These additional standards include establishing maximum floor-area ratios (FAR), gradations of maximum height and limiting uninterrupted wall lengths.

Athens-Clarke County currently regulates FAR for commercial projects but does not consider this ratio in most residential contexts.

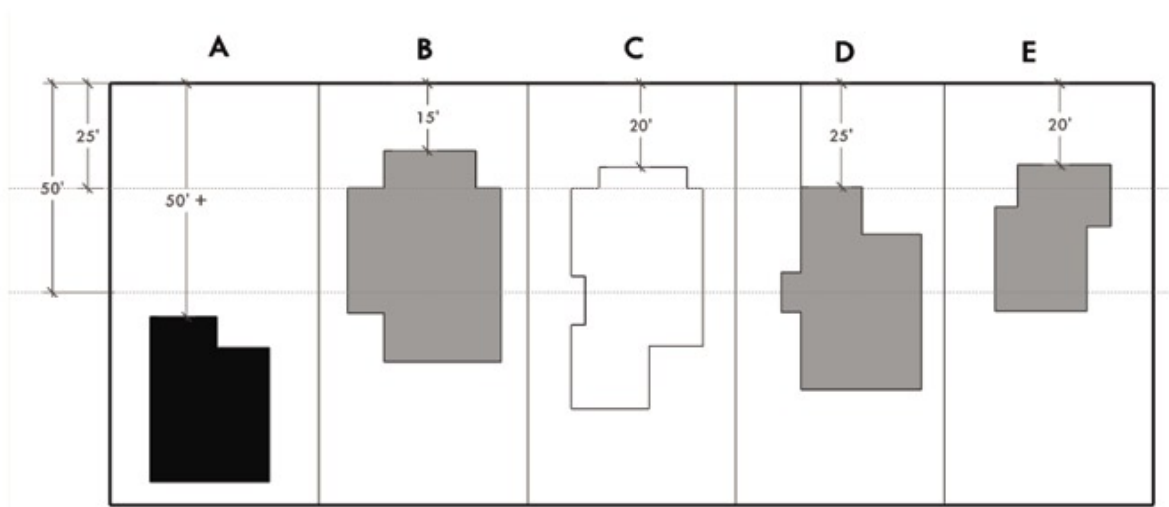


Figure 103 - Contextual block plan utilized by Austin, TX, to permit setbacks consistent with street pattern rather than by prescribed minimums. The black footprint, inconsistent with the established pattern, was not utilized in determining average setback. (Source: City of Austin)

This tool establishes building square footage standards based on the size of the lot upon which the building is located. The City of Atlanta recently adopted this standard, in conjunction with new regulations on lot coverage and building height measurements, to regulate infill development.

Limits to uninterrupted wall lengths help reduce the overall perception of bulk or mass of a structure. Varied height measurements allow for taller portions of a structure that are farther from setbacks while requiring lower wall heights near setbacks. These varied standards may also help account for natural and man-made grade changes along a property, as well as along the different façades of a structure. While these additional standards require permit seekers to provide more information than currently required, the overall review process would not require significant alteration or additional time.

Measuring maximum height from pre-construction grades offers a highly context-sensitive regulatory approach, but it also significantly increases time and labor involved in permitting and monitoring. For example, in the City of Atlanta where this new height regulation was adopted, typical permit review time for one single-family infill home is four weeks. A high degree of coordination between building inspectors and planning reviewers is a central challenge for each of these regulatory tools.



Figure 104 - Green plane illustrates buildable area of lot.  
(Source: City of Austin)

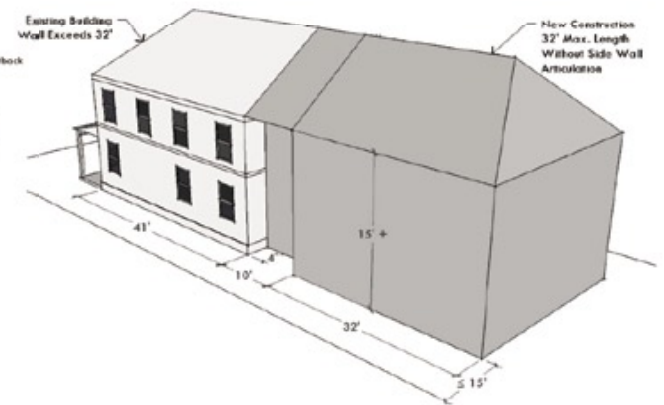
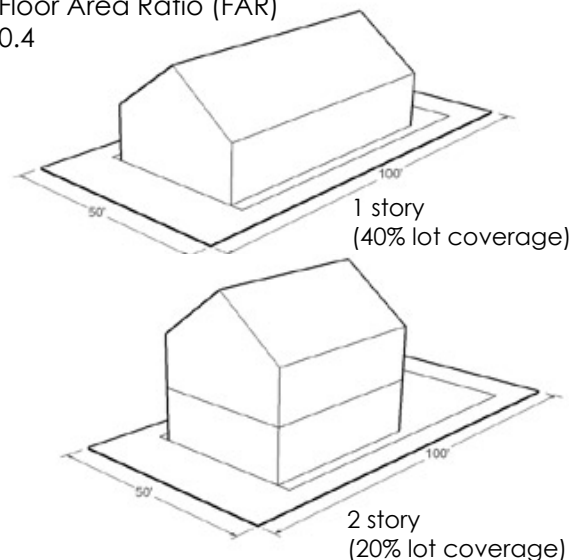
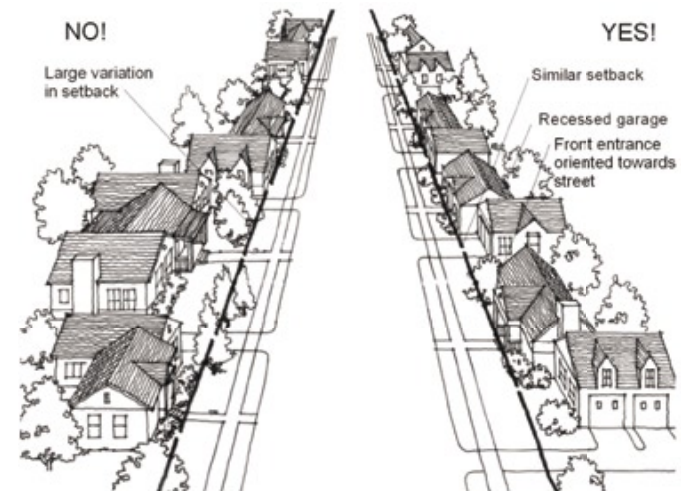


Figure 105 - Wall length is limited by established patterns, and requires offsets or "articulation" in order to exceed limits. (Source: City of Austin)

#### Floor Area Ratio (FAR) 0.4



Figures 106 & 107 - At left, Floor Area Ratio diagram illustrates how potential footprint must shrink as multi-story square footage is incorporated into plan. At right, traditional setback lines are utilized to establish a minimum build-to line for new construction that reinforces established patterns. (On right, Source: City of Overland Park, KA)





# STRATEGIES

## Architectural Standards

# INFILL HOUSING STUDY

## February 2008

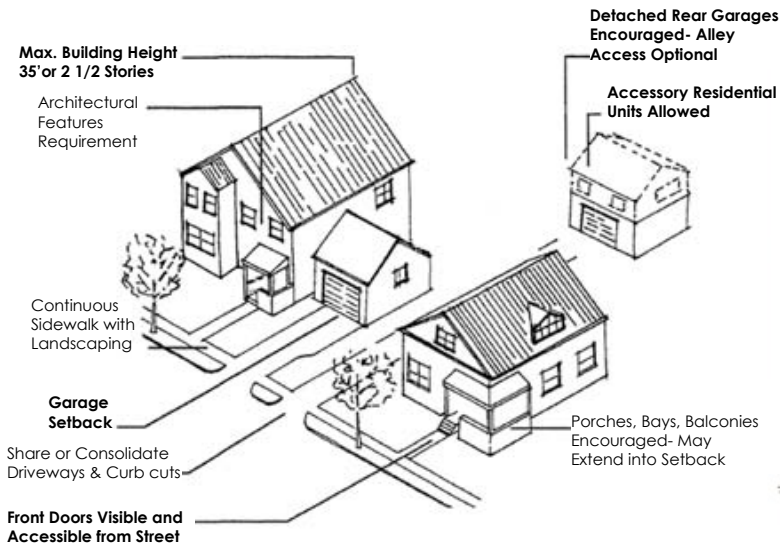


Figure 108 - Standards in bold are not currently included in A-CC code for dense, major subdivisions. (Source: OTAK)

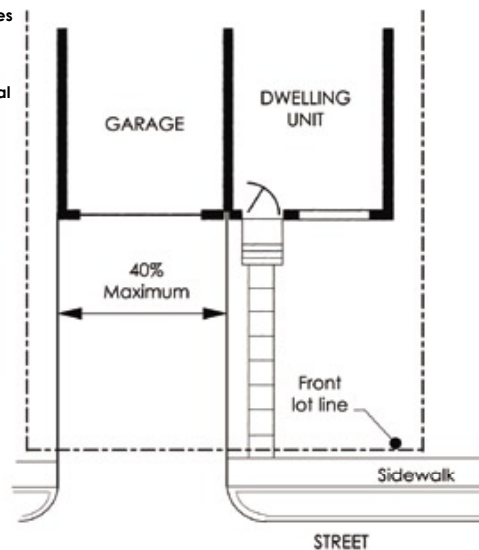


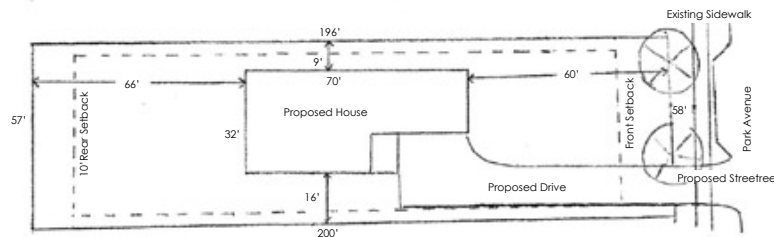
Figure 109 - Setting a maximum % of front façade occupied by garage door is a common standard. (Source: City of Portland, OR)



Front Elevation



Side Elevation



### Residential Site Plan:

Zoned=RS-8  
Two-Storyed Home  
Heated Sq. Ft.= 2,900  
Porches Sq. Ft.= 564  
Building Height= 31'

### Impervious Surfaces:

Drive/Parking=960 sq. ft.  
House= 2,240 sq. ft.  
Lot= 11,385 sq. ft.  
Impervious Coverage= 19.7%

## Universal Architectural Design Standards

Similar to the design standards that Athens-Clarke County applies to "major" subdivisions in dense single-family zones, some communities apply these minimum architectural standards universally to all new single-family homes. The difference between this type of infill regulation and those previously discussed is the additional review of architectural features beyond the footprint, height and bulk of the structure.

The application of these standards does require a greater degree of sophistication for permit submittals, reviews and inspections than is currently required for typical infill construction. For builders, this means the additional need to supply architectural elevations, along with the standard scaled site plan, in order to receive zoning permit approval. For reviewers, additional time is required to insure all standards are met by the submittal, and for building inspectors the standards represent an increasing set of regulations outside of the building code that must be checked during construction.

### Conservation Overlay Districts

Conservation overlay districts present an opportunity to tailor or calibrate infill construction standards to the particular characteristics of established neighborhoods, rather than applying general standards across entire zoning categories as with the previous strategies. Often referred to as "historic district light," conservation overlays establish a set of criteria for new development that is based on the surrounding neighborhood context. Unlike historic districts, new construction is not reviewed at a public hearing and demolition or removal of existing structures is typically not restricted. Neighborhood conservation districts are designed to protect the general character of an area, not its historic fabric.

Conservation overlay districts are often established in conjunction with neighborhood plans that identify key features of the area that residents wish to conserve. To develop objective criteria, planners ascertain existing average setbacks, building heights, lot coverages and other typical features of a specific neighborhood and use these measures to craft "overlay" regulations that apply to new development within that neighborhood in addition to basic zoning requirements.

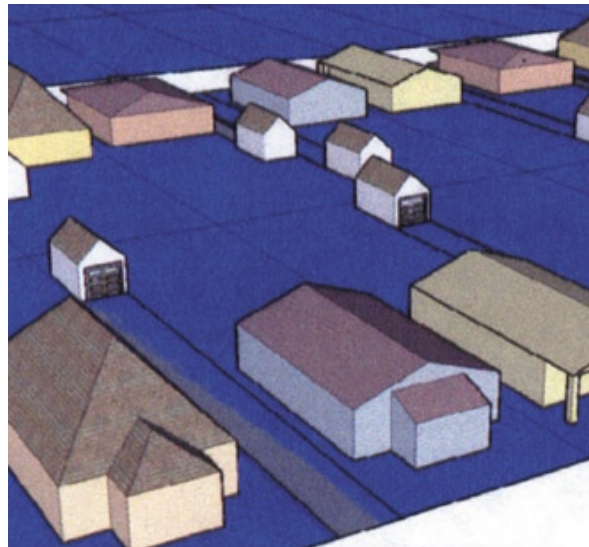


Figure 112 - Axonometric diagram of a neighborhood's existing conditions. House in foreground is reference. (Source: Nore & Winter, Neighborhood Conservation Take a Turn)

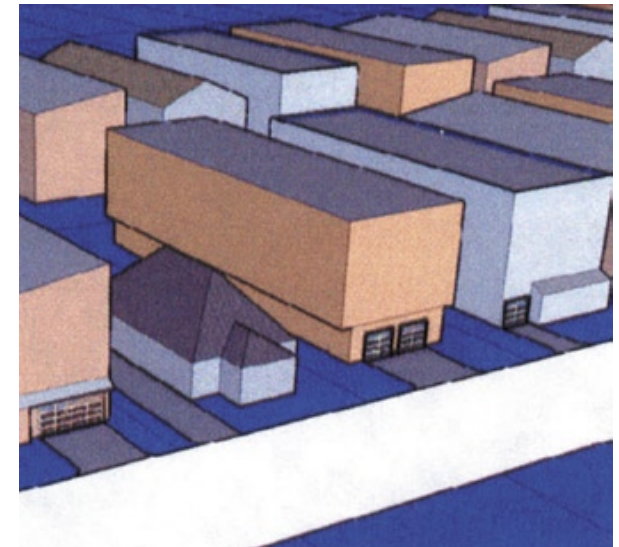
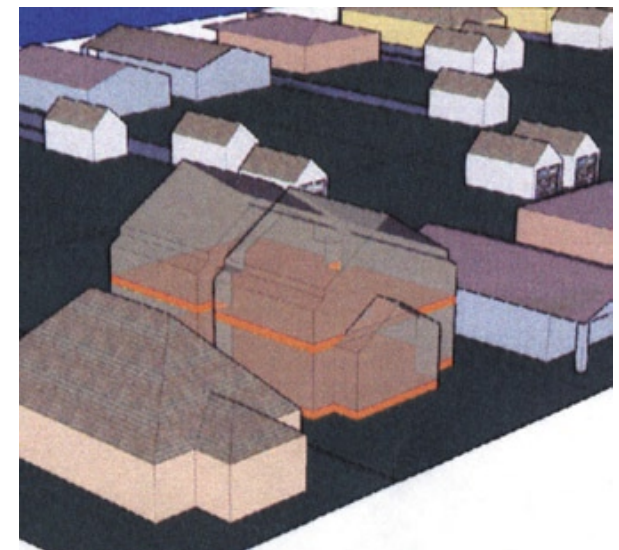
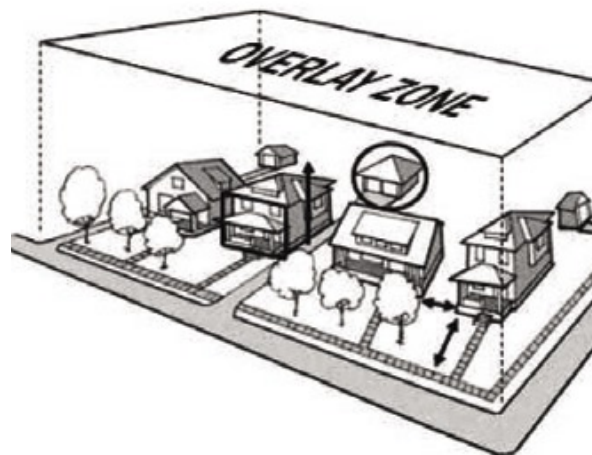


Figure 113 - Axonometric diagram of a neighborhood's potential build out allowed by zoning. One lot maintained for reference. (Source: Nore & Winter)



Figures 114 & 115 - After establishing a conservation overlay to protect established character, regulatory zoning limits are defined by neighborhood context. At right, the new potential buildable area next to the reference house is illustrated by the transparent grey building envelope. (Source: NTHP (left); Nore & Winter (right))





Figure 116 - After approval of three infill homes on Lyndon Avenue in the Boulevard Historic District, the traditional street character is maintained.

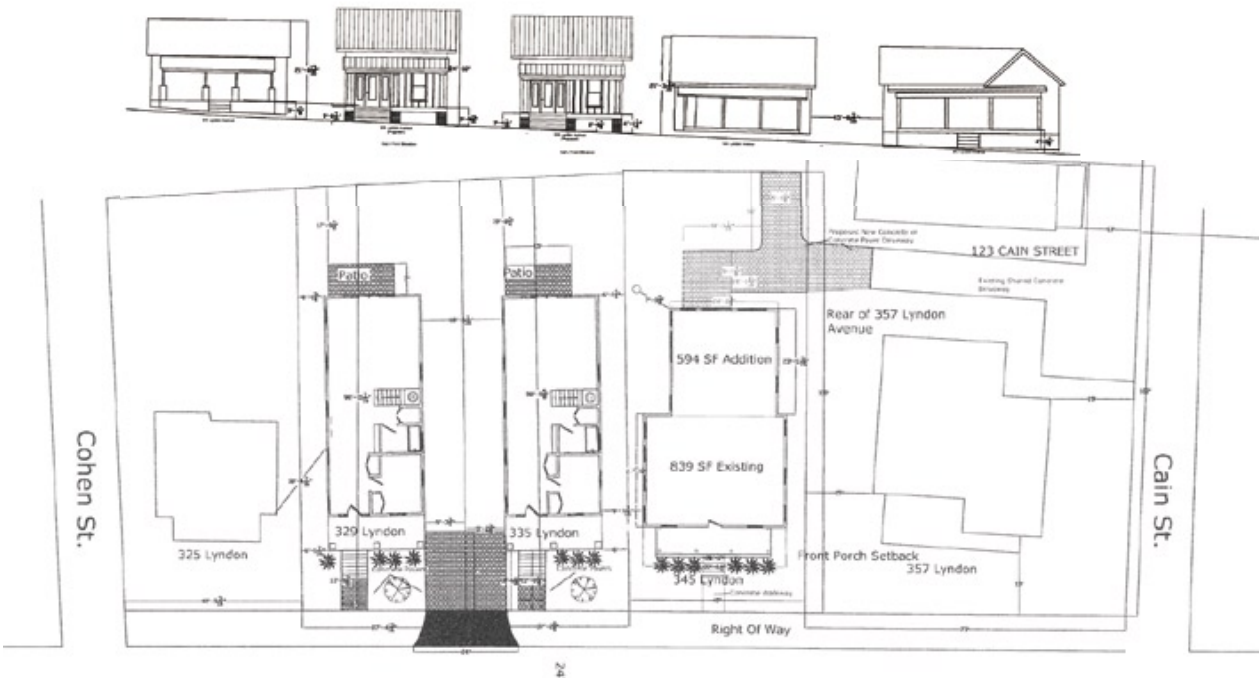
Rhythm of Openings



Roof Shapes



Figure 117 - Numerous historic district guideline publications illustrate the role of different elements in contributing to overall compatibility. (Source: OTAK)



Figures 118 & 119 - Streetscape elevations indicating topographical changes as well as a contextual block plan are among the submittal materials necessary for evaluating the potential impact of proposed infill on a historic district. (Source: COA application documents created by by D.O.C. Unlimited)

### Historic Districts

Local historic district designation provides the most thorough level of review for new infill construction, requiring a Certificate of Appropriateness for all new construction. The guidelines by which Certificates of Appropriateness are reviewed include standards for scale, setback, height and massing as well as materials and details. Historic districts are established to protect a neighborhood's defining character--the "sum" of its historic architectural "parts." But historic districts also allow and even encourage contemporary infill construction, with a key guideline for new construction stipulating that new buildings within historic districts should be reflective of their own time.

As a strategy to achieve compatible new infill construction, historic designation is often highly effective. It is also the most appropriate strategy to protect historic resources from teardown threats. However, historic districts are also a resource-intensive tool to establish and regulate. For new construction, a full-set of architectural elevations are necessary in addition to streetscape and topographic documentation in order to adequately evaluate each guideline. The minimum review time in Athens-Clarke County is one month with a \$500 application fee for infill.

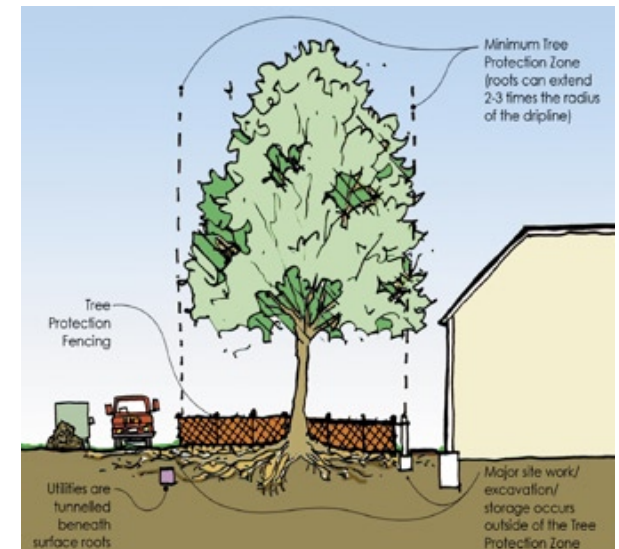
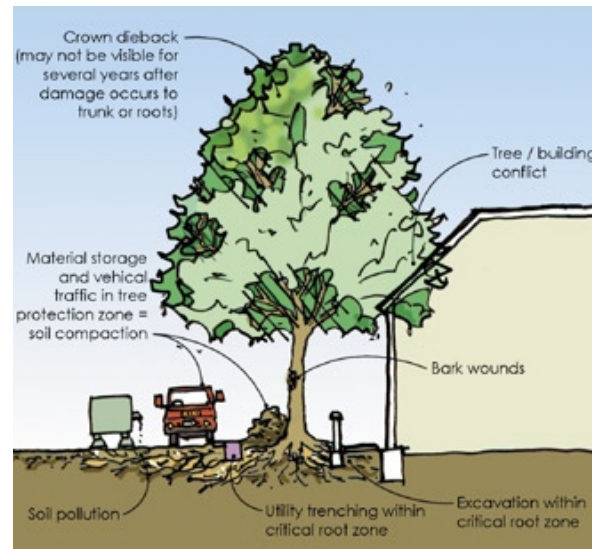
Applying this level of review in all infill urban areas would thus not only be labor-intensive from a staffing perspective and pose additional hurdles for affordable housing, but also could inadvertently hamper urban residential growth in general.

### Incentives and Education

Often overlooked or overshadowed by more regulatory approaches, incentives and educational approaches to achieve better infill are often very effective. A local example is the commission of Model Infill Housing Plans discussed earlier in this report. Among some of the most compatible examples of new local housing, a number of infill homes built by utilizing these plans can be found around Athens-Clarke County.

The City of Wilmington, NC, recently utilized a similar approach by hosting a design competition, "Saving Spaces – Progressive Designs for Infill Lots." The undertaking included a juried architectural design competition and exhibition to develop a catalogue of economical, contemporary single-family and duplex housing infill units for use within the context of Wilmington's historic districts .

In Portland, Oregon, planners concluded a multi-year infill design report with the #1 recommendation to foster education and dialogue. To this end, the report identified the need for a design guidebook including prototypes for various site conditions and highlighting strategies for specific challenges (such as ameliorating scale contrasts, minimizing the prominence of vehicular areas, etc.) An annual award program for exemplary infill projects was also cited as an incentive and awareness tool.



Figures 120 & 121 - Educational materials about proper tree protection. The image on the left illustrates a common infill scenario in which builders intend to save trees during construction but inadvertently contribute to their rapid decline.



Figure 122 - Model infill plans from the Wilmington, North Carolina, catalogue that was published following a design competition that generated over 50 entries. Competition parameters included base lot dimensions and zoning limits, and student and professional entries responded with creative, contemporary plans.



## Mayor & Commission Feedback

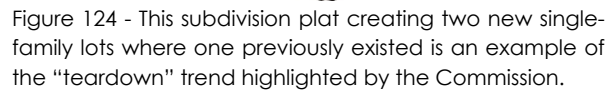
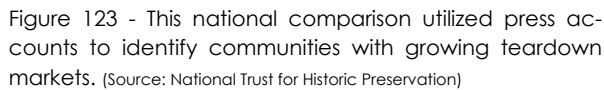


Figure 125 - Infill construction on left with approximately 10% of street-facing façade in windows or doors. Image on right of same structure photo-manipulated to meet the design standard of 20% windows, doors or other openings.

## February 2008

At their August 2007 work session, the Mayor and Commission highlighted several specific infill concerns warranting a special focus. The "teardown" trend and, specifically, the loss of historic structures were prominent among these topics. Shortly following that meeting, the Unified Government of Athens-Clarke County established a moratorium on demolitions for a segment of South Milledge Avenue in order to allow adequate time to prepare a strategy to protect the corridor's historic resources.

Teardowns in non-historic areas to allow for additional potential lots were also a point of discussion. This trend is made possible by zoning that allows for denser development than that originally planned with a subdivision's or neighborhood's initial layout. One suggested approach was to examine typical lot sizes and better align permitted densities with existing development patterns. Staff cautions that this approach may stifle infill altogether and revert growth pressures to Greater Athens, Rural Athens, and beyond.

Finally, Commissioners discussed design standards to compel more compatible fenestration, setbacks, and heights, among other features. Developing long- and short-term approaches to improving these standards was a clear goal from the work session input.

## Planning Commission Feedback

The Planning Commission discussed the infill housing study at their October meeting and offered several feedback topics. Some questioned whether there might be value in prioritizing the relative importance of different compatibility elements. For example, might details and materials be of lesser significance than scale and massing?

Other points dealt with subjects omitted from the report but pertinent to infill, nonetheless. These included the recommendation to examine other housing types beyond single-family residential, such as duplexes, accessory dwelling units, and manufactured housing, as these housing forms may be appropriate in infill areas if well designed. The use of form-based codes, development regulations that prescribe urban form rather than land use, is one approach to guide infill of various housing types.

Finally, Planning Commissioners stressed the importance of examining the relationship between infill housing pressures and gentrification. While acknowledging that socioeconomic housing issues are outside the general scope of this study, Planning Commissioners suggested that further analysis is warranted.

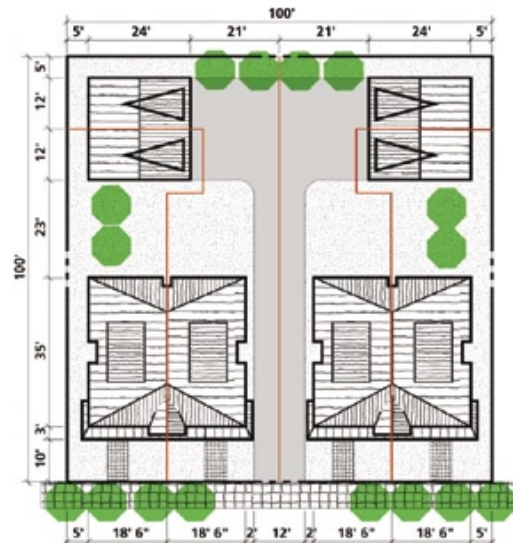


Figure 126 - Design guidelines and housing prototypes for attached single-family residential infill.

(Source: Portland Infill Design Project)

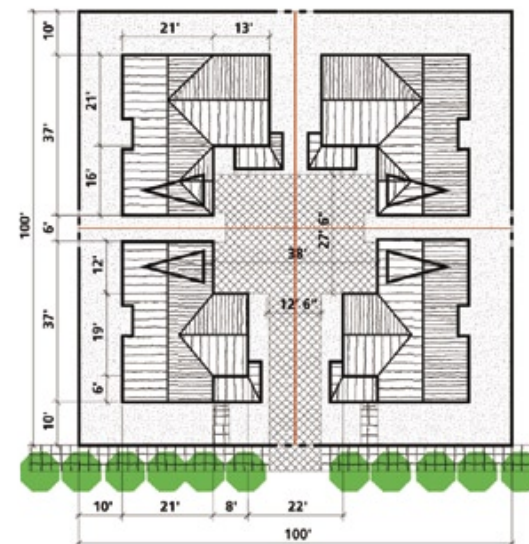
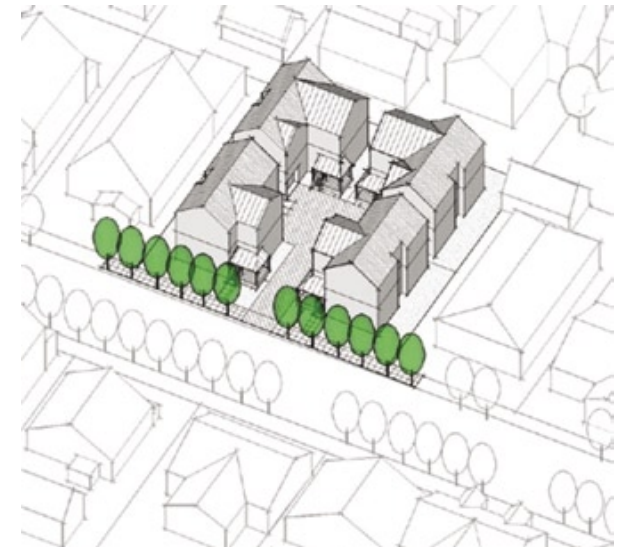


Figure 127 - Design guidelines and housing prototypes for stacked infill lots with a shared courtyard drive.

(Source: Portland Infill Design Project)





# RECOMMENDATIONS

## Near-term Implementation

# INFILL HOUSING STUDY

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Figure 128 - Although this recent structure's height is in stark contrast to neighboring dwellings, it is under the 40 ft. maximum height limits of the zoning code.



Figure 129 - The red line in the aerial above indicates the traditional front yard setback. The two infill dwellings are set farther back to meet future right-of-way setbacks.



Figure 130 - The aerial image on the left shows three infill homes with 20-foot wide parking areas that occupy roughly 1/3 of the front yard area of each lot. The manipulated image on the right demonstrates how shared drives and rear parking can minimize the visual impact of parking on the streetscape.

## Regulatory Approaches

### *Near-term Implementation* (Little to no additional resources required)

1. Height Regulations.  
Modify height limits and/or amend definition. Athens-Clarke County's height regulations in most residential areas are incongruous with typical development patterns. Staff recommends lowering the maximum height in most residential zones and amending the definition of structure height to clarify how it is measured. After surveying a number of jurisdiction's height regulations, more typical height limits are 30 to 35 feet or 2 ½ stories.
2. Parking Regulations.
  - a. To mitigate against the negative visual impact of front yard parking, staff recommends modifying the driveway design code to allow 18 feet of width by the depth of the front yard or 25% of the front yard, "whichever is less." The current code permits 25 feet of width and "whichever is more" language. Staff acknowledges that this modification would limit front yard parking options for narrow lots.
  - b. As narrower infill lots utilize shared drives to serve two residential units, specific parking design guidelines should be tailored for this scenario.
3. Setbacks.  
Permit the Director of Public Works to administratively waive future right-of-way setback requirements when requested to maintain traditional setback patterns and when not in conflict with anticipated right-of-way improvements.

### Regulatory Approaches

#### Potential Future Implementation (May require additional resources)

1. Revisit height and setback limits.  
Incorporate 45° angle modification or alternative height limit for narrow side setbacks. Consider maximum FAR requirement to relate permitted dwelling square footage to lot size.
2. Revisit design standards:
  - a. *Content* – garage and shared drive design guidelines, incorporate foundation plantings, address slab construction standards, require minimum depth eaves, eliminate false front materials, etc.
  - b. *Applicability*– the application of architectural design standards to all infill residential construction, rather than only to major RS-5 and RS-8 subdivisions, will require additional resources and potentially a Plans Review process similar to major subdivision site review.
3. Consider Conservation Overlays when the following conditions exist:
  - a. Neighborhood Planning is a key first step to conservation overlay districts. Neighborhood groups identify key character-defining features of their respective areas that they wish to protect.
  - b. Preservation of development patterns, not individual buildings, is the primary goal of the overlay.
  - c. Compatible setbacks, height, and overall bulk are primary focus.

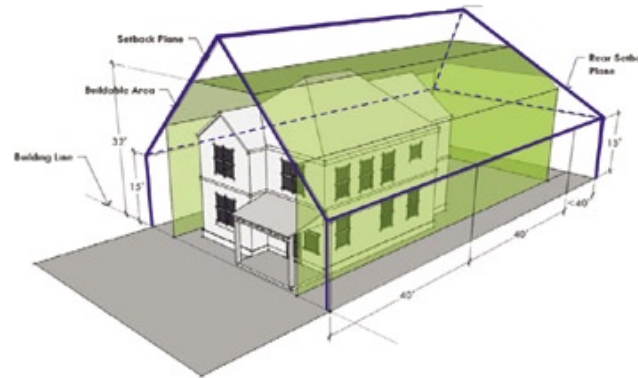


Figure 131 - The diagram above shows how a 45° setback plane limits structure height closer to side lot lines. The green envelope is the buildable area. (Source: City of Austin)



Figure 133 - Neighborhood-scale planning is a key first step for determining boundaries and goals of conservation overlay zones. Figure 134 - Oblique aerial imagery and Pictometry software enable Planning staff to assess typical setbacks, heights, and lot coverages that contribute to an area's existing character.

#### Application checklist for two-story or more single-family dwelling or those exceeding 20 feet in height:

- ☐ 2 full-size sets of floor plans and elevations of all facades, sealed and certified by licensed architect, engineer, or surveyor;
- ☐ 2 sets of topographic survey at 1' intervals sealed by licensed surveyor;
- ☐ Site plan including coverage areas for decks, breezeways, patios, drives and all parking areas;
- ☐ Contextual site plan of block (if using setback averaging).

Figure 132 - This submittal checklist from Austin, TX, indicates the degree of detail required to review more nuanced design standards like 45° setback plane limits.





# RECOMMENDATIONS

## Potential Future Implementation

# INFILL HOUSING STUDY

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### Potential Local Historic Districts from ACC Community Assessment...

Athens Warehouse Historic District  
Buena Vista Heights Historic District  
Carr's Hill Historic District  
Dearing Street Historic District in entirety  
King Avenue Historic District  
Milledge Avenue Historic District  
Milledge Circle Historic District  
Oglethorpe Avenue Historic District  
Pulaski Street/Pulaski Heights Historic District  
Reese Street Historic District  
West Hancock Historic District  
Hull Street Historic District



Figure 136 - Applying subdivision site design regulations to the review of this 7-unit single-family condo development, an emerging trend, was somewhat cumbersome.

*Potential Future Implementation, cont.'d  
(May require additional resources)*

4. Consider additional Historic Districts when the following conditions exist:
  - a. The area's combination of architectural and/or cultural resources contributes to a distinctive historic character.
  - b. Preservation of the architectural or cultural heritage of the area, as reflected in the built, historic environment, is the primary goal of the district.
  - c. Public hearing review of demolition permit applications is desired.
5. Consider Accessory Dwelling Unit and/or "Single Family Residential" Condominium ordinances to:
  - a. Encourage appropriate density where zoning supports it.
  - b. Define acceptable design and site criteria for accessory dwellings and/or multiple dwellings on a single lot.
  - c. Provide affordable housing options in accessible areas.
  - d. Enable legal, non-conforming properties in historic districts (single-family homes with existing historic accessory dwellings) to become eligible for tax assessment freeze benefits.

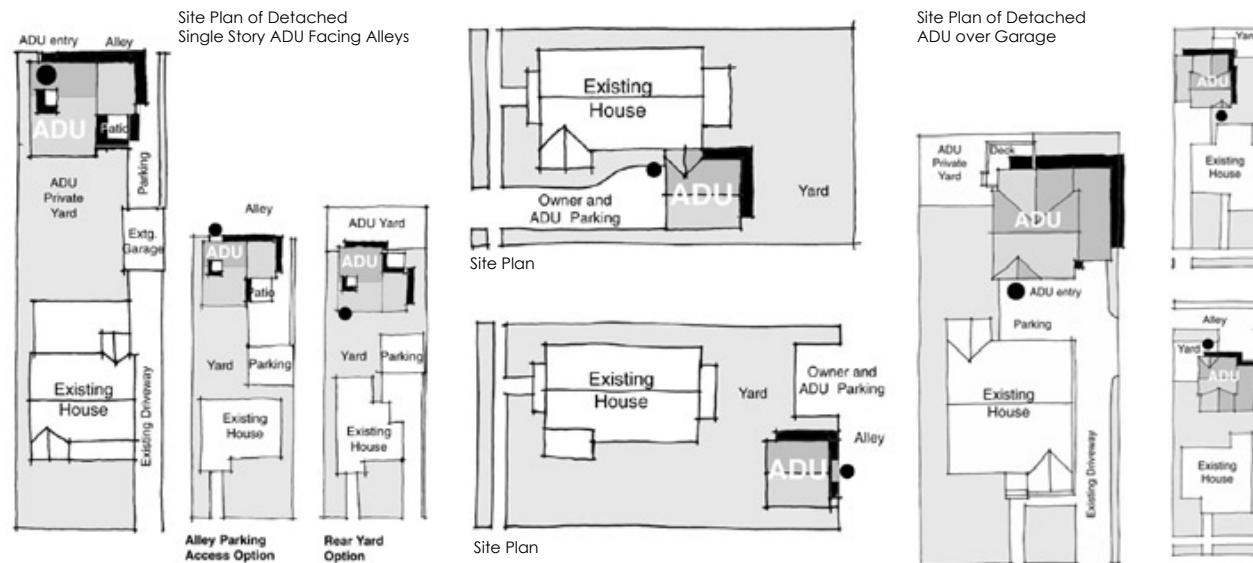


Figure 137 - From the Santa Cruz, CA Model Accessory Dwelling Unit Ordinance, these site plan examples demonstrate the variety of ways accessory dwellings (a.k.a. granny flats or in-law suites) may be appropriately incorporated on a single-family residential lot, depending on the neighborhood context. (Source: City of Santa Cruz)

### Permitting Review and Enforcement

The development review and permitting process should continue to improve in consistency and efficacy. While the Planning Department strives for efficient and timely reviews of single-family residential permits, the range of potential code issues involved in the construction of a single-family dwelling warrants a careful and thorough review. After surveying a number of communities similar in size to Athens-Clarke County, staff was somewhat surprised to learn the typically lengthier review periods for single-family permits in comparable jurisdictions.

Consideration of architectural design standards in infill scenarios must include an appraisal of the additional administrative review and inspection demands that would be necessary for implementation.

Lack of adherence to approved plans with respect to building setbacks and driveway design is a common problem identified by inspectors and neighbors. These inconsistencies may be resolved by requiring the builder to amend the approved plan to accurately reflect the site alterations. Occasionally, however, the altered plans cannot be approved due to code violations, and variance requests frequently ensue. While not as common as often perceived, this "don't ask permission, ask forgiveness" approach to home building is costly, time-consuming, and frustrating for all involved.

Jurisdiction	Review Time	Submittal Requirements
Asheville, NC	10 days	site plan and elevations
Atlanta, GA	4 weeks	site plan, elevations, topo survey, grading plan
Auburn, AL	1-2 days	site plan only
Austin, TX	2-4 weeks	site plan, full set architectural, topo survey, contextual block site plan
Champaign, IL	5 days	site plan and elevations
Charlottesville, VA	2-3 weeks	site plan and full set architectural
Fayetteville, AR	7-10 days	site plan, tree protection plan, grading plan, elevations
Greenville, SC	NA	site plan only
Iowa City, IA	1-2 weeks	site plan and elevations

Figure 138 - From phone surveys and online materials, this compilation of typical review periods and submittal requirements related to single-family permitting includes jurisdictions similar in size to Athens-Clarke County as well as those with design standards or additional zoning requirements such as a maximum residential FAR.

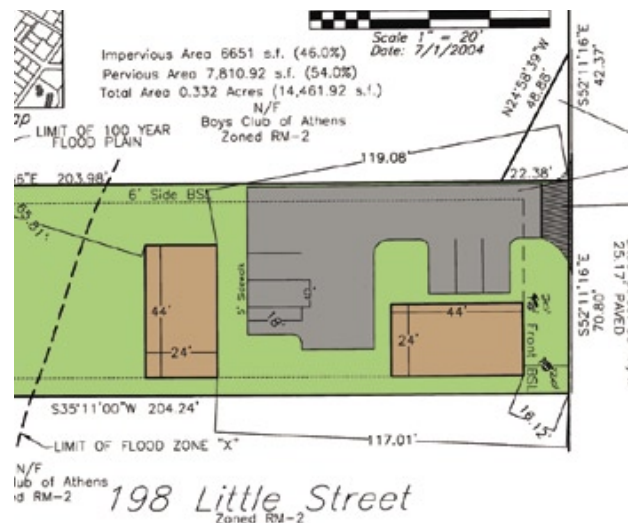


Figure 139 - The site plan (left) submitted for construction of two dwellings in the mixed-density residential zone was not adhered to during construction in 2005. The aerial image at right shows the site as constructed. While the structures meet basic building and zoning codes, the parking configuration does not.



# RECOMMENDATIONS

## Incentive and Educational Programs

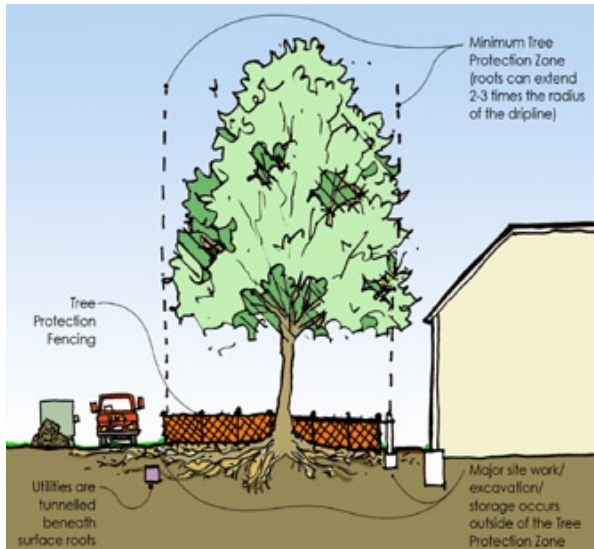


Figure 140 - Educational tool: diagram of proper tree protection.



Figure 141 - Regular workshops may help educate home buyers and builders alike about a variety of infill topics, from site plan preparation tools to tree protection.



Figures 142 & 143 - The use of innovative materials and stormwater management designs warrant code incentives to encourage their use on infill sites.

# INFILL HOUSING STUDY

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## Incentive and Educational Programs

### *Educational Workshops*

Through coordinated efforts, the Planning Department, Building Inspections and Permitting Department, and Public Works Departments could host best management practices workshops for home builders and others in the development community. These topical workshops might address a range of issues from tree protection to masking scale contrasts to innovative stormwater management tools. Potential funding sources include grant programs and participation fees.

### *Regulatory Incentives*

Athens-Clarke County zoning regulations currently do not encourage the use porous pavement or other innovative pervious surface materials for driveway and parking design. The zoning code treats these more costly improvements on par with conventional asphalt and concrete areas in the calculation of lot coverage. Paired with educational workshops about proper installation and maintenance, adjusted coverage allowances may offer a regulatory incentive for more sensitive driveway materials.

# ATHENS-CLARKE COUNTY Planning Department

# RECOMMENDATIONS Incentive and Educational Programs

## Incentive and Educational Programs

### Voluntary Tree Management Plans

For home builders intending to retain mature trees within proximity to infill construction, voluntary tree management plans would help identify necessary protection measures to ensure tree survival. Infill builders that are in compliance with protection plans during random site checks from the arborist or other inspectors would receive a *Green Leaf* certificate for the property, a potential selling point for savvy home buyers.

### Design Competitions and Awards

To update and expand upon the successful example of the Model Infill Housing Plans, Athens-Clarke County could host an infill design competition for local builders and designers. Winning entries would be published in a catalogue available at the Planning Department. Another initiative to raise awareness about good infill construction could include an annual Golden Hammer award presented to exemplary projects, similar to the current A-CC Transportation and Public Works Department's Stormwater Steward annual award at GreenFest. These positive incentives acknowledge exemplary work by builders and designers and would serve to highlight design that can serve as models for future development. Potential funding sources include grant programs and competition entry fees.

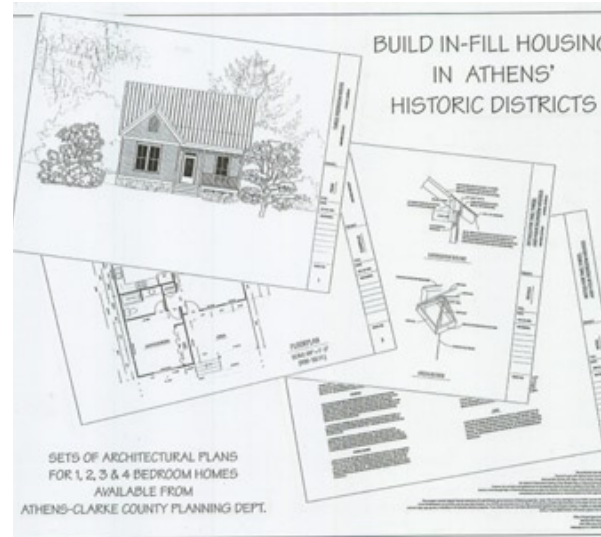


Figure 144 - The four Model Infill Housing Plans produced ten years ago should be updated and expanded upon with a new design competition.



Figure 145 - Certificates that recognize exemplary construction practices are another incentive tool.

(Source:BREEAM)



Figures 146 & 147 - Community recognition like the Athens Clarke Heritage Foundation's annual preservation awards and the A-CC Transportation and Public Works Stormwater Steward Award bring attention to noteworthy projects that merit emulation.



# APPENDIX

## Source Summaries

### "Neighborhood Conservation Takes a Turn"

*Winter & Company*

This article examines Durango Colorado's established neighborhood's efforts to preserve their existing character by creating "conservation districts" rather than historic districts. It examines the different viewpoints in choosing this approach; how the "historic vs. conservation" conflict arose; options for discretionary review; and efforts being made for more context-sensitive zoning. Methods explored to fine-tune the underlying zoning so that it is more context sensitive include:

- Adjusting the maximum building height
- Defining different height limits based on the position on a lot.
- Set a limit to wall length.
- Establish a floor area ratio.
- Revise building setback provision.

In order to achieve a more context-sensitive approach, the existing character must be documented (configuration of blocks, streets, alleys, as well as building arrangement, setbacks, mass and scale). The article also suggests that a forum should be provided so that all viewpoints on this approach can be heard to ensure the character and livability of these established neighborhoods can be preserved.

### "Single-Family Residential Infill / Redevelopment Design Guidelines and Standards"

*City of Overland Park, Kansas*

The City of Overland Park, Kansas implemented an Infill and Redevelopment Overlay Zone that established Design Guidelines and Standards for one-family and two-family (duplex) dwellings. These guidelines were broken down into two categories: Site Planning and Site Layout/ Development Patterns.

#### Site Planning:

- Lot Coverage
- Preservation of Natural Resources (Existing Tree, Tree Replacement, etc.)

#### Site Layout/ Development Pattern:

- Lot Dimensions
- Setbacks
- Bldg. Orientation
- Street Connection
- Building Design & Architecture (Building Height/Massing/Form, Roof Form, Building Façade, Accessory Structures, etc.)

### "What is Infill"

*The State of New Jersey's DCA*

This document examines the different definitions of infill, characteristics and provides examples of infill.

# INFILL HOUSING STUDY

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### "Who's in Control Here?"

*Elizabeth A. Lunday*

An Arts & Craft bungalow neighborhood located in Fort Worth, Texas was faced with the problem of properties being bought, demolished, and replaced with new larger homes that were inconsistent with the rest of the neighborhood. The neighborhood began to pursue a historic designation but some neighbors were apprehensive about being included, which threatened to produce a district that resembles "swiss cheese" with many holes. This article examines the topic of owner's consent across the country when cities seek to save historic neighborhoods.

### "Teardowns"

*David Matlow*

The National Trust for Historic Preservation explains the teardown epidemic that is wiping out historic neighborhoods one house at a time. They offer resources, the online "Teardown Resource Guide" to help historic neighborhoods through a variety of tools and approaches that help manage this type of growth. They also warn that there is not a "one-size-fits-all" solution and that each community should expect to use a combination of tools.

Some examples from the "Teardown Resource Guide" are included in the article. One is an analysis of teardowns by state and community and the other is a visual analysis of teardowns across America.

# ATHENS-CLARKE COUNTY

## Planning Department

# APPENDIX

## Source Summaries

### "The Power of INFILLtration"

*Elizabeth A. Lunday*

This document examines the land use pattern in which single-family residential has become separated from multifamily over the years and the emerging return of multifamily developments being integrated into traditional neighborhoods. The article looks at setbacks, ways to make small-scale multifamily work, and how to encourage appropriate dense development.

A strategy that the City of Austin, Texas utilizes is a university neighborhood overlay zone that covers an area of approximately 231 acres near the University of Texas. The goal is to create higher densities, to upgrade student rentals, to reduce spillover of students into nearby neighborhoods, while preserving the character of historic neighborhoods where development is occurring.

Also included in the article is the West Campus Design Guidelines, which correspond to one of the University Neighborhood Overlays. A sample of the University Neighborhood Overlays Ordinance is also included.

This article includes a section on "The Return of the Garage Apartment." Austin, Texas and St. Petersburg, Florida have adopted ordinances to allow accessory dwellings in order to take pressure off redevelopment, increasing property values and densities. Currently in Austin, Texas the owners of a single-family lot with a least 7,000 square feet can build a garage apartment or granny flat. The city is contemplating a reduction of the minimum lot size to 5,750 square feet.

### "Residential Design and Compatibility Standards"

*The City of Austin, Texas*

Austin's City Council approved the "Residential Design and Compatibility Standards" in order to minimize the impact of new construction, remodeling and additions to existing buildings on surrounding properties in residential neighborhoods. They are designed to protect Austin's older neighborhoods by ensuring that new construction and additions are compatible in scale and bulk.

Some development standards include:

- maximum density
- building height
- setbacks (fronts yard, rear yard, & side yard)
- setback planes (side & rear)
- buildable area
- side wall articulation

### "Innovative Tools for Historic Preservation: Where is Conservation Zoning Appropriate?"

*Marya Morris*

The article examines conservation zoning and its relationship to historic preservation. The primary purpose for some conservation districts are to preserve housing, protect the character of a neighborhood and promote neighborhood revitalization. Conservation districts are a viable alteration to full historic designation. Many cities have different criteria, procedures, and methods for nomination or for establishing these districts.

### "Accessory Dwelling Units: Issues and Opportunities"

*Municipal Research & Services Center of Washington*

Prior to the 1950's Accessory Dwelling Units (ADU's) were common. However in the past decades communities have adopted restrictions against ADU's in order to protect single family neighborhoods. This article examines why the ADU's have become popular again (affordable housing crisis, demographic trends and state laws); how benefits are accrued (to community, homeowners, and tenants); and what regulatory and zoning issues and options are common.

Some key points of the article include the Model Accessory Dwelling Unit Ordinance from the Washington State Department of Community, Trade and Economic Development that explains the purpose of allowing ADUs. The article also touches on review and approval procedures, size regulations, owner-occupancy requirements, occupant restrictions, the number of occupants, parking requirements, and design standards for accessory dwelling units.



# APPENDIX

## Source Summaries

# INFILL HOUSING STUDY

## February 2008

"West Campus Design Guidelines for the University Neighborhood Overlay, a component of the Central Austin Combined Neighborhood Plan"

*Cotera+Reed Architects*

The West Campus Design Guidelines and the University Neighborhood Overlay of which it is a part are components of a neighborhood plan sponsored by the City of Austin and neighborhood organizations to the west and north of the UT Austin campus.

These documents are intended to create a long range vision of an urban and diverse residential district in the area just west of the campus, while preserving the smaller scale residential character of other areas in the neighborhood plan. The overlay and guidelines are intended to help create a residential district that is close to the campus, consolidating some of the student housing that is presently scattered throughout the city, and thereby reducing transient student traffic to campus from outside, and reducing the transient parking requirements around West Campus.

Some examples of what these guidelines include are as follows: creation of hierarchy for transportation concerns in street design (pedestrian traffic, transit, bicycle traffic and cars, respectively), building setbacks, streetscapes, building size and location as well as parking structure standards (screening, flat slab when parking structures faced the street, etc).

"Out With the Old, in With the New: The Cost of Teardowns"

*Lane Kendig*

This article examines the reasons behind tear-downs: housing styles and materials that are dated, structural problems and economics. The general rule for new housing is that the lot value should be no more than 25% of the total value of the property. For teardowns land value will exceed the value of the house, the lot is likely to be 50% or more of the value of the property.

The article suggests that the first step in combating teardowns is predicting where they will occur. Teardowns typically occur when there is access to transit, waterfronts, recreational opportunities and tourist amenities. Other signs to look for are: where the standard unit is among the smallest in the community, depression-era homes (1940's-1950's), homes that range from 900-1,400 square feet, number of stories (ranch styles are vulnerable because two stories homes are now the standard).

Some suggested tools for regulating tear-downs include:

- *modified setbacks*
- *building coverage*
- *floor area ratio*
- *height*
- *building volume ratio*
- *side wall articulation*

Some additional suggested tools for regulating teardowns include:

- *landscape volume ratio*
- *side volume ratio*

Suggested regulations that can preserve community character are:

- *overlay districts*
- *neighborhood conservation districts*
- *downzoning*
- *waiting periods*

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