

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.

- EAST ATHENS-NORTH
- EAST ATHENS
- FIVE POINTS
- BOULEVARD
- ARMC-KING AVE
- COBBHAM-HANCOCK
- NEWTOWN
- BAXTER-BROAD
- CARRS HILL
- OTHER

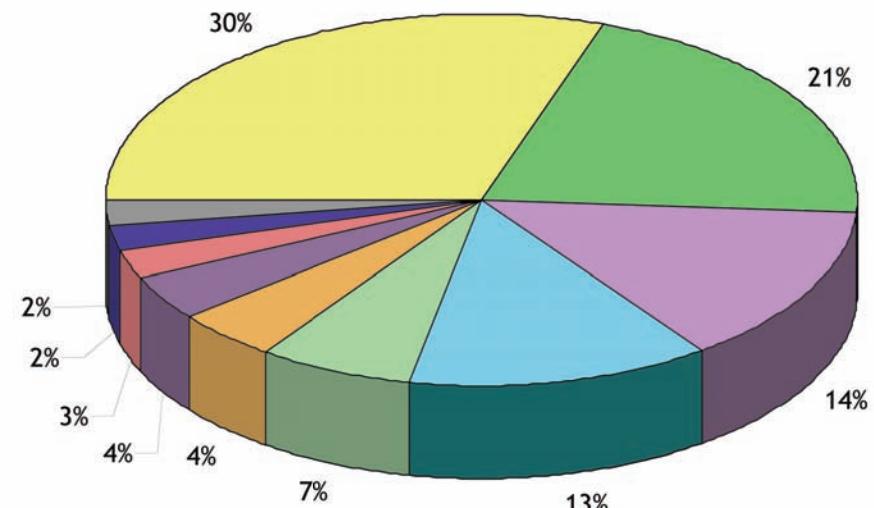


Figure 41 & 43 - This pie chart illustrates the amount of infill from 2004-2007 occurring in different neighborhood areas of Traditional Athens. The informal neighborhood areas are mapped below (right).

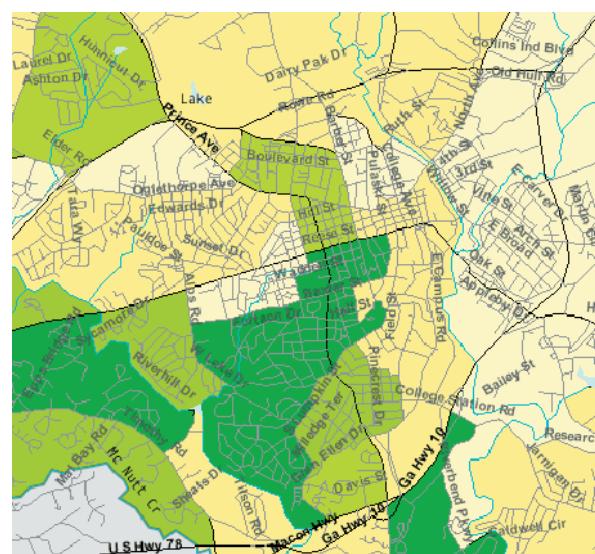


Figure 42 - This map illustrates owner-occupied reported median home value by A-CC census blocks. The darkest shade represents \$194,000-270,000, then \$153,000-183,000, \$108,000-140,000, \$73,000-104,000, and \$0-65,000 in the lightest (Source: US Census 2000, SF3 Sample Data).

# INFILL TRENDS

## Scale & Massing



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.

# INFILL HOUSING STUDY

## February 2008

### 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



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.

# INFILL HOUSING STUDY

## February 2008

### 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



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.

# INFILL HOUSING STUDY

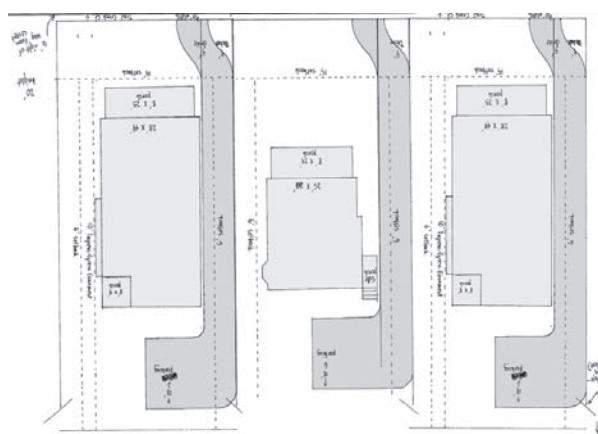
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## Typical Compatibility Issues:

### 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 66 - This graveled 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 65 - Shared drives that access rear yard parking are often the most sensitive to traditional streetscapes.



# INFILL TRENDS

## Details & Materials



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.



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.



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



# INFILL HOUSING STUDY

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### 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.



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.



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.



# INFILL TRENDS

## Landscaping & Tree Protection



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.

# INFILL HOUSING STUDY

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## 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



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)



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 Athens' minor residential blocks, the number of these small historic dwelling types is decreasing.

# INFILL HOUSING STUDY

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## Typical Compatibility Issues:

### Teardowns & Subdivisions



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.



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 preceding 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 teardown 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



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.

## INFILL HOUSING STUDY

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### 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 facade,
- 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.

