Contributors

URBAN INFILL: MASTERING INVESTMENT HURDLES AND DESIGN OPPORTUNITIES
Michael Buckley, FAIA

Michael is a clinical professor and director of the University of Texas-Arlington’s urban think-tank, The Center for Metropolitan Density. His research is focused on strategic industry clusters, demographic shift, and high-density residential and workplace formats. Michael also heads a UTA advanced design studio, testing financial feasibility for large-scale urban infill with an emphasis on creating tax revenues, from which tax increment financing can offset infrastructure costs. As president of Halcyon LTD, he advises cities on urban mixed-use projects and re-use scenarios for under-utilized sites. He is a former board member of AIA Dallas, and a former president of the Connecticut Society of Architects.

HOT SPOTS: EMERGING NEIGHBORHOODS MAKE DALLAS STRONGER
Marcel Quimby, FAIA

As a Dallas resident for over three decades (much of that in the inner city), Marcel has observed and participated in the transition of inner-city neighborhoods—both historic and non-historic—from neglected and unappreciated to thriving and popular. She is a principal with Quimby McCoy Preservation Architecture, a practice committed to the rehabilitation and adaptive re-use of historic structures. Marcel serves on the City of Dallas Urban Design Peer Review panel. She has served as president of AIA Dallas and Preservation Dallas, and has served on the board of advisors of the National Trust for Historic Preservation, as well as similar boards for the city and state.

DREAM WEAVING: HOW WILL DALLAS REACT TO THE PLANS PROPOSED THROUGH THE CONNECTED CITY PROJECT?
Greg Brown

Greg is program director for the Dallas Center for Architecture. His career has always included architecture, the arts, and film. Prior to DCFA, Greg was managing director of the AFI DALLAS International Film Festival, which grew to become one of the largest in the Southwest. He has also served as managing director of both the Meadows School of the Arts and the Meadows Museum at Southern Methodist University. A native Dallastite, he holds undergraduate and graduate degrees from SMU.

PROFILE OF LISA LAMKIN
James Adams, AIA, RIBA

Passionate for dense urban environments and the people and places that make them thrive, James proudly walks to work in the West End of Dallas daily from his loft in Downtown. At Corgan, he has worked as an architect on a multitude of office, mixed-use and residential projects over the past 10 years. An aspiring writing always looking for good stories, he is the associate editor of content for Columns. James has a zest for traveling the world which he hopes to instill in his 5-year-old daughter, Audrey.
Urban Infill is the opportunistic repositioning of underutilized sites with higher density mixed-uses targeted to specific niche markets. Urban Infill presents unique development difficulties with increased density and re-zoning approvals, feasibility hurdles with expected investment returns, and most importantly, design opportunities to create new architectural profiles, thoughtful open space, and walkable streetscapes. Urban Infill is the premier signal that an area is ready for residential and live-work regeneration.

Advantages of Urban Infill

Urban Infill sites offer proximity for living closer to work, avoiding increasing suburban commutes. For obsolete warehousing or light manufacturing sites, prior uses can provide contextual themes for new developments. Infill allows larger footprints and denser residential projects than prior uses, creating a new “Density of Investment” for financial institutions based upon expected future values. An absorption advantage also exists, as sites are typically under the development radar screen.

Disadvantages Also Exist

Urban Infill occupies pioneering locations, where security and quality of life perceptions are not always positive. Prior uses may cause environmental uncertainty which affects timeline and financing. Approval thresholds are equally unclear due to re-zoning and increased density necessary for feasibility. Landowners may have unrealistic expectations for site values which can stifle revival that the neighborhood would otherwise enjoy. Hence, cities should consider assisting site acquisitions based on future Tax Increments generated, as existing uses are upgraded to mixed-use, producing higher taxes with portions re-dedicated to site infrastructure.
Feasibility Testing

Many architects fail to understand that the “holy grail” for developers is the capitalized value of a project, not its cost. This capitalized value concept is foreign to many architects as they may concentrate on controlling cost alone. Developers also focus on net operating income (NOI), the net revenue after operating expenses, maintenance, and taxes—but not including financing/mortgage charges. Financial institutions also focus on NOI as the source for debt repayment.

The Advanced Design Studio at the University of Texas-Arlington (UTA) has developed feasibility templates and cash flow models for architects to illustrate NOI over time with discounted cash flow (DCF) spreadsheets. These inflate both revenues and expenses each year over 10 years, and include a hypothetical residual project sale in year 11. Then the annual NOI amounts and residual sale are discounted to present day at an appropriate discount rate (UTA Model uses 8.5%).

The resulting net present value (NPV) is also used in computing the internal rate of return (IRR) which includes mortgage debt (UTA’s model set at max 70% loan to cost). IRR is also carefully monitored by developers during design (UTA model threshold feasibility is 12% IRR). Thus, architect/developer interactions feature two distinct modalities—architects fixated on cost and developers focused on IRR.

Architects should know that the developer’s “management of risk” drives development value—and that designers who have an understanding of the risks and revenue potentials of their work will accordingly have more powerful roles in creating better architecture.

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**FAR LEFT: VISION PLAN INFILL SCENARIOS**

Infill projects can be grouped to form a new urban district with unique image and identity. UTA’s Advanced Studio for Fort Worth and Dallas repurposed currently vacant land with Infill uses targeted to specific niche markets. UTA Advanced Design Studio goals are to test feasibility and the benefits of density, and as such the scenarios are academic exercises, not intended to show consensus with stakeholders or city agencies.

**BELOW: DALLAS REGEN—MAPPING NEW URBAN DNA**

Proposal focuses on re-purposing vacant/underutilized sites connected by a new transit linkages and residential/retail/learning offerings to create a regionally-definitive, high-density, NextGen Workplace. Infill sites shown in color are connected by a “SkyRide” people-mover, linking three parking “Motherships,” each with high-density offices, an incubator, and new residential choices such as micro-lofts, innovation district workforce housing, and family courtyard units. “Tomorrow’s Workforce” educational concepts feature an Innovation Institute, STEM High School and Jobs Academy, with “E-Mote” digital kiosks sponsored by Dallas Public Library scattered throughout.

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**LEFT AND CENTER: Dallas Incubator—Shared office collaborative features stick-built over concrete first level garage with barrel vault wood truss**

**RIGHT: Stacked townhomes allow two units per footprint—ground floor flat, double-height upper floor, and roof decks.**

**FINANCIAL FEASIBILITY TEST**

- Hard Construction Costs + Soft Cost Fees & Allowances + Land Acquisition = Total Development Cost

- Revenues less Expenses = Net Operating Income
- NOI at Year 3 Capitalized @ 7.5% (UTA) = Capitalized Value

- Internal Rate of Return
  - IRR target minimum = 12% (UTA)
The Infill Design Opportunity

Urban Infill allows great flexibility for architects if they understand the developer’s financial objectives. Density is the watermark solution for Urban Infill, as shared costs can be spread further and mixed use offers more revenue to afford architectural features, landscaping, and designed open space.

Multifamily is today’s favored product, as young professionals eschew suburbia for more engaging urban experiences. Even conservative organizations such as the Pension Real Estate Association have endorsed a “Walkability Premium” of increased value for developments with walkable character.

Most Urban Infill is “stick-built” to conserve costs, providing wood-framed residential over a concrete podium ground floor, with supporting retail as significant revenue source and amenity. Structured parking is the unintended consequence of higher density Urban Infill, as the cost of urban parking is tenfold over that for suburban. Solutions include tuck-under and podium style garages with units built above. These solutions do not improve the streetscape experience and hence parking is a very special design challenge. Design limitations imposed by stick-built require articulated facades and a “kit of parts” of materials and design vocabularies which adopt existing neighborhood context to achieve visual appeal for the “Walkability Premium” sought.

Putting the “Mix” into Mixed-Use

Urban Infill relies on dramatic transformation of former uses into higher intensity environments, mixing workplace and housing with retail. This requires careful planning as each use has varied mechanical preferences and user systems. Restaurants require kitchen exhaust and solutions to manage deliveries and trash removal far beyond what is needed for residential. Collision of these systems and services within the base building often cause design and configuration conflicts.

Urban Infill Critical Success Factors

Six components define critical success factors with desired attributes and performance standards:

Best Project Fit
The “best fit” balances compelling site concepts, with niche market support, matched with financial feasibility. This “holy trinity” of concept/feasibility/niche market support is a fundamental litmus test for Urban Infill, particularly for unconventional formats. New architectural profiles must transform perceptions of the pre-existing property. Niche market support must match uses to targeted psychographics, and financial feasibility must demonstrate market rents, with acceptable investor returns.

Create Transforming Site/Use Concepts
• Architectural Image
• New District Character

Planned Mix of Retail/Foodservice Offerings
• Targeted Tenant Mix
• Food /Fashion/Frivolity

Design Emphasis on Walkability + Open Space
• Streetscape Quality
• Public + Private Spaces

Offer Broader Residential Choices
• Multifamily + MicroLofts
• Stacked Townhomes

Respect User-Driven Configurations
• Retail Layout/Servicing
• Parking Adequacy

Advanced Testing of Financial Feasibility
• Identify Market Niches
• Illustrate Target Returns
The Big Picture: Reconnecting the Urban Landscape

Urban Infill removes “missing teeth” from the urban streetscape experience and mitigates security concerns with underutilized properties. Increased density allows Tax Increment Financing to justify better landscaped open space and community infrastructure. Urban Infill activates neighborhoods, making them more sustainable and livelier. Unlike suburban development, Infill can use surrounding urban fabric as context. Architects who master design limitations and financial challenges of Urban Infill can create more valuable, authentic, and sustainable places.

Michael Buckley, FAIA, is director of the UTA Center for Metropolitan Density.

For information on Higher Density Benefits, Demographics, and Industry Clusters, see UTA Center for Metropolitan Density Research Journals—CIMD #1 for Research Premises and Interim Uses, and CIMD #2 for selected Advanced Studio projects—at www.uta.edu/architecture/research/cimd.

Psychographics—The New User Mix

Infill should address specific market niches and certain psychographic profiles with these characteristics:

- **Techies**—technology and media aware;
- **Nighthawks**—late-night roamers;
- **Foodies**—seekers of latest café trends;
- **Hipsters**—effete seeking edgy experiences;
- **Family Values**—family-oriented urbanites;
- **Learners**—seeking lifelong learning;
- **Home Improvers**—decor-oriented;
- **Arts/Crafties**—fine arts devotees;
- **Entrepreneurs**—individual achievers;
- **Fashionistas**—latest hot places/objects.

J. BECK, MORRIS, B. NORS, UTA ADVANCED STUDIO (LEFT AND RIGHT)