

# Four Transit Villages for Nashville: A Case Study in University Research and Livable Communities

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## INTRODUCTION

With the broad support of both public and private sectors, Greater Nashville is rapidly laying the groundwork for an extension of its mass transit network out into its region.

In conjunction with these efforts, T. K. Davis' University of Tennessee urban design students in Spring 2010 worked on team projects for four potential or existing transit station stops in Greater Nashville. The Nashville Area Metropolitan Planning Organization (MPO) sponsored the studio in the amount of \$11,000, in cooperation with the Nashville Civic Design Center. This is an example of teaching, creative design and service as a form of applied research, in which design proposals apply current urban design theories and best practices related to Transit-Oriented Development (TOD) and Livable Communities.

MPO identified four sites for "Transit Villages" in the generally suburban area surrounding Nashville. One site has an existing commuter rail transit stop, which could serve as a catalyst for economic development. At the three other sites, however, the ultimate mode of mass transit was yet to be determined. In these cases, design proposals were requested that would be capable of accommodating all three of the potential mass transit options: commuter rail, light rail transit (LRT) or bus rapid transit (BRT).

A unique aspect of this studio involved the formation of interdisciplinary teams of the University of Tennessee undergraduate architecture students paired with graduate students from the Vanderbilt University Owen School of Management. Under the direction of faculty member Thomas McDaniel, a case

study of regional transit villages was the Capstone Project for the Real Estate Development Program.

This studio sought to balance three equally important agendas: first, to present a very intense learning opportunity in urban design for the students; second, to engage the students in the thinking and priorities of developers, on the principle that this knowledge can significantly empower the designer to be proactive, and not reactive, by adding value both in project design and economics; and third, to structure the studio as a public advocacy of TOD as a way to build "Livable Communities."

Could this collaboration between two university programs, and disciplines, be a model component for in-depth consideration of TOD in other metropolitan areas?

This paper will discuss the challenges and opportunities of a "creative work as applied research" teaching model. It will also disclose design and development outcomes as a case study, and suggest where Nashville goes from here.

## TOD AND LIVABLE COMMUNITIES

TOD (Transit-Oriented Development) is generally defined as mixed-use development within a half-mile, or ten minute walk, from a mass transit center.

Concentrating development within a 2,500-foot radius encourages walkable, pedestrian-friendly environments. Medium to high densities are desirable, with increased property values. A variety of housing types, and prices, promote diversity of choice for residents. With the exception of "park

and ride” at the transit center itself, parking requirements are typically reduced.

In comparison to traditional suburban sprawl, TOD enhances quality of life for its residents, improves public health by virtue of encouraging walking rather than driving, is inherently environmentally sustainable, and increases transit ridership.<sup>1</sup>

TOD necessitates public-private partnerships, simply by virtue of the public sector’s investment in transit infrastructure that determines a TOD’s location. Because of the complexity of design and development issues related to TOD, the urban design studio served as an ideal “laboratory” to test basic principles in TOD in suburban settings, including marketing and financial analysis of the final design proposals.

The Urban Land Institute (ULI) has pointed out that high density, mixed-use real estate development in proximity to mass transit “...almost can’t miss... they are also one of the hottest development trends.”<sup>2</sup>

Given the national commitment of architecture schools to issues of sustainability, it seems curious that the academy seems somewhat indifferent to TOD as a teaching and learning vehicle. TOD was pioneered by Peter Calthorpe and others over thirty years ago, so it is hardly a new paradigm, just a very large scale and difficult paradigm to achieve.<sup>3</sup> Another possible explanation for this ambivalence may be that its principles and goals may seem too closely aligned with New Urbanism; hence, a (mis) perception that it is overly stereometric in its formal typologies, and retrograde in its formal language. However, these linkages of type and language are not causal, but rather circumstantial in North America: innumerable new communities in Europe falling within the rubric of “Green Urbanism” are in fact TOD achieved in a vibrant modernist vocabulary.<sup>4</sup>

The term “Transit-Oriented Development” can be difficult to envision, especially for the non-professional. “Transit Village” is a commonly accepted and more readily understood alternative term for TOD in a suburban context. The sought-after characteristics of “Livable Communities” are based on ten principles, including transit options, articulated by the American Institute of Architects.<sup>5</sup>

### Course Description

As an interdisciplinary and multi-institutional collaboration, the objective of the semester was to

develop credible urban design proposals for four priority sites identified by the MPO for transit villages in the Nashville region. The design proposal for each site emerged from a team of three advanced architecture students from Tennessee, and two to three real estate development students from Vanderbilt.

As their Capstone project, the Vanderbilt students worked with the Tennessee students in a team relationship analogous to design and development co-consultants. The Vanderbilt teams conducted a land assessment, market study, stakeholder analysis, economic analysis as a pro forma, and evaluated both financing capacity and project constraints. They also considered public-private partnership strategies that might enable the design students’ projects to achieve economic viability.

In developing the design proposals, the architecture students interpreted and sought to fulfill the principles and goals of TOD. Priority was given to creating a sense of community through walkable streets and high quality public spaces, with parking requirements carefully considered. Each student was responsible for developing at least one of their team’s housing types at 1”= 8’ detail in plans and sections in order to allow realistic estimates for the development pro formas. Designs sought to meet basic standards of the International Building Code, as well as LEED-ND criteria.

Because of the complexity of changing transportation infrastructure and land development, all of the designs were represented as a “full build-out” of three logical phases of development identified for each site.

### Challenges

Because TOD projects are so complex in scope, the challenges of this studio were significant. Furthermore, the teams mixed undergraduate design students with older, graduate level development students, many of whom had “real world” business experience prior to returning to graduate study. On top of this circumstance, there were inherent conflicts between the cultures of both sets of students. In my experience, the architecture students tend to be idealistic, visual and qualitative in their thinking, while the development students tend to be pragmatic, verbal, and quantitative. Some of the development students had limited awareness of TOD as a rapidly emerging market, and ex-

pressed skepticism that such an “urban” concept could work in conventional suburban areas.

## SCHEDULE

Compounding the challenges were basic logistical issues. Vanderbilt and the University of Tennessee are 180 miles apart, with two different semester schedules. The urban design students met with the Vanderbilt students in Nashville on four, lengthy occasions during the semester: one a field trip to the sites, twice for workshops, and then for a final review event. Other communication with their Vanderbilt teammates was by teleconferencing and online, replicating the means by which interdisciplinary teams of professionals in remote locations work in practice today, often at a global scale. Throughout the semester, students interacted in Nashville with regional design and development professionals as well as civic leaders, suggesting to the students the public participation prerequisite to urban design practice. The architecture students also had four separate pin-up reviews with their home base architecture faculty in Knoxville.

## INITIAL RESEARCH

For both the design and development students, the initial four weeks of the semester was spent developing expertise in the topic of TOD. Two required texts were Peter Calthorpe’s *The Next American Metropolis*, and Gloria Ohland and Hank Ditmar’s *The New Transit Town: Best Practices in Transit-Oriented Development*.<sup>6</sup>

The architecture students researched and analyzed the sites, and housing type precedents, through targeted exercises. One particularly useful exercise involved the collage of known precedents superimposed and transformed for each of the four transit village sites, inspired by Rem Koolhaas’ design process for the IJ-Plein in Rotterdam.<sup>7</sup> This helped students to understand the scale of the sites, as well as to experiment with different densities and spatial patterns.<sup>8</sup>

In addressing the environmental issues of the various sites, students created a site context Greenprint, a method championed by the National Land Trust for mapping an area’s natural resources to guide growth.<sup>9</sup>

Both design and development students shared their early research and analysis with each other. The real

estate students initially conducted their own land assessment in a market study, and identified project constraints. It was interesting to observe throughout the semester, from beginning to end, how the unique criteria each sub-group brought to the discussion modified the four teams’ work and proposals.

## FINAL REVIEW EVENT

The semester culminated in an all-day public review event, in which the four teams presented their work for comments and criticism in front of four separate panels, each comprised of six or more regional experts, most of who were planners, ULI Nashville developers, architects, and regional civic leaders. More than 30 professionals attended the eight-hour final review.

The design and development students were able to make recommendations regarding public-private partnerships that could provide legal and financial incentives to achieve the benefits of TOD. From the financial analysis, we were able to estimate the annual tax increment at full build-out of each project, which allows us to make the case to local officials and the community-at-large of the economic benefits to the local tax base provided by medium density development of TOD. It also allows us to calculate the potential of tax increment financing (TIF) over time to provide public-private partnership incentives for viable, high quality, and innovative development.<sup>10</sup>

Joint public-private development incentives proposed for all the sites included TIF, a public land acquisition and disposition plan, adjusted zoning to promote density and diversity, reduced parking requirements, and Location Efficient Mortgages (LEMs).<sup>11</sup>

## GALLATIN TRANSIT VILLAGE

The Gallatin site proposed by the MPO is a pasture lying just across the CSX tracks from the one million square foot, 1,000 employee Southeast Region Distribution Center for The Gap, a global retail employer. These two sites are separated by a tall line of trees. Gallatin is a high growth area approximately 30 miles from Nashville, very rapidly converting from an agrarian ambiance to a residential suburb.

This site proposed has many intrinsic advantages: a circle of buildable area within a half mile radius of the proposed transit station, proximity to an expressway, and relatively flat topography, all of which gave the



Figure 1. Proposed Transit Village for Gallatin: Aaron Grohol, James Sloan, and Stephen Struttman (University of Tennessee) with Douglas Archibald, Russell Autry, and Clarence James (Vanderbilt University Owen School of Management)

designers flexibility in proposing economically viable development. The proposal seeks to maximize the housing density and mixed-uses without excessive height. Street sections have been carefully considered, with on-street parking encouraged, or alternatively, parking is found a half level below grade under courtyard housing terraces.

A large quadrangle lined by housing with a rail/bus station and hotel to its south, and an elementary school to the north, anchors the transit village's layout. Courtyard housing blocks and "urban villas" complement linear apartment buildings along a perpendicular boulevard to provide a wide variety of housing types and price points. A perimeter road has a park-like ambiance, with connections to walking, biking and horse riding trails (including a connection to an equestrian farm), as well as athletic facilities.

The urban design plan proposal seeks to build considerable phase one commercial space in close

proximity to the expressway, helping to capitalize the transit village at the front end. An office complex is to the west of the housing precincts.

### HENDERSONVILLE TRANSIT VILLAGE

The Hendersonville site selected for study has the potential to link Gallatin Pike to a new, more formal town center, opening the site to significant new office space along an expressway. A new road, already in place, is facilitating this planning, tying it to greenways, and new civic and shopping venues to the west.

This was a very challenging site, constrained in its dimensions, bisected by the railroad, and confronting topographic contours that limited where one could build. Nonetheless, a wide variety of housing types have been invented, and the design proposal succeeds in capturing the feel of a village, with corresponding density. While one might have built taller and denser, this would have been in conflict



Figure 2. Proposed Transit Village for Hendersonville: Tyler Blevins, Dean McKenzie, and Zack Sherrod (University of Tennessee) with Tom Miles, Stephen Songy, and Andrew Steffens (Vanderbilt University Owen School of Management)

with the scale of adjacent 1-2 story neighborhoods, and probably would have met with significant public resistance.

The existing railroad has been addressed by converting its embankments to a visually more open trestle as it traverses the site. A new water feature in the center of the site development captures water draining from natural lines in the topography, and becomes a picturesque garden shared by the residents.

At the southern arterial end of the site, a village square is formed where a BRT center would be located, lined by commercial space, with a green square atop a level of parking. Between the garden and the square are a marketplace and meeting/exhibit hall with views of both the garden and the public square.

Along the expressway to the north, considerable office space is developed above parking and commercial space, topped with green roofs.

### MADISON TRANSIT VILLAGE

Madison Village is an aging suburb in need of revitalization, lacking a town center, and afflicted by a deteriorated commercial arterial. The students first examined a Metro Planning Department urban design that was the outcome of a lengthy public participation process. They sought to retain the best features of this plan, including an intensive redesign of the arterial over time to make it a walkable commercial boulevard. They also wished to design a Village Green at the location of a recently built public library as a spatial and symbolic center for Madison Village.

To the south of this area is a dying strip mall, which students propose to be retrofit with new uses and new parking assumptions. The idea is to conceal parking behind the mall, turning the former parking area into an outdoor market. The entire precinct would make connections to new potential greenways, and spatially clarify sprawling surface park-

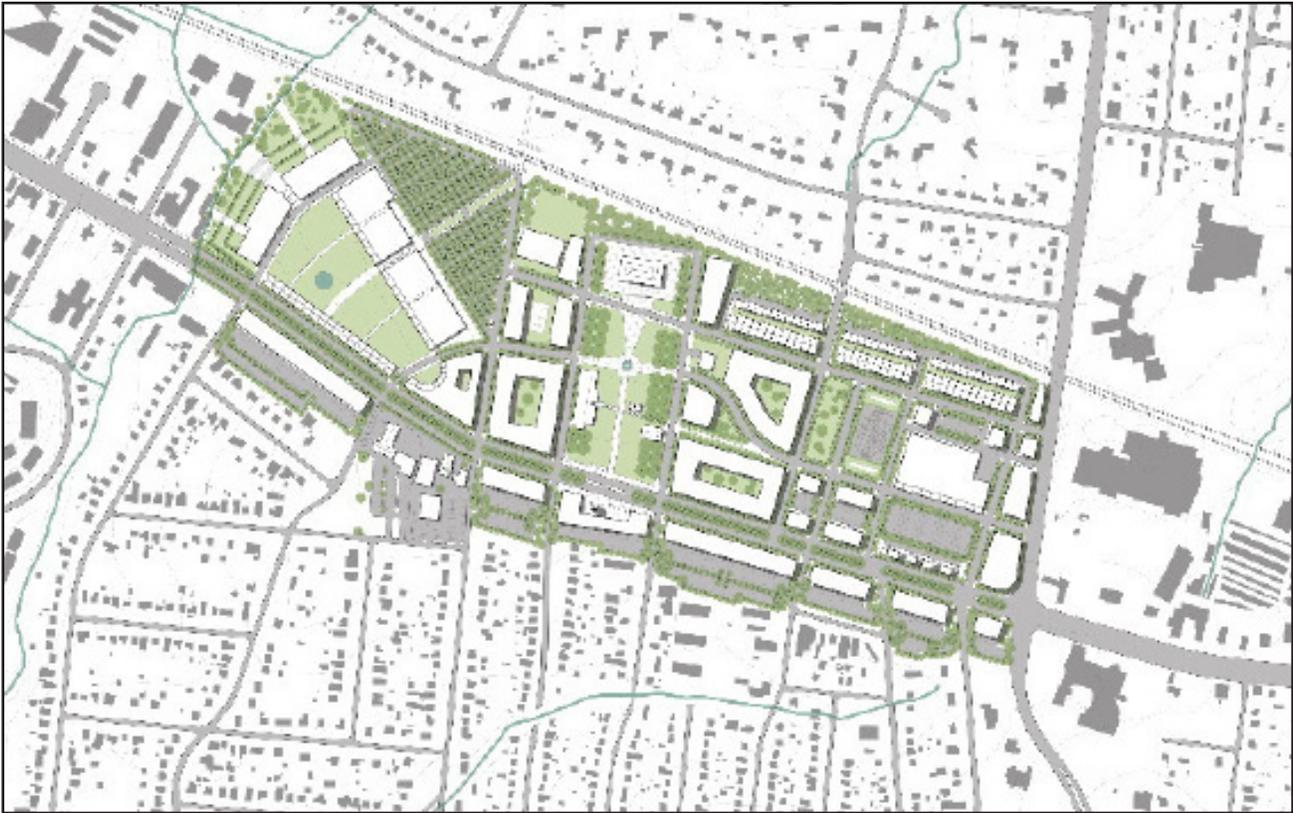


Figure 3. Proposed Transit Village for Madison Village: Jordan Dugger, Josh Johnson, and Arya Kabiri (University of Tennessee) with Peter Kleinberg and Gavin McDowell (Vanderbilt University Owen School of Management)

ing lots. With the mall then a community center and entertainment venue, new terraces are proposed down to a creek that would have pathways leading to the Cumberland River, located within walking distance.

Anchoring the new Village Green, a market hall building is introduced with meeting and exhibition space above. The historic, relocated Amaqui Station is incorporated as part of the ensemble. An existing supermarket becomes an anchor asset in the district, with mixed-use courtyard buildings and row houses developed to take advantage of future proximity to BRT in the arterial, and the supermarket.

New row houses feature alley access to garage parking with accessory apartments above to double the density. These provide affordable housing for a nationally changing demographic of increasing single person or childless households, or for an aging population in need of nearby family care.

### DONELSON TRANSIT VILLAGE

The existing Donelson transit stop site for Nashville's commuter rail line is located adjacent to a run-down commercial strip in an aging post-war suburb. As part of their effort to remediate problems associated with commercial arterials, the Metro Planning Department has engaged the Donelson community in numerous public meetings during the past two years. These meetings have been taken into careful consideration in the formulation of the students' proposal.

The absence of an identifiable center for this suburban town is its most conspicuous shortcoming. The design team proposed taking advantage of site topography to platform over needed parking, in order to make a new crescent-shaped village green where the historic Donelson Pike diverges from the arterial's realignment. To help spatially define the new Crescent, a continuous curving two-story arcade is introduced to unify the disparate existing buildings around it. A small lake is formed as a park amenity

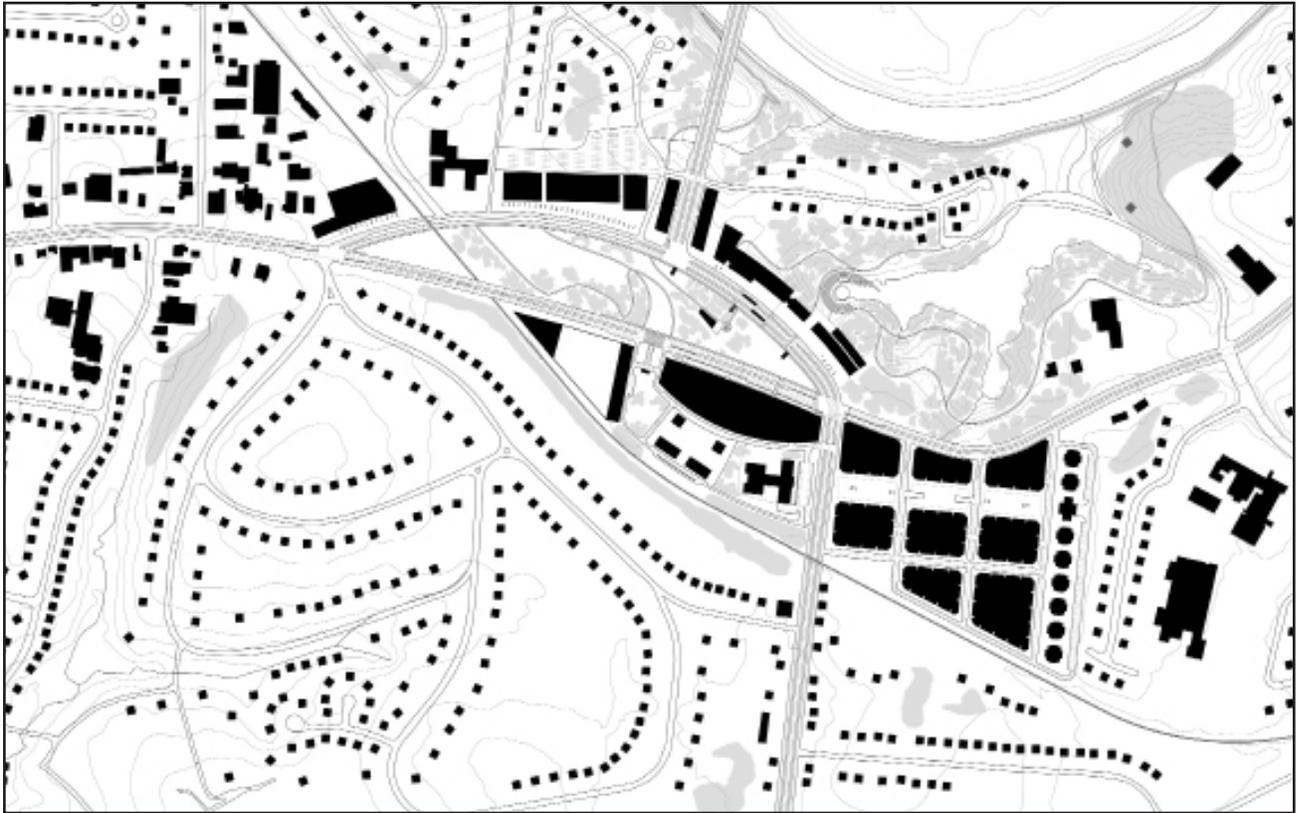


Figure 4. Proposed Transit Village for Donelson: Joshua Bradshaw, Brian Doherty, Jeffrey Stahl (University of Tennessee) Shane Kaiser and Gavin Richey (Vanderbilt University Owen School of Management)

in an existing ravine to the north of Donelson Pike, opening in turn to the oxbow of the Stones River. A new community center is proposed with terraces overlooking the lake element. Therefore, new construction enhances existing landscape features, creating a sense of community identity for Donelson.

A future connector to Madison Village towards the north, anticipated by Metro Planning, has been incorporated in the planning proposal. Consistent with best practices of TOD, commercial space, a new hotel, and mid-rise housing is proposed along the Pike. An outdoor market is proposed as a public plaza at the transit stop. The proposal also incorporates an existing senior center in a former elementary school, and generates considerable new high-density housing to the east in courtyard blocks and six-story “urban villas.”



Figure 5. Hendersonville street scene with loft units over commercial space.

## KEY FINDINGS

### Density:

Density assumptions for a transit village in a suburban context presented a key dilemma for the design and development students. Suburban communities tend to resist buildings significantly taller than their context, yet density is required for a viable return on investment, as well as being a way to boost ridership for mass transit. In general, we found that 3-6 story buildings seemed plausible for a suburban transit village. (Figure 5)

### Transit Choice Matters:

Three of the sites identified were considering one of three choices for transit: commuter rail, LRT, and BRT. National trends, and discussions throughout the semester, indicated that bus systems are the least appealing, although they represent the lowest initial infrastructure investment. Interestingly, the cost of a rail infrastructure investment provides the most permanent guarantee to developers for long-range stability and success in real estate development. Bus routes can change, while the permanence of a rail stop insures the stability of nearby property values.

### Unit Types:

All of the design proposals developed a range of unit types, including affordable dwellings. We were especially impressed with the economic viability of creating "2 BR flex-unit types" which, with a simple hardware change and the inclusion of a kitchenette, could be alternatively marketed as a 1 BR with balcony and adjacent Studio apartment with balcony. Accessory units such as "granny flats," often above the garage in a block with landscaped alleys, are a type we need to recuperate. Not only can this flexibility double density, but it accommodates live/work, or the more diverse and smaller demographic trends of the contemporary household (not to mention the changing spatial needs of households over long periods of life).

### The Challenges of Financial Analysis:

With regard to the work of the development teams, I offer three thoughts. First, it is somewhat problematic to undertake a financial assessment of a new transit village in the context of our "Great Recession," where money is not being lent, very

little construction is underway, and all bets are off. What does one assume for a baseline condition: today's facts or tomorrow's potential facts? This is compounded by the absence of in-state TOD "comparables" for the development students to model.

A second related challenge the development students had was coming to grips with the logical timeline of transit villages relative to planning, design, construction, and phased build-out. If a mass transit line is not anticipated to be operational for up to five years, then that logically would be when phase one of the project becomes occupied—and not before. The subsequent two phases would probably be completed in another 5-10 year time frame. Hence, we are looking at metrics that are well over the horizon, and unknown. This uncertainty makes analysis very difficult. As a result, the development students tended to want to focus their quantitative analysis on only phase one, and often only an initial portion of phase one. This limited the value of the financial analysis, because it didn't project a tax increment over time that would accrue beneficially to both the project and the community.

Third, given a long build-out period, it also means that initial cash flow, or "internal rate of return" (IRR) is going to inherently be relatively low.<sup>12</sup> IRR is the key metric developers use in determining whether to "pull the trigger" to proceed on a development. The IRR is low because most of the heavy development costs are front-loaded: land acquisition, design and approval fees, site preparation and infrastructure improvements, etc. As the project gets built-out over time, these front-end costs are amortized and cash flow improves significantly.

We would argue, as Christopher Leinberger does at the Brookings Institution, that what is needed is "patient money" investment (perhaps borrowed in tranches), and held over a much longer period of time than a 5-7 year "flip" of ownership. Leinberger argues that the return on investment is much higher through such longer-term investment.<sup>13</sup>

### Teamwork in Design:

Working with teams in the studio was a new experience for their critic, and I was uncertain how it would play out. Feedback was generally very positive. It was interesting, however, that in each of the four three-person groups, I received an expression of concern that one student per group was either not pulling their weight, or communicating inadequately.

Given that urban design is by nature a highly collaborative endeavor, the formation of teams, in retrospect, seems appropriate in cultivating group skills that are normally not addressed in traditional studios. All students stated that in the absence of hierarchy within the teams, they endorsed the three-member premise due to its inherent ability to break ties during disagreement.

### Next Steps:

Subsequent to the semester, design work on all four sites continues by faculty, incorporating review observations. An emphasis is placed on addressing areas of potential design improvement, completion of the visual presentations, making the visual and verbal presentations more accessible to the general public, and incorporating supplementary images depicting potential architectural imagery of buildings proposed in the conceptual proposals. In addition, strategies to make the proposals viable as developments are being refined.

During Spring 2012, a series of focus group workshops, including presentations, discussions, and anonymous questionnaires, are anticipated to be held on the four transit villages proposed, in order to broaden awareness of the potential issues and opportunities of these sites in the context of future regional transit investment.

### CONCLUSIONS

The TOD urban design studio has benefited the students and the School of Architecture in several interesting ways. Students have benefited from the exposure of their work to civic leaders, public sector agencies in Metro Nashville, design and development professionals, and ULI membership. This engagement publicly couples the students' ideas, and idealism, with the challenging and messy realities of urban design "in the field."<sup>14</sup>

The University of Tennessee benefits from the high visibility of relevant and engaged outreach in the state's capital city, consistent with the University's land grant mission. In addition, our College's partnership with the Nashville Civic Design Center (NCDC) has been substantially strengthened through utilizing the Center as a base of operations for post-studio faculty presentations at NCDC Urban Design Forums and seminar events, as well as exhibitions, publications, and web site access of this work.

In conclusion, the TOD urban design studio was characterized by its applicability as a public advocacy, and demonstrated a learning process and consideration of a wide range of issues. Student evaluations and review commentary strongly suggest the studio promoted innovation through teaching, creative design and service as applied research. The design students also extensively engaged the development students in their financial thinking and priorities, empowered as designers to add ideas and be proactive to improve the value of both the designs and economics of the projects. National trends and emerging best practices in urban design were applied in a comprehensive way to suburban areas now recognizing their need for transit. The advent of Transit Villages would have enormous value to Middle Tennessee in creating more Livable Communities.

### ENDNOTES

1 See Calthorpe, Peter. *The Next American Metropolis: Ecology, Community, and the American Dream*. Princeton Architectural Press (New York) 1993 pp. 56-57.

2 See Miller, Jonathan D. *Emerging Trends in Real Estate 2006*. Urban Land Institute (Washington DC) 2006: "Far flung Greenfield homes may cost less, but filling the gas tank burns holes in wallets. Both empty nesters and their young adult offspring gravitate to live in more exciting and sophisticated 24-hour places—whether urban or suburban—with pedestrian-accessible retail, restaurants and offices. Transit-oriented development at subways and light rail stations almost cannot miss. New mixed-use town centers in the suburbs are also one of the hottest development trends."

3 See Kelbaugh, Doug ed. *The Pedestrian Pocket Book*. Princeton Architectural Press (New York) 1989.

4 See Beatley, Timothy. *Green Urbanism: Learning from European Cities*. Island Press (Washington, DC) 2000.

5 See Georgopoulos, Diane et al. *Livable Communities*. American Institute of Architects (Washington DC) 2005 pp. 54-55. The AIA defines the following Ten Principles for Livable Communities: 1) Design in a Human Scale, 2) Provide Choices, 3) Encourage Mixed-Use Development, 4) Preserve Urban Centers, 5) Vary Transportation Options, 6) Build Vibrant Public Spaces, 7) Create a Neighborhood, 8) Protect Environmental Resources, 9) Conserve Landscapes, and 10) Design Matters.

6 The following four books were especially helpful on the subject of TOD and Transit Villages:

Calthorpe, Peter. *The Next American Metropolis: Ecology, Community, and the American Dream*. Princeton Architectural Press (New York) 1993.

Dittmar, Hank & Gloria Ohland eds. *The New Transit Town: Best Practices in Transit-Oriented Development*. Island Press (Washington, D.C.) 2004.

Sendich, Emina graphics ed. *Planning and Urban Design Standards*. John Wiley & Sons, Inc. (Hoboken, N.J.) 2006.

Watson, Donald, Alan Plattus and Robert Shibley. *Time-Saver Standards for Urban Design*. McGraw-Hill (New York) 2003.

7 The source of documentation for all housing precedents may be found in a remarkable new compendium by Eric Firley and Caroline Stahl entitled *The Urban Housing Handbook*. Wiley and Sons (Hoboken, NJ) 2009. As self-described, "the handbook provides graphic representations and analysis of 30 urban case studies from around the world. These range from the London town house to apartments in Chicago and New York, taking in other European, South American, North African, and Asian examples. In each chapter, a housing type is fully explored through a traditional case study and then a more modern example that demonstrates how it has been reinterpreted in a contemporary context."

8 See Lucan, Jacques. *OMA – Rem Koolhaas Architecture 1970-1990*. Princeton Architectural Press (New York) 1991 pp. 76-85.

9 Quoting from Duany, Andreas and Jeff Speck with Mike Lydon. *The Smart Growth Manual*. McGraw-Hill (New York) 2010 p. 2.1: "Championed by the National Lands Trust, the Greenprint is a method for mapping an area's natural resources to guide growth. As described in the publication *Growing Greener*, the Community Resource Inventory lists nine elements to be mapped: 1) Wetlands and their buffers, 2) Floodways and floodplains, 3) Moderate and steep slopes, 4) Aquifer recharge areas, 5) Woodlands, 6) Productive farmlands, 7) Significant wildlife habitats, 8) Historic, archeological, and cultural features, and 9) Scenic viewshed from public roads. Unlike the Rural Preserve... the Greenprint does not have the force of law, but it has value as an ideal to be considered in planning decisions.

10 Tax Increment Financing, or TIF, is a public-private financing technique to enable redevelopment and community improvement projects, employed for over 50 years in the United States. When new development is proposed, higher future property tax revenues are generally anticipated. This difference, called the tax increment, can be captured within designated redevelopment areas under this financing technique, and utilized to pay for initial infrastructure and other front-end development costs that enable a project to become viable which otherwise would not be feasible. Such costs can include land acquisition, parking facilities, and streetscape improvements.

11 Location Efficient Mortgages, or LEMs, are mortgages available to households whose locations require lower transportation costs. LEMs can enable households to purchase more expensive homes than they might otherwise.

12 Internal Rate of Return (IRR) on a project is the annualized effective compounded return rate, or discount rate, that makes the net present value of cash flows equal to zero. Internal rates of return are used to evaluate the profitability of projects, with the higher its IRR, the more attractive the project.

13 Leinberger, Christopher B. "Turning Around Downtown: Twelve Steps to Revitalization." *The Brookings Institution Metropolitan Policy Program Research Brief* (Washington, DC) 2005 p. 2: "These divergent models of urban and suburban development also have very different financial structures. Convention suburban development, based upon standards, national formulas

and car-friendly access and parking, financially performs well in the short term but peaks in years 7 through 10. It is built cheaply to help drive the required early financial returns; besides, anything new looks reasonably good. Investors are not willing to commit to a specific site for the long-term since sprawl may take demand further out in less than a decade anyway. And so, in essence, they build disposable developments.

Downtown development exhibits the opposite pattern. Among many factors, including constrained sites and underground work, the construction budget downtown is also generally much higher because people are walking past the buildings in close proximity. In the suburbs, you drive past the buildings at 35 miles or more per hour and they are set back from the street by 100 feet or more, allowing cheaply built structures to suffice. However, the higher construction costs downtown mean that financial returns are reduced in the early years. There will be much better financial returns for a downtown asset, however, if the developer and investor hold the building for the mid- to long-term. This occurs because, in a revitalizing downtown, other developers and investors will build new projects within walking distance. This increases the excitement on the street, pushing up rents, sales prices, and property values of existing property owners, even if the owners have done little more than maintain their properties. As the more is better *upward spiral* of value creation takes place, the mid- to long-term holders of property are ultimately rewarded much more than suburban property owners..."

14 As a general critique of TOD, consider the conclusions summed up by urban economists Dena Belzer and Gerald Autler, with Hank Dittmar, in *The New Transit Town: Best Practices in Transit-Oriented Development*. Island Press (Washington D.C.) 2004 pp. 89-90. Namely,

--There is no clear definition of TOD or agreement on desired outcomes, and hence no way of ensuring that a project delivers these outcomes.

--There are no standards or systems to help the actors involved in the development process bring successful transit-oriented projects into existence. Without standards and systems, successful TOD is the result of clever exceptionalism, and beyond the reach of most communities or developers.

--Transit-oriented development requires the participation of many actors and occurs in a fragmented regulatory environment, adding complexity, time, uncertainty, risk, and cost to projects.

--Although transit adds accessibility and value to a place, transit alone is insufficient to drive real estate markets. When other market forces are not present, special actions are needed to ensure that projects to achieve regional land use or housing goals go forward." They summarize "Without a concerted effort to develop standards and definitions, to create products and delivery systems, and to provide research support, technical assistance, and access to capital, TOD will remain just a promising idea."