Mixed-Use Development in Theory and Practice: Learning from Atlanta’s Mixed Experiences

Joshua D. Herndon
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Dr. William Drummond
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1 Introduction

Over the past several decades, mixed-use development has taken center stage in the urban planning and real estate development worlds. Whether it is the Congress for the New Urbanism, Smart Growth, the Compact City, or any other movement relating to the improvement of the built environment, mixing land uses is a ubiquitous component of the underlying visions and ideals. Moreover, the concept is being embraced by both the public and private sectors, and by each of the major parties involved in the real estate development process: the end users who demand space; the developers, investors, and financial institutions that supply space; and the planners and policy makers that regulate space.

The reasons for the resurgence of mixed-use development are many. Among other things, traffic congestion, increasing gasoline prices, changing consumer demographics, and a longing for the sense of place and community that too many American cities lack, are all likely contributing factors. In addition, city planners are embracing the idea of mixing uses because of its potential to reduce automobile dependence, support public transit, combat sprawl, preserve open space, promote economic development, and limit the expense of providing and maintaining infrastructure in low density environments. Furthermore, developers have increasingly proposed mixed-use developments to adapt projects to infill locations, gain access to greater densities, respond to changing consumer demands, and capitalize on the synergies created by the integration of complementary uses (Rabianski, 2009).

However, despite the widespread support that mixed-use development has recently garnered, its acceptance is not universal. Many people, especially residents of
suburban areas, see the reemergence of mixed land uses as a threat to their communities and believe that “greater density in suburban areas threatens [their] social and economic attractiveness” (Kotkin, 2010). Consequently, an interesting situation has arisen in which mixed-use development is simultaneously seen by some as a panacea for the problems facing American cities and by others as a direct assault on the American dream.

Sorting the fact from the fiction and developing an in-depth understanding of both the possibilities and the limits of mixed-use development are essential if the positive aspects of the concept are to be maximized. Doing so requires the following questions to be considered: How has the arrangement of land uses changed over time? What are the necessary characteristics of a mixed-use development? What are the different ways of conceptualizing mixed-use projects? What are the goals of mixed-use development? What are the unique challenges associated with mixed-use projects? And what are the primary lessons should be learned from our experiences with mixed-use development to date?
2 Mixed-Use in Context

The mixing of land uses has been a ubiquitous characteristic of cities and urban areas since the dawn of human civilization. Historically, the spaces required to house the essential functions of the built environment, including places to reside, socialize, and produce and distribute goods and services, were tightly intermingled because walking was the primary means of transportation (Morris, 1994). Consequently, the distances that people were able to travel on a daily basis were limited to what could reasonably be traversed on foot in the small amount of time that was available between sleeping and working. This limited both the overall size of the city and the amount of space that was available for each necessary function. In fact, a large portion of residents lived in structures that also served as their place of work, making and selling things from small shops integrated into their dwelling units. Moreover, prior to the early 19th century, almost every urban area in the world shared the following set of attributes: the primary means of transportation was walking; uses were mixed both throughout the city and within individual buildings; the population density curve was very steep, with high densities in the cities and low densities in the surrounding areas; and there was a clear, physical distinction between city and country (Jackson, 1985).

The industrial revolution, however, brought about a fundamental shift in development patterns that realigned the structure of the built environment and, especially in the United States, eroded the set of common principles that historically structured urban form. This transformation was spurred primarily by five factors: industrialization, urbanization, advances in transportation, zoning ordinances, and the rise of an affluent middle class.
Industrialization

The process of industrialization transformed America from a society based predominately on agricultural to one based on the manufacturing of goods and services. Technological advances dramatically increased the productivity of individual farm laborers, and mechanization, along with the division of labor, created industrial synergies in the mass production of goods. This had three significant implications for the built environment: first, small artisan shops were replaced with large factories that were able to take advantage of economies of scale; second, live/work dwellings were supplanted by tenements which were required to house the deluge of workers that poured into cities from rural areas; third, the rise of industrial capitalism and growth of corporate bureaucracies created the need for large amounts of clustered office space. Thus, for the first time, functions that were previously integrated into single structures were being compartmentalized into individual buildings and districts (Jackson, 1985; Mumford, 1961).

Urbanization

With farm laborers increasingly being replaced by technological advances in agricultural machinery, workers from rural areas began migrating en masse to cities with the hopes of finding employment in the factories. As urban populations swelled, cities were forced to grow both horizontally and vertically; horizontal growth being facilitated by increased agricultural output which decreased the amount of farmland that was needed around the city to feed its inhabitants, and vertical growth being facilitated by advances in building construction, such as steel and elevators, which
enabled buildings to reach heights never seen before. However, the corresponding increases in population density overwhelmed most municipalities’ inadequate sanitation infrastructure and cities became synonymous with congestion, filth, and disease. Furthermore, these horrendous urban conditions were exacerbated by the noise, pollution, and noxious odors that emanated from the multitude of factories scattered throughout most cities. As a consequence, perceptions of urban areas deteriorated and the traditional principles of urban form, such as high densities and mixed uses, developed negative connotations (Jackson, 1985; Mumford, 1961).

Transportation

The growing desires of city inhabitants to escape the dismal conditions surrounding them were met by a series of advances in transportation technology that served to stretch the urban fabric horizontally and began to blur the traditional distinction between urban and rural areas. These advances can be grouped into two key stages. The first was the advent of mass transportation options such as the street car. Street cars increased the distances that people could reasonably travel between their residence and their place of employment, and facilitated the development of neighborhoods on the outskirts of the city. The second, and far more powerful development, was the rise of the automobile. The introduction and acceptance of automobiles that were affordable for the average working class family allowed people to access widely dispersed uses in the same amount of time it previously took them to walk a few blocks down the street. Consequently, automobiles shattered the
constraints that the human stride had placed on the urban fabric and fundamentally altered the horizontal scale of the built environment (Jackson, 1985).

Zoning

The escalating pollution levels, safety hazards, and public health concerns that plagued industrial cities at the turn of the 19th century were addressed throughout the United States with the enactment of zoning ordinances. The intent of the regulations was to separate land uses that were deemed incompatible for the purposes of protecting the public’s health, safety, morals, and general welfare. The practice was substantiated by the Supreme Court’s landmark 1926 decision in Village of Euclid v. Ambler Realty Co., to uphold the practice (Mandelker, 2008). Thus, through the compartmentalization of land uses into like functions, residential districts were separated from the noise and pollution of industry and detached from the hustle and bustle of commerce. Consequently, while in the past, specialized districts naturally evolved within cities due to economies of agglomeration, for the first time in history, cities were purposely divided into enclaves of uses completely segregated from each another. Even though there were undeniable public health benefits that initially arose from the implementation of these land use regulations, the rigidity of Euclidian zoning ordinances essentially outlawed mixed-use development and had far reaching implications on the structure of built environment (Grant, 2007).
Affluence

The sustained increases in production that occurred as a result of the industrial revolution brought about a significant rise in average incomes and allowed Western societies to break free from the Malthusian trap that, up until that point in history, had always constrained economic growth. The subsequent rise of the middle class, combined with advances in transportation technology and government policies aimed at increasing homeownership, allowed a growing number of households to live in larger, detached homes that were far removed from the central city. The bigger homes on large, suburban lots further encouraged the advancement of horizontal, segregated growth and radically flattened the population density curve (Bruegmann, 2005).

The effects that these changes had on the built environment were dramatic. As a consequence, the characteristics that describe most American cities today are essentially the antithesis of the pre-industrial city: the primary means of transportation is the automobile; uses are segregated into districts of like functions and are rarely mixed within buildings; the population density curve is flat in most places, with low densities spread throughout sprawling metropolises; and there is rarely a clear distinction between city and country. Unfortunately, in hindsight, planners, developers, and policy makers, are beginning to realize that the negative outcomes of this new urban structure far outweigh the benefits. And while few people would choose to return to city-life prior to or during the Industrial Revolution, there is a growing movement aimed at reinstating the principles of urban form that were common to pre-industrial cities.
The reasons for the re-emergence of these traditional urban principles are many and include a multitude of environmental, social, and economic factors. In addition, advances in infrastructural technology have addressed the sanitation issues that once made dense, mixed-use, walkable, pedestrian oriented places unsanitary. Furthermore, the sanitation and public health concerns that were the original catalyst for abandoning the historic principles of urban form, have now been replaced by a whole new set of problems. In the late 19th and early 20th centuries the leading cause of death was infectious disease and, therefore, justified the focus on separating incompatible uses and reducing population densities. However, the leading cause of death has now shifted to chronic disease, which includes obesity, heart disease, diabetes, and asthma, and thus has spawned a new call to action. Consequently, planners and public health experts are beginning to work together to develop a broader understanding of how the built environment influences public health and to make decisions that are more supportive of true healthy living (Dannenberg, 2007).

A key component of this “new” way of approaching urbanism is mixed-use development. However, the modern concept of mixed-use development is quite different from the historical model because it is placed within the context of euclidian zoning ordinances. Therefore, while in the past, the entire city was a mixed-use district, modern mixed-use districts are merely single tiles within a mosaic of mostly single-use zoning classifications. Additionally, unlike the mixed-use urban environments of the past, which evolved gradually over long periods of time as many different builders made incremental additions to the city, modern mixed-use projects are most often developed over a relatively short period of time by a single developer in conformance
with a master plan (Schwanke, 2003). These differences between the historic and modern applications of mixed-use development are important to consider when comparing the theory and practice of the concept.
3 Mixed-Use in Theory

The shift away from the segregation of land uses and back toward the integration of them has established mixed-use development as an important paradigm in the planning and development worlds. In fact, many people actually view it as a panacea for the problems confronting our fragmented urban areas (Grant, 2002; Coupland, 1997). Consequently, mixed-use projects have been developed across the country in both urban and suburban areas and in a variety of different configurations. The ubiquity of the concept and variety of the product, however, has led to a lack of clarity regarding both what mixed-use development is and what it’s goals should be. Demystifying the concept and distilling a common theoretical framework that informs the practice of mixed-use development requires an understanding of both its core components and the strategic goals of the theory behind the concept. The construction of such a framework requires three basic questions to be addressed: What is mixed-use development? How is it conceptualized? And what is its purpose?

Defining Mixed-Use Development

Mixed-use development at first seems like a relatively straightforward concept. Intuitively, it suggests real estate development that combines more than one land use. However, further scrutiny reveals that the term’s apparent simplicity masks a tremendous amount of underlying complexity. Does the word “mixed” imply a certain level of integration or degree of compatibility among uses? Does the manner in which the different uses are combined, i.e. vertically in a single building or horizontally in multiple buildings on a single site, matter? Does the geographic scale of a project
matter? Is a certain intensity of uses required for a project to be considered mixed-use? These are all questions that must be answered if the concept is to be consistently understood and advanced.

While the term frequently appears in the planning and real estate literature, the definition of mixed-use development is rarely elaborated upon. This seems to imply that there is little variation among the definitions that exist and, moreover, that the definitions that do exist are widely agreed upon. However, a thorough review of the literature contradicts this assumption, with several authors addressing the lack of clarity surrounding the topic: “The terms ‘mixed use’ or ‘mixed use development’ are widely used, but seldom defined” (Coupland, 1997); “Mixed-use development is an ambiguous, multi-faceted concept” (Rowley, 1996); “The term mixed-use development has frequently appeared in the planning literature...however this term is hardly defined” (Hoppenbrouwer, 2005); “The definition of mixed-use is not as precise as for a single property type” (Rabianski, 2009); “Although the term appears frequently in the planning literature it is rarely defined” (Grant, 2002).

The ambiguity surrounding what does and does not constitute mixed-use development most likely arises from the competing perspectives of the parties involved in the debate. Developers view the concept from the project level and often consider any development which contains more than one use as a mixed-use project. Planners typically have a larger frame of reference, but seem to care less about the details of the definition and more about the intent behind the concept. Experts and academics push for a more specific definition both for research purposes and also with the goal of reducing the chances of the concept being tarnished by failed projects which don’t
actually embody the key principles of mixed-use development (Popovec, 2006).

However, while all this disagreement would suggest that a plethora of definitions have been developed, that is not the case. There are actually only two definitions that are consistently referenced in the literature, but the similarities and differences between the two highlight the broader areas of agreement and ambiguity. The first definition was developed by the Urban Land Institute (ULI) and the other was recently derived from the results of a cross-organizational survey conducted by several real estate industry groups.

**ULI’s Definition**

The definition espoused by ULI is probably the most prevalent definition of the term. In 1976, ULI was the first organization to address the concept in-depth with the publication of their first book on the topic entitled *Mixed-Use Developments: New Ways of Land Use*, and while the concept has evolved over the years, their original definition has essentially remained in tact. Currently, the second edition of their *Mixed-Use Development Handbook* characterizes mixed-use development as consisting of:

- three or more significant revenue-producing uses (such as retail/entertainment, office, residential, hotel, and/or civic/cultural/recreation) that in well planned projects are mutually supporting;
- significant physical and functional integration of project components (and thus a relatively close-knit and intensive use of land), including uninterrupted pedestrian connections; and
• development in conformance with a coherent plan (that frequently stipulates
  the type and scale of uses, permitted densities, and related items) (Schwanke,
  2003).

In addition, ULI makes a point of distinguishing between mixed-use
development and what it refers to as “multi-use” development. While both concepts
include a variety of uses, multi-use development lacks the integration, density, and
compatibility of land uses required to create a walkable community with uninterrupted
pedestrian connections between the various project components. Additionally, ULI
specifies that mixed-use must include at least three integrated uses and each of them
must be substantial enough to attract a significant market in their own right; which
excludes uses that simply serve as amenities for a primary use (Schwanke, 2003).
Thus, projects that contain several uses but lack pedestrian connectivity, such as
master planned communities in the suburbs that require an automobile to traverse, do
not meet their requirements for mixed-use. The same is true for two-use projects, such
as multi-story residential projects in urban areas with a relatively small amount of
ground-level retail space.

Industry Survey Definition

The other definition commonly referenced in the literature is the product of a
cross-organizational survey done in the fall of 2006 by the International Council of
Shopping Centers (ICSC), the National Association of Industrial and Office Properties
(NAIOP), the Building Owners and Managers Association International (BOMA), and the
National Multi Housing Council (NMHC). The purpose of the survey was to identify the fundamental characteristics of mixed-use development and the results were synthesized to produce the following definition:

A mixed-use development is a real estate project with planned integration of some combination of retail, office, residential, hotel, recreation or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment. It maximizes space usage, has amenities and architectural expression and tends to mitigate traffic and sprawl (Niemira, 2007).

Thus, if this definition is overlaid upon the ULI definition, the primary areas of ambiguity regarding the required characteristics of mixed use become apparent. For example, a major discrepancy between the two definitions is the minimum number of uses required to be considered mixed-use; the ULI definition designates three, while the industry definition implies only two. This discrepancy is representative of the larger debate regarding whether a development that contains only two uses, but which meets the other core requirements qualifies as mixed-use or if it is simply multi-use (Hoppenbrouwer, 2005; Popovec, 2006). Additionally, the components included in the industry definition, but excluded from ULI’s, such as architectural expression, traffic mitigation, and sprawl reduction, emphasize the blurry boundary between the necessary components of mixed-use development and the potential characteristics or effects of individual mixed-use projects.
While overlaying the definitions upon one another highlights the uncertainties, it also illuminates the components of mixed-use development that are generally agreed upon. First, the project must consist of multiple uses that are physically and functionally integrated and which are substantial enough to attract their own markets. Second, the project must maximize space through intensive land use and be oriented toward the pedestrian. Third, each component of the project must conform to an overarching, coherent plan. These three principles make up the core of the consensus regarding mixed-use development and distinguish it from both single-use and multi-use development.

**Conceptualizing Mixed-Use Development**

Once the core principles are established, the next step in understanding what mixed-use development is, is conceptualizing the variety of ways that mixed-use projects can be manifested in physical space. This requires the consideration of factors such as the function of the individual land uses, the manner in which multiple uses can be combined, and the scale at which a mixing of uses can occur. However, just as defining mixed-use development has provoked debate, so has the conceptualization of it. Likewise, there are two conceptual models which are consistently referenced in the literature. The first typology was developed by Alan Rowley (1996) and the second was created by Eric Hoppenbrouwer and Erik Louw (2005) in an effort to expand upon Rowley’s ideas.
Rowley’s Typology

The conceptual model of mixed-use development created by Alan Rowley (1996) is based on the view that mixed-used development is essentially an aspect of the internal texture of settlements. This model focuses on mixed-use in the horizontal dimension, or between adjacent buildings, and proposes that the physical form of mixed-use development is a function of urban texture, setting, and location. Rowley proposes that the urban texture of a settlement is the product of three things: grain, density, and permeability.

The grain of a settlement refers to the manner in which the various elements of a settlement are mixed together in space. A fine grain refers to a settlement where like elements are widely dispersed among unlike elements and a course grain denotes settlements where extensive areas of one element are separated from extensive areas of another element. Moreover, an abrupt transition from a cluster of like elements to unlike elements is referred to as a sharp grain and a gradual transition is referred to as a blurred grain (Hoppenbrouwer, 2005).

Density refers to the amount of space or number of units contained within a certain area and is a measure of the intensity of land uses. Permeability refers to the number of possible routes a pedestrian has to choose from as he/she moves through a given area. This is a function of the layout of the roads, the corresponding size and shape of the blocks, and the placement and design of the buildings and public spaces within each block. In addition to urban texture, Rowley also inserts setting or spatial scale into his model, making distinctions between buildings, blocks, streets and districts. Moreover, he distinguishes between four types of locations where mixed-use
development can occur: (1) city or town centers comprising the commercial and civic core of towns and cities; (2) inner-city areas on sites comprising derelict, vacant or built-up land needing regeneration; (3) suburban or edge-of-town locations; and (4) greenfield sites out past the urban fringe.

Furthermore, Rowley (1996) includes three other components in his conceptual model. First, he points out that public policy and regulations, property markets, and cultural ideas and values are external factors that influence the form of mixed-use development. Second, he recognizes that activities and land uses within mixed-use projects generate different degrees of vitality, a characteristic he refers to as the transactional quality of a use. Lastly, Rowley acknowledges an important time dimension because different uses produce activity on varying time schedules and any one facility can be shared by multiple users over any given time period. The result of the complex interactions of these variables is what he terms a “mixed-use situation.”

However, Rowley’s model focuses solely on the horizontal dimension and, while he acknowledges the time dimension in his paper, it is not adequately incorporated into his model. Hoppenbrouwer and Louw (2005) recognize the need to consider the vertical dimension, as well as a mix of uses within a single structure and different uses of a space over some period of time. Consequently, their typology expands upon Rowley’s and integrates the components in a more systematic way (Rabianski, 2009).

Hoppenbrouwer and Louw’s Typology

Hoppenbrouwer and Louw’s (2005) model is developed from a spatial perspective and is organized by function, dimension, scale, and urban texture. The
Figure 1: Rowley’s Mixed-Use Model

Source: Rowley, 1996
function component of mixed-use development refers to the individual land uses that are being mixed, and while their typology utilizes housing (residential) and working (office) for the sake of simplicity, the model is flexible enough to be extended to any other combination of uses. The dimension component is composed of four elements: (1) the shared premise dimension, (2) the horizontal dimension, (3) the vertical dimension and (4) the time dimension. In addition, just as in Rowley’s model, a scale component is included in the typology; however, the method of subdivision is different, with Hoppenbrouwer and Louw’s scale component being broken down into the building, block, district, and city levels. Moreover, urban texture was carried over from Rowley’s model, but instead of grain, density, and permeability, their model is made up of grain, density and the interweaving of functions.

Hoppenbrouwer and Louw (2005) also point out that the inclusion of other components in addition to function, dimension, scale, and texture, such as location (town center, suburban, greenfield, etc.) or employment and housing types, might be helpful in conceptualizing mixed use development. Moreover, they recognize that formulations of mixed-use development are insufficient in terms of urban design alone; that “it also comprises other non-design features such as the urban experience, the nature of uses, definitions of public and private, conflict and security” (Hoppenbrouwer, 2006). However, they felt that such formulations could continue ad nauseam and would only serve to over complicate the model. Likewise, they reference Kevin Lynch in Good City Form when he articulates, “a good environment is a place which affords obvious and easy access to a moderate variety of people, goods, and settings…this variety can be expanded if a person wishes to expand further energy, [but it’s] an explorable world,
Figure 2: Hoppenbrouwer and Louw's Mixed-Use Model

Source: Hoppenbrouwer, 2005
whose vast diversities can be sought out or ignored at will” (Lynch, 2000, p. 192).

In sum, mixed-use development is far from a standardized product form (Rabianski, 2007). It can differ by the nature and combination of uses, the dimension in which the uses are being mixed, the scale at which the mix of uses is occurring, and the urban texture that is created both within the development and throughout the surrounding area. Moreover, there are a variety of other factors that influence the conceptualization of mixed-use development and, consequently, there are a near infinite amount of possible mixed-use configurations and characteristics. However, it is this lack of monotony that distinguish mixed-use developments from other product types.

**Purpose of Mixed-Use Development**

Determining what the purpose of mixed-use development is not nearly as difficult as defining or conceptualizing it, but the process is still more complicated than for other types of real estate development. After all, the same question is not asked of the traditional development products: residential development serves the purpose of providing housing for the residents of a given area; office development serves the purpose of providing space for administrative, clerical, professional, and a variety of other business activities; and retail development serves the purpose of providing space for the showcasing and sale of goods and services to consumers. More specifically, each traditional real estate product provides space for an individual and necessary function of modern day society. The same can not be said for mixed-use development.
Instead, mixed-use development is a strategy for arranging the physical space that is required for society to function. Moreover, the modern conception of mixed-use is predicated on the practice of segregating land uses through Euclidian zoning policies, which have contributed to undesirable growth patterns characterized by the following:

- Unlimited outward and "leapfrog" expansion of low-density new development;
- Large-scale development of open space and environmentally sensitive lands;
- Ever worsening traffic congestion and air quality caused by intensive automobile use;
- Costly requirements to expand roads, sewers, water systems, and other infrastructures outward, rather than utilize and upgrade the networks that are already in place;
- Isolated neighborhoods and communities which lack vibrancy and a sense of place;
- Inadequate public transportation and a lack of other public amenities (Downs, 2005).

Thus, the primary goals of mixed-use development revolve around the desire to alter the current patterns of urban growth and rectify the detrimental effects that Euclidian zoning and sprawl have had on urban areas. Furthermore, it “forms part of a strategy for sustainable development as well as a theory of good urban form, with the objectives of economic vitality, social equity, and environmental quality” (Grant, 2002).
The specific ways in which mixed-use development advances these goals can be distilled from a sampling of the various books, articles, and zoning codes that elaborate on the benefits of integrating land uses.

In his book *Reclaiming the City: Mixed Use Development*, Andy Coupland (1997) quotes John Gummer, the former U.K. Secretary of State for the Environment, who explained why the U.K. government was increasingly supporting mixed-use development as follows:

The emerging consensus is that development is more sustainable if it produces a mixture of uses. Segregation of land uses, encouraged in the past, is not relevant now. The trend back to mixed usage brings a number of potential benefits. It ensures vitality through activity and diversity. It makes areas safer. It also reduces the need to travel, making people less reliant on cars, bringing welcome environmental benefits. Diversity of uses adds to the vitality and interest of town centers. Different but complementary uses, during the day and in the evening can reinforce each other, making town centers more attractive to residents, businesses, shoppers and visitors (DoE, 1995a).

Coupland (1997), and subsequently Hoppenbrouwer and Louw (2005), also cite the following diagram that was created by the UK Department of the Environment (DoE, 1995b) to illustrate the benefits of mixed-use development:
In addition, Hoppenbrouwer and Louw (2005) reference the following passage from the New Charter of Athens, which was developed by the European Council of Spatial Planners (ECSP):

The principle of mixed use should be promoted, especially in city centers, so as to introduce more variety and vitality into [the] urban fabric. Housing and work
areas, as well as other compatible uses, should be closely related in time and space so as to reduce the need to travel, conserve energy and reduce pollution (ECSP, 2008).

Furthermore, the City of Atlanta (2002) cites the following reasons, among others, for the implementation of its Mixed Residential Commercial (MRC) Zoning District:

The city finds there is a need...to preserve and restore existing, traditional and pedestrian scale buildings in established, historic neighborhood districts, as well as create new pedestrian oriented commercial nodes...to encourage a balanced mix of uses to include proportionately significant residential uses and to facilitate safe, attractive and convenient pedestrian circulation...to improve air quality by promoting walking and reducing the number of vehicular trips...[and] to establish adequate parking requirements by encouraging shared parking arrangements.

Lastly, and perhaps most comprehensively, the Smart Growth Network (2011) includes mixed-use development as one of its ten principles for smart growth, and summarizes the relationship between smart growth and mixed land uses as follows:

Smart growth supports the integration of mixed land uses into communities as a critical component of achieving better places to live. By putting uses in close
proximity to one another, alternatives to driving, such as walking or biking, once again become viable. Mixed land uses also provide a more diverse and sizable population and commercial base for supporting viable public transit. It can enhance the vitality and perceived security of an area by increasing the number and attitude of people on the street. It helps streets, public spaces, and pedestrian-oriented retail again become places where people meet, attracting pedestrians back onto the street and helping to revitalize community life.

Mixed land uses can [also] convey substantial fiscal and economic benefits. Commercial uses in close proximity to residential areas are often reflected in higher property values, and therefore help raise local tax receipts. Businesses recognize the benefits associated with areas able to attract more people, as there is increased economic activity when there are more people in an area to shop. In today’s service economy, communities find that by mixing land uses, they make their neighborhoods attractive to workers who increasingly balance quality of life criteria with salary to determine where they will settle.

Clearly there are a variety of reasons being asserted for why mixed-use development is essential to the revitalization of urban environments. The benefits run the gamut from restoring neighborhood vibrancy to improving air quality, and reducing chronic disease to increasing economic activity (Grant, 2002). However, Coupland (1997) points out that “while some of the advantages of mixed-use can be accepted as absolute, others may or may not be true in certain circumstances.” Therefore, since it is
not certain that all of the benefits associated with mixed-use development are
guaranteed to occur, it is important to distinguish between the guaranteed and
potential benefits of mixing land uses.

Assuming that the space for each individual use is occupied, the effects of
mixed-use development on a given area which are guaranteed to occur include
accessibility to a greater diversity of uses, higher densities of people and space, and
longer periods of pedestrian activity throughout the day. Each of these effects is
typically perceived to be a benefit for urban areas, and together they provide the
foundation needed for all the other proposed benefits to arise; however, by themselves
they can not guarantee that they will. Furthermore, these benefits only extend to the
periphery of each individual mixed-use development. Thus, for the desired large scale
changes to occur, in addition to uses being integrated within individual projects, mixed-
use developments must be integrated both with their surrounding areas and with each
other.

The benefits of mixed-use development which are not guaranteed to occur
include safer, vibrant neighborhoods, less traffic, reduced air pollution, improved public
health, and increased economic activity, among many other things. While each of these
is certainly a possible benefit of mixed-use development, they can not be assured
because each is reliant upon factors external to the mere presence of a mixed-use
development. For example, having numerous uses within a close distance creates a
situation where it is reasonable for people to walk or ride a bicycle to their desired
destination. This reduces people’s need to rely solely on their automobiles for
transportation, and assuming that they choose to take advantage of that opportunity,
has the ability to reduce the amount of cars on the road. Fewer automobiles on the road will likely lead to less traffic congestion and lower volumes of air pollutants entering the atmosphere. This in turn has the potential to improve air quality and benefit public health. However, each of these benefits is predicated on three external factors: first, the uses within the mixed-use development must align with the needs of the people residing in and around it; second, the people must actually decide to walk or bike to their destination instead of drive; and third, the amount of people driving to the development from other areas must not negate the benefits created by the residents of the development choosing to walk.

Likewise, each of the other possible benefits is dependent upon a wide range of variables that can not be planned for or predicted. Consequently, besides the direct effects that mixed-use development has on the built environment, the benefits can not be automatically assumed. Rowley (1996) summarizes this point by asserting that “mixed land use and development is being officially promoted as essential to the creation and maintenance of attractive, livable and sustainable urban environments. However, mixed-use development should not be seen as an automatic panacea: for example, it cannot be divorced from cultural priorities and lifestyles.”

In sum, it is important to realize that mixed-use development alone can not solve all of society’s problems, but it certainly is a tool that can be used to help create and sustain better urban environments (Hoppenbrouwer, 2005). Jane Jacobs, whose work is cited by many as a key reason for the resurgence of mixed-use development over the past few decades (Grant, 2002; Hoppenbrouwer, 2005; Rabianski, 2009; Rowley,
1996), identifies four indispensable conditions that great urban environments must possess. Her preconditions are:

1. The district, and indeed as many of its internal parts as possible, must serve more than one primary function; preferably more than two. These must ensure the presence of people who go outdoors on different schedules and are in the place for different purposes, but who are able to use many facilities in common.

2. Most blocks must be short; that is, streets and opportunities to turn corners must be frequent.

3. The district must mingle buildings that vary in age and condition, including a good proportion of old ones so that they vary in the economic yield that they produce. This mingling must be fairly close grained.

4. There must be a sufficiently dense concentration of people, for whatever purposes they may be there. This includes dense concentration in the case of people who are there because of residence. (Jacobs, 1961, pp. 150-51)

Taking Jacob’s criteria into consideration, it is clear that mixed-use development plays a pivotal role in the emergence of quality urban areas. It is also clear that there are other factors besides a mixture of uses which interact to bring life and character to urban areas. In the end, however, there are few things as important to a healthy urban area as having a wide variety of uses drawing a wide variety of people at a wide variety of times throughout the day.
4 Mixed-Use in Practice

In theory, there are many upsides to mixed-use development. However, in practice, the system of land use regulations, construction guidelines, financial underwriting standards, and various other processes that govern real estate development are still tailored to the single-use real estate products that dominated the past half century. As a result, mixed-use projects present developers with increased complexity and risk at every stage of the development process. Whether it is the planning, entitlement, design, financing, construction, or operation of a mixed-use project, understanding where the obstacles lie and how to overcome them is essential for a successful development.

Planning

All development projects, regardless of whether or not they are mixed-use, begin with an idea. The same is true for both successful projects and failures. The planning process is what takes that rough idea, hones it into something that can actually become a reality, and hopefully, if done properly, sets the project up for success. While the planning process is ubiquitous to all real estate development, it is much more complex and much less forgiving for mixed-use projects. A successful mixed-use development requires a capable and diverse development team, a clear set of objectives, sound and thorough market analysis, an innovative development strategy, accurate financial models, and a whole lot of creativity.
**Team Selection**

An inexperienced development team is rarely capable of carrying out the complex undertaking of a mixed-use project. Even seasoned developers, designers, architects, and other real estate professionals whose experience is limited to single-use projects, have the deck stacked against them when it comes to mixed-use development. Therefore, it is imperative that the master developer assemble a diverse team that is intimately familiar with a wide variety of uses and the complex issues that arise specifically with mixed-use projects (Schwanke, 2003).

Especially during the planning and design phases, it is essential to receive input from a variety of sources, including the leasing agents, property managers, market experts, financial analysts, capital providers, marketing consultants, major tenants, development partners, construction contractors, public officials, and the surrounding community. As ULI points out:

> Each participant’s input should relate not only to a specific use or issue but also to the overall project concept and operation. This collaborative team approach can be one of the most important aspects of the planning process, because no one person is likely to have a complete understanding of the detailed design and operational issues for all the project’s uses and elements (Schwanke, 2003).

**Goal Determination**

The complex nature of mixed-use development requires that a common set of objectives be distilled and adopted by the development team at the outset of the...
project. This is often a difficult task given the inherent diversity of the team members and the differing objectives of the numerous stakeholders involved in the development process. However, to ensure that the project moves forward as expeditiously as possible, it is important that each party makes an effort to understand the other parties’ objectives and that compromises are reached. In addition, while both financial and non-financial goals need to be clearly identified, it is often more essential to the success of the project that the vision, or non-financial objectives, be explicitly stated at the beginning of the planning process (Schwanke, 2003). This ensures that the multitude of decisions that must be made over the course of the development are guided by a common set of ideals, which reduces the likelihood of the development team making noncohesive decisions.

**Market Analysis**

Conducting a comprehensive market analysis for a mixed-use project is imperative for determining the supply and demand for each project component and creating a successful development program. While these statements apply to single-use projects as well, the complexity of the analysis increases with the number of development components. This is because different geographies and market areas have to be considered for each specific on-site use. Likewise, each use must be analyzed with regard to its own supply and demand situation and should be able to attract sufficient market demand to make it financially feasible in its own right (Rabianski, 2009).
After determining if there is a sufficient market for each use, the developer should consider the potential market synergies from on-site support. ULI identifies three kinds of market synergy that can be achieved with mixed-use projects. The first type of market synergy is derived from direct on-site market support. This would include residents, office workers, and hotel guests frequenting the retail and restaurant components of the project. The second type of synergy involves the indirect benefits that the uses provide to each other as amenities. “For example, retail and hotel uses do not directly generate revenues for office tenants or residents, but they can serve as important amenities for those uses” (Schwanke, 2003). Finally, the third kind of synergy is derived from the potential of mixed-use development to create a unique sense of place and establish a new destination within the urban landscape (Schwanke, 2003). However, while the potential for market synergies should always be considered, it is unwise to depend on their impact to any large degree.

**Strategy Creation**

The creation of a viable mixed-use development strategy requires the consideration and alignment of a multitude of factors. The complexity and magnitude of this undertaking make it essential that input is received from each member of the development team. Additionally, a successful strategy often requires several alternative programs to be developed and tested against each other. Mixed-use projects typically “require several iterations until the best fit is found; the program must be marketable, feasible, and financeable, and must also be able to receive public approval. This latter
fact should not be underestimated, as the approval process can substantially affect the final program” (Schwanke, 2003).

Moreover, in addition to creating a profitable mix of uses, the development strategy must synchronize the phasing and timing of each component of the project. This requires a thorough understanding of the market for each use and also a solid familiarity with the construction process and local building regulations. Project phasing also requires close coordination with the architects and engineers because building design often affects the ability to phase the delivery of project components. For example, “if multiple uses are going to share mechanical and fire safety systems, then the entire project may need to be completed simultaneously to obtain certificates of occupancy for any portion of the project” (Kirk, 2007).

Feasibility Analysis

Evaluating the financial feasibility of a mixed-use project can be much more complex than for a single-use development. This is primarily because mixed-use projects usually involve costs and revenues that are harder to predict. While some cost efficiencies may be achieved through mixing uses, the complexity of integrating multiple uses into a single structure may raise development and operating costs. Likewise, the synergy created by placing complementary uses in close proximity to each other may increase cash flows, but poor timing on the delivery of a certain project component may lead to increased vacancy and lower rents. Moreover, the added complexity of a mixed-use development often equates to longer development timelines, which heightens uncertainty and increases risk (Rabianski, 2009). While it is
impossible to predict exactly how much costs and revenues will vary on any given project, acknowledging the greater likelihood of miscalculations and incorporating larger contingency funds into the budget is often vital to the financial success of a mixed-use project.

Additionally, it is important to perform separate financial analyses for each use and ensure that each is feasible in its own right (Schwanke, 2003). Since financial feasibility is simply when “the return on the investment meets or exceeds the required return of the developer and/or the investor” (Rabianski, 2009), each use being financially feasible does not imply that each use will perform equally well. Instead, each use just needs to meet its required return, which can vary among project components. The temptation is often to let uses that are expected to perform well make up for uses that are expected to perform poorly, but that can be dangerous if the cornerstone use doesn’t perform as expected. The key for the development team is to analyze several alternative development programs and find the concept that they feel most comfortable with from a feasibility perspective (Schwanke, 2003).

**Acquisition & Entitlement**

The process of acquiring the land and gaining the entitlements necessary for a mixed-use project can present the development team with numerous challenges. Land acquisition often involves assembling multiple, separately owned parcels in good locations. Regulatory approvals require negotiations with various governmental entities and departments. And gaining community support requires building relationships with an often skeptical public and convincing them that a mixed-use development would
have a positive impact on their neighborhood. Rombouts (2006) identifies the following strategies for overcoming these obstacles:

“Implementing an active community outreach program early; working closely with city planning and building officials; being fully informed on planning and performance of residential/retail mixed-use developments; understanding the community and its political dynamics; having project proponents actively engaged, especially on the retail side; identifying and communicating community benefits; and reaching out to and working closely with local media.”

Land Assembly

Mixed-use projects often require relatively large sites to be assembled from numerous parcels held by multiple landowners. This is especially the case in urban areas. Occasionally, a developer already owns the land and is seeking to take advantage of changing market conditions and development opportunities. Additionally, if the public sector is involved and is pushing the project, the process can be expedited because they have the ability to use condemnation proceedings if necessary, but that is usually not the case either. Typically, the developer must first target the owners of key parcels, then approach each one and attempt to diplomatically negotiate sales agreements. Since market factors determine the price of land, developers must have a good understanding of the expected costs and revenues of the proposed project and be able to negotiate a purchase price that does not compromise the financial viability of the development (Schwanke, 2003). Mixed-use developers also need to be open to
alternative acquisition strategies such entering into a land lease if the owner is unwilling to part with the land.

Regulatory Approval

In many municipalities, the approval process for mixed-use developments is often difficult, time-consuming, and fraught with uncertainty; all of which escalate the risks and costs associated with mixed-use projects. Depending on the specific city and location of the site, getting the property rezoned to allow multiple uses and higher densities can be a nightmare. Whether it is the city worried about traffic increases and impacts on infrastructure, or NIMBYism from local residents, the rezoning process for mixed-use projects is often contentious and usually requires the services of a real estate attorney (Rabianski, 2009).

Moreover, even if the project site already has the desired zoning, certain aspects of the plan may not conform to the regulations and variances may have to be sought. A common source of contention with new urbanist mixed-use projects is street widths. New urbanism advocates for narrow streets, tight turning radii, and on-street parking, but local municipalities and state DOTs are often vehemently opposed to such designs. Occasionally, if compromises can not be reached, the developer must privatize some or all of the streets, bestowing significant maintenance costs on future residents and tenants.

Furthermore, another difficult situation affecting the approval process involves high-profile projects that require approvals from various levels of government and multiple jurisdictions (Schwanke, 2003). Since the effects of large projects are likely to
ripple throughout an entire region, many mixed-use projects must be reviewed by multiple municipalities and regional bodies, adding yet another layer of complexity to the approval process.

Community Support

The time, cost, and effort required to gain community support for a mixed-use project is usually much greater than for a smaller single-use project. In order to foster and sustain a public environment conducive to project approval, the development team must gain the trust and support of the community. While there is no single solution for gaining public support, honesty and a willingness to listen and address community concerns are essential. Developers often make the mistake of trying to impose their vision on the community, but conducting neighborhood meetings and incorporating ideas and suggestions from the local residents is usually a better way of generating buy-in for the project (Rombouts, 2006). In addition, mixed-use developments usually have the potential to have a substantial impact on an area, so it is important to understand the goals of the local community and include them in the project proposal. Evaluating the contextual history and crafting development strategies that respond to an area’s built, social, and natural environments conveys to the public that their interests are being considered.

Design

Mixed-use developments are often confronted with unique design challenges that go far beyond the architectural and engineering concerns of typical single-use real
estate projects. Moreover, managing a design process that often involves several
different designers for each individual project component, in addition to receiving input
from local municipalities, community groups, building operators and a variety of other
sources, is a formidable task (Schwanke, 2003). Parking, public spaces and
streetscapes, the integration and interrelationship of elements, pedestrian circulation
and connectivity, and creating a sense of place are just a few of the design elements
that are crucial to the success of a mixed-use project.

*Parking Program*

Parking is a crucial component of most mixed-use developments and can have
a significant impact on the project’s aesthetics, operational efficiency, and overall
success. As ULI points out, “form follows parking” and incorporating large amounts of
parking into an attractive and functional mixed-use project is a major design challenge
(Schwanke, 2003). In addition, accommodating the parking needs of each of the
different uses can be difficult. Residents want secure parking that is separate from the
commercial uses; hotels want spaces that are dedicated to the valet; office users
wants individual reserved spaces; and retailers want free and abundant parking that is
close to store entrances. Moreover, estimating the total demand for parking is much
more complex for mixed-use projects given the different activity cycles for each use.
However, shared parking is often an option that can be both financially and logistically
appealing if designed properly (Rombouts, 2006). To be successful, the parking
program for mixed-use developments cannot be overlooked and must be given the
same amount of thought and attention as the rest of the project.
Public Space

While single-use developments occasionally incorporate a public space component, the nature of mixed-use projects, including the number of functions, scale of buildings, and size of budgets, make it possible to create and justify a larger, more substantial public realm. Whether the public spaces consist of urban plazas, squares, town greens, parks, gardens, promenades, courtyards, or streetscapes, designing an attractive and engaging public realm is often vital to the success of a mixed-use development. The reason for the increased importance of the public realm in mixed-use projects is its ability to shape the interrelationship of uses within the project, solidify the development’s incorporation into the surrounding area, and amplify the visual connections between spaces (Schwanke, 2003). In large mixed-use projects, the design and location of streets, sidewalks and parks is actually just as important as the design and location of the buildings (Angotti and Hanhardt, 2001).

Component Integration

There is nothing more fundamental to the success of a mixed-use development than the proper integration of the project’s various components. Creating a harmonious relationship while placing different uses in close proximity to each other requires understanding the needs of each use and translating each of those needs into a coherent design scheme. That includes providing efficiently functioning infrastructure, including parking, utilities, services, and effective mechanical, electrical, and structural systems, that are capable of servicing each component’s differing demands (Schwanke, 2003). The different operating and activity cycles of each use must also be
accommodated and potential conflicts avoided through forethought and proactive
design. The most common design considerations being: “noise abatement by
soundproofing between uses; separate residential and commercial parking areas;
screened loading and dock areas; odor suppression and ventilation for restaurants; and
separate access for residential and office users from retail customers for security and
privacy” (Rabianski, 2009).

Moreover, the potential of mixed-use development to create synergies from the
various uses can only be capitalized on if the project components are properly aligned.
The design and position of each use must be thought out so that the uses perform as a
whole and benefit from one another. This is often accomplished by situating
complementary uses around common areas and public space, separating the uses that
draw the largest numbers of people to encourage a consistent flow of pedestrians
throughout the entire development, ensuring there are coffee shops and restaurants
that serve lunch close to the office buildings, and placing dry cleaners and other
everyday service providers are located next to the residential components.

Pedestrian Connectivity

One of the primary characteristics that distinguish a mixed-use development
from a single or multi-use project is pedestrian connectivity both within the project and
with the surrounding areas. The pedestrian orientation of mixed-use projects is a stark
contrast to the automobile orientation of most other types of real estate development
and requires significant thought to be put into the arrangement and design of the
buildings and open spaces. The goal should be to ensure easy and effective pedestrian
access to each of the project components and to and from the relevant adjacent areas (Schwanke, 2003).

A key component of an effective pedestrian network is a well-designed central open space. Whether it is a main street, central plaza, or some other type of public space, a central open space facilitates spatial orientation and provides strong visual connections and sight lines for pedestrians. Additionally, it is important to establish a clear hierarchy of streets, paths, and open spaces that radiate out from the central open space to create visual interest and draw people into the different areas of the development (Schwanke, 2003). Moreover, permeability, or the number of different routes that a pedestrian has to choose from, should be maximized through a grid structure and small block sizes.

Sense of Place

The design process for a mixed-use project is ultimately an exercise in place making, not just real estate development. As mentioned earlier in this paper, place making can be described as “the creation of vibrant, distinctive, pedestrian-friendly urban environments through the effective design and integration of a mix of uses” (Schwanke, 2003). So, while in the past, unique places within cities organically evolved over time, the challenge for mixed-use projects today is to instantaneously create unique places that feel authentic and possess a variety of distinctive characteristics that draw pedestrians back again and again.

The place making process requires a thorough understanding of the local culture and built environment, as well as a common vision that combines the unique aspects
of the local community with principles of good urban and architectural form. Moreover, successfully creating a sense of place within a mixed-use development requires a painstaking attention to detail that often separates projects that feel artificial from projects that feel genuine. Whether it is older, more mature street trees, varying architectural styles and building facades, quirky streetscape furniture, unique lamp posts and lighting, narrow street widths with on street parking, or any other design characteristic, successful place making in mixed-use development often lies in the details (Field, 2008).

Ownership & Financing

As is the case with every type of real estate development, the realization of a mixed-use project ultimately comes down to finding the necessary investment capital. However, conventional investment practices favor standardization and conformity, and over time the real estate industry has been distilled into 19 standard product types. These categories are made up of the single-use products that have defined America’s built environment for the past half century. Unfortunately, mixed-use development does not fit into one of these standard financing categories, often making it much harder and more expensive to secure the necessary capital for the project (Leinberger, 2003). Moreover, lenders often require complex ownership structures to be created for the purposes of expanding exit strategies and making it easier to foreclose on individual components of the project. For these reasons, identifying the optimal method of structuring ownership and securing financing for a mixed-use development requires careful consideration on the part of the development team.
Ownership Structure

The ownership structure of a mixed-use development can have a significant impact on the development team's ability to secure financing.

“If the developer wants to use a single construction financing source, the lender will seek a single borrower entity that owns all project components, such as a limited liability company, the members of which are the separate equity investors in the project components” (Rabianski, 2009). However, if the developer wants to utilize separate financing sources for each major component of the project, multiple special purpose entities would be created, with each assigned ownership of a certain project component. The purpose of structuring ownership in this way is to create a more flexible exit strategy with the ability to sell different components of the project at different points in the development cycle (Rabianski, 2009).

“The developer faces similar tradeoffs and complications when pursuing permanent financing. The larger loan associated with permanent financing on the entire property may be more attractive to many lenders; however, unless the mortgage contains lease provisions, individual loans on each property type parcel will give the owner greater flexibility in exit strategies (Wieden, 2007). When a single construction loan has separate take-outs for the project components, the construction lender is dependent upon each of the permanent lenders to accomplish full take-out of the loan. The condominium form of ownership will allow the construction lender to foreclose and sell only the single-use component on which the take-out commitment failed rather than foreclose and sell the entire mixed-use project (Kane, 2004)” (Rabianski, 2009).
Securing the needed debt and equity capital for mixed-use projects is difficult for a variety of reasons. Compared with most single-use projects, mixed-use developments often require larger capital requirements, more financing sources, higher equity requirements, more complicated underwriting, a longer development period, and more financial involvement from the public sector (Schwanke, 2003). However, the sources of funds themselves are the same as for single-use projects; the investors usually just have different requirements for mixed-use developments.

Financing any real estate project begins with equity, and equity in a project originates with a developer’s own capital. Since most developers can’t meet the equity requirements on their own, and even if they could, wouldn’t want that much of their money at risk, the remainder of the capital comes from equity partners. These investors may include developers and private property companies, wealthy individuals and limited partnerships, pension funds, investment advisory firms using pension fund money, insurance companies, REITs, opportunity funds, investment banks, commercial banks (especially in Europe), and other private investment entities” (Schwanke, 2003).

The remainder of the required capital, usually 70% of the total project cost for mixed-use developments, is covered by debt financing. The vast majority of debt financing is provided by commercial banks, insurance companies, savings institutions, the CMBS industry, and finance companies.

Additionally, a variety of public financing tools may be available for mixed-use developments that meet certain criteria set by the government. Although, many of these financing tools require that the project be located in special districts created by
the local municipality, such as improvement districts or reinvestment zones, and usually require certain criteria to be met (Rabianski, 2009). Furthermore, tax abatement programs, development bonds, and bonds from tax increment financing (TIF), known as tax allocation districts (TAD) in Georgia, may be available for the construction of certain types of facilities and infrastructure (Kirk, 2007).

Construction

The construction of a mixed-use project presents the development team, and construction service providers in particular, with a number of unique challenges. Many of these issues are related to the integration of multiple uses into a single structure and must be first addressed by the architects and engineers in the planning and design stage of the development processes. These issues often include incorporating separate points of ingress and egress for each use, aligning the different floor plans and structural requirements of various uses, and integrating the multiple sets of building systems usually needed for each use. However, there are several challenges that can not be easily resolved through thoughtful design. Potential issues that must be addressed on the construction site by the superintendent or project manager include ensuring that the proper building standards for each use are followed by the contractors, effectively managing the construction schedule for a complex project in which problems will inevitably arise, and coordinating a much larger number of sub-contractors than is typically utilized on a single-use project (Bergeron, 2007).
Building Standards

Building codes typically vary for each of the components included in a mixed-use development and the added complexity often creates difficulties for the contractors and subcontractors tasked with constructing the project. Even though the construction documents produced by the design team should specify the materials and standards to be used for each component, the drawings and specifications are not always correct, and regardless, it can be a challenge keeping everything straight on the job site. Moreover, mixed-use projects often encounter situations where it is difficult to know which standards to apply; such as for the common areas of a building that includes retail, hotel, office, and residential uses, or for the partitions that separate each use. Life safety and fire separation issues are especially important, and working with the inspectors and fire marshall to figure out the proper fire rating or sprinkler systems to use in each situation can cause significant delays and unforeseen expenses (Bergeron, 2007).

Additionally, there are construction best practices for mixed-use developments that usually fall outside the requirements of most building codes, but which can have a significant impact on the success of a project. Specifically, adequate amounts of sound attenuation and odor suppression must be incorporated into the project to prevent certain uses from becoming nuisances to other uses (Rabianski, 2009). Likewise, the subcontractors responsible for the installation of those systems have little room for error and must make sure that everything is installed properly. Seemingly insignificant mistakes like small gaps left in the sound batting between uses or accidental screw
holes made in a ventilation pipe can have serious implications down the road when the tenants and residents are moved in.

Construction Schedule

The construction schedule for a mixed-use development typically spans a longer timeframe than for a comparably sized single-use project. The reason for the extended schedule is the increased complexity experienced at nearly every stage of the mixed-use construction process. Whether it is complicated below-grade parking structures that are integrated into the building’s foundation, independent sets of building systems that must be installed separately for each use, or any other unique design characteristic that pushes contractors outside of their comfort zone, the potential for problems on mixed-use projects is sky high. As a result, the development team, and specifically the construction project manager, must be extra vigilant to ensure that the project stays on track and on budget (Bergeron, 2007).

Furthermore, on top of the increased complexity and extended construction schedules, it is often much more important to avoid delays and complete mixed-use projects on time. The increased pressure to finish on schedule originates from the fact that to be successful, mixed-use developments need to hit the ground running. This is a result of both the high carrying costs associated with mixed-use projects and the nature of mixed-use synergies which require a majority of the space for each use to be filled and open for business. Consequently, the marketing and promotion efforts for a mixed-use project typically begin very early on in the life of the project. This is both to begin building awareness and excitement around the project and to start attracting
quality retailers, office users, and residents (Schwanke, 2003). But with so much hype leading up the completion of the project, setbacks and delays are impossible to conceal and can cast negative light on the project.

*Contractor Coordination*

Coordination of the numerous contractors and subcontractors involved with the construction of a mixed-use project can be a logistical nightmare. Determining which sub is doing what and identifying when and where they are doing it requires a significant amount of organization and management skills. While some construction divisions, such as the mechanical, electrical, and plumbing trades, are typically handled by a single subcontractor, it can be difficult to find subs that have the necessary breadth of experience and skill needed to tackle each component of a large mixed-use project. Consequently, separate subcontractors are often brought in to handle each use. With multiple subs working on different uses it is critical that the superintendent effectively communicate to each sub their respective responsibilities and ensure that everything is properly integrated. Moreover, the project manager must ensure that the scopes of the contracts for each sub do not overlap and result in duplicate or repetitive work, but also must make sure that nothing is overlooked and not covered by any of the scopes, which could result in gaps in the overall work product (Bergeron, 2007).
Management & Operation

The complexity and challenges of mixed-use development do not fade once the project is completed. Instead the challenges persist as the development transitions from a project to a property. While a single-use property, such as an office building, condominium tower, or retail center, requires one set of practices for facilities upkeep, rent, accounting and other management factors, the same cannot be said for mixed-use properties (Marsh, 2006). Combining retail, hotel, office, multi-family, and any other use into a single property changes the management and operations significantly. “Each component of a mixed-use property has different demands and needs and property managers have to find a way to make the entire property operate efficiently” (Marsh, 2006). The successful management and operation of a mixed-use property requires the following questions to be addressed: What are the needs of each individual use? How should operating costs be allocated to each user? And how should operating responsibilities be designated?

Need Identification

A typical mixed-use property contains at least three separate components and each possesses distinct operation, management, and maintenance requirements. In a way, managing a mixed-use property can be like operating a small city; there are many different stakeholders with different motivations and concerns, and the needs of each stakeholder must be considered and balanced with everyone else’s (Schwanke, 2003). The challenges can be especially difficult if uses that are not complementary and which have radically different operating needs are permitted into the development. However,
even complementary uses can have very different needs. “For example, a large retail component requires significantly different security arrangements, parking operations, waste removal, cleaning and delivery schedules, promotion, and events management from an office or residential component” (Schwanke, 2003).

Cost Allocation

The allocation of costs related to the management and operation of a mixed-use development to each of the property’s components can be a complicated process. The primary issues arise when trying to determine each use’s prorated share of expenses related to common area use and maintenance, impact on utility and infrastructure systems, and use of other common services. “Specific issues to be considered for each land use might include the following: the rate at which shared utilities are expected to be consumed; the traffic anticipated to be generated by each user on common roads; whether there will be limitations on the hours that each land user can operate; the expected costs of maintaining, insuring, and operating common property, facilities, and services; and the extent to which any land use will need to be monitored for security” (Weissman, 2000)

As a result of the inherent difficulty in predicting actual use, common expenses are often allocated among property components on the basis of a generic formula such as square footage. The problem is that these simple formulas often do not accurately reflect the impact of each use. Moreover, once these formulas are put in place, they are usually very difficult alter, typically requiring the unanimous consent of all property owners. (Weissman, 2000)
Responsibility Designation

There is no simple formula for determining the optimal operations, management, and maintenance structure for a mixed-use property. Rather, the designation of responsibilities must reflect the objectives of each major component and the particular nature of each project, which for mixed-use properties often requires complex management structures (Schwanke, 2003). However, when possible, centralized management is usually the preferred structure and is often utilized to maintain common areas and building exteriors, manage shared parking areas, and provide a variety of other commonly needed services. The benefit of a single entity is the efficiency gains from eliminating many of the coordination and communication issues experienced with dispersed responsibilities. The key is to find a property manager that has the required knowledge, experience, and personnel to effectively operate a property containing a mixture of uses (Marsh, 2006).

While a centralized management structure is often preferred, it does not, preclude the allocation of operations, management, and maintenance to individual property components (Schwanke, 2003). Moreover, there are some situations where centralized management is not the desired strategy. This is usually the case when participants have substantially different operating needs and require significantly different types or levels of services. Additionally, public officials will often insist that the public component of a mixed-use property that operates under a public/private partnership, is managed and maintained by the public sector (Schwanke, 2003).
In sum, mixed-use development in practice is fraught with increased complexity and risk at each stage of the development process. Moreover, those complexities and difficulties differ for each project, and consequently, mixed-use development does not lend itself to the formulaic approach that many single-use real estate products enjoy (Schwanke, 2003). While experience with developing mixed-use projects certainly allows a developer to better predict where problems will arise and, to the greatest extent possible, address those issues in the planning and design stages of the development process, it is impossible to create a standardized product that can be applied to any situation. “Each project and situation is different, and concepts and outcomes vary dramatically, depending on the particular site, market, developer, urban designer, and financing” (Schwanke, 2003).

However, the inability of mixed-use developments to be standardized and conform with the norms of the real estate finance world is part of what makes the concept so appealing to so many different groups of people. As Trischler (2001) states, “one of the most insidious problems with all development is the tendency to blindly follow the latest trends and fads without tailoring them to [each project’s] unique situation.” The great thing about mixed-use development is that the nature and scope of mixed-use projects make it much more difficult to continue building the monotonous single-use projects that currently dominate so much of the American landscape.
5 Mixed-Use in Atlanta

Atlanta has been the poster-child of suburban sprawl for the past half-century. In fact, the vast metropolitan area surrounding the city has been consuming land at a rate that rivals that of any human settlement throughout the course of history (Leinberger, 2008). The ramifications of this unfettered growth are the outrageous traffic congestion, terrible air quality, high rates of chronic disease, and monotonous real estate.

Figure 4: Locations of Atlanta Case Studies
development that characterizes the region. However, the past ten years have provided glimmers of hope that this trend is waning. Capitalizing on suburban disillusionment, growing demand for urban living, and incentives aimed at redirecting growth inward, developers have produced a variety of mixed-use projects that have reinvigorated many of Atlanta’s long neglected in-town neighborhoods. Three noteworthy projects that offer lessons to guide future mixed-use development are Technology Square, Atlantic Station, and Glenwood Park.
Technology Square

Technology Square is a 1.4 million square-foot mixed-use development that connects the Georgia Institute of Technology with Midtown Atlanta. The development is lined with broad sidewalks that are animated by shops, cafes, and restaurants, and essentially serves as a new “main street” for both the students and the nearby residents and office users. The development occupies five city blocks and is composed of eight separate buildings that house educational, research, hospitality, office, retail, and residential uses. Additionally, the Fifth Street Bridge that spans Interstate 75/85 and links Midtown and Georgia Tech, was tripled in width to accommodate tree-lined shoulders with wide lawns that now serve as gathering places for students and local residents (Georgia Tech, 2011).

Figure 5: Technology Square Site Plan
Source: Georgia Tech, 2011
Furthermore, the project’s main components include the Georgia Tech DuPree College of Management, which contains 189,000 square feet of classrooms, offices, and learning resource space, the 234,000 square-foot, 252-room Georgia Tech Hotel and Conference Center, the 113,000 square-foot Global Learning Center, the 13-story, 488,000 square-foot Centergy One office building, the 208,000 square-foot Technology Square Research Building, and 120,000 square-feet of retail/restaurant space, which includes the Barnes & Noble at Georgia Tech campus bookstore. Moreover, the parking requirements for Technology Square are met by two newly constructed 1,500-car parking decks situated on opposite corners of the development (Georgia Tech, 2011).

Project Context

The idea for Technology Square originated during the 1996 Olympic Games when Georgia Tech was forced to use the Fifth Street entrance as the main route onto campus. Shortly before that time, the institute had announced its vision to create the technological university of the 21st century, but being forced to enter campus through the decaying Midtown neighborhood that abutted them to the east challenged the validity of that vision. Consequently, the institute’s leaders were compelled to rethink how they planned to transform their lofty objectives into reality (Georgia Tech, 2011).

The result came in the form of an ambitious mixed-use development plan that would address the institute’s expansion needs while at the same time reconnecting Georgia Tech with the local community and aiding in the city’s revitalization efforts in Midtown. Moreover, the Georgia Tech articulated its specific goals for the project as follows:
• Resourceful use of land by forming an alliance with the Midtown neighborhood and reclaiming a deteriorating area adjacent to campus
• Utilization of the stability and vitality of Georgia Tech to revitalize an entire urban neighborhood
• Preserving and enhancing of our environmental resources by achieving Silver LEED Certification for its College of Management (13th building in the USA at the time of certification)
• Creating a highly innovative development team combining the resources of Georgia Tech, the Georgia Tech Foundation, as well as private developers, to create intricate finance and development techniques tailored to each component of the project
• Initiating new successful business and research centers while supporting an emerging residential community of young professionals
• Innovative design and planning features include the creation of highly visible signature glass “lanterns” reoccurring on the facades and providing institutional “identity” as well as serving as an icon to traffic on Interstate 75/85
• Filling a special societal and market need by adding over one million square feet of new space to the university while bridging the often controversial gap between town and gown
• Establishing a “critical mass” of retail and commercial “main street” to be shared by Georgia Tech and the Midtown community (Georgia Tech, 2011)
The creation of a live, work, play, and learn community geared toward high-tech businesses and modeled on the principles of smart growth required Georgia Tech to assemble a development team with a wide variety of expertise. Moreover, the nature of the public-private partnership between the institute and the Midtown community required the development to be divided into two separate but integrated components: namely Technology Square and Centergy Plaza. The Technology Square portion was developed by Jones, Lang, LaSalle and TVS served as the project architect. The Centergy portion was developed by Gateway Development, who partnered with Kim King Associates, and the architect was Smallwood, Reynolds, Steward, Stewart & Associates. The construction service provider for both portions of the project was Hardin Construction. In both cases the developments teams had substantial prior experience with large-scale, mixed-use developments (Georgia Tech, 2011).

The $380 million of capital required for the project was provided by a combination of funds from Georgia Tech’s foundation and a variety of public and private sources. Additionally, the institute strategically employed several different financial mechanisms to make Technology Square a reality, including the use of tax-exempt bonds and traditional construction loans and permanent financing. Moreover, a master condominium was created to allow separate components of the development to be owned by different entities. This enabled both the not-for-profit and for-profit entities involved with the project to legally utilize the wide variety of tax-exempt and taxable financing options that were available (Georgia Tech, 2011)
Development Challenges

In addition to typical development challenges including unpredictable and inclement weather, the Technology Square development team confronted several challenges that were the direct result of the development being a mixed-use project located on an infill site.

The first complication that arose was due to the project site being bisected by Spring Street, a major southbound artery through the City of Atlanta, and the eastern boundary of the site being formed by West Peachtree Street, a major northbound artery. Throughout construction, traffic capacity on each of these roads had to be maintained at all times and required much more foresight and coordination of construction activities than would typically be needed. Moreover, complicating matters further was the fact that the sewer main running beneath Spring Street had to be upgraded to handle the added waste that Technology Square would generate (Georgia Tech, 2011).

The second big challenge was the result of the completion schedule desired by Georgia Tech. In order for the university’s needs to be met, the project could not be phased and required every building to be under construction at the same time. The logistical challenges that resulted from having eight separate buildings, each of which would have been complex projects in their own right, under constructed at once were enormous and required the creation of a complex management structure to keep the various aspects of the project organized. The development team decided to split into two major groups, the academic group and the revenue group, and then placed a senior project manager over each group, a separate project manager over each
building, and then a hierarchy of superintendents under each building project manager. This complex network of managers, superintendents, and subcontractors required an open and clear line of communication between all parties at all times to ensure the project moved forward on time and on budget (Georgia Tech, 2011).

Furthermore, challenges resulted from the installation, termination and testing of the miles of copper, fiber optic data and telecom cable that was required throughout the project to support the wide variety of specified technology systems. Scheduling and completing this work required close coordination with Georgia Tech and their equipment providers for data, telecommunication, audio visual, interactive signage and security systems. An additional challenge arose from the need to expand the bottom floor of the Centergy One building after site work had already begun to accommodate an extra 28,000 square feet of space needed by L.A. Fitness, which signed on late as a tenant (Georgia Tech, 2011).

Outcome & Lessons

Despite the numerous challenges that the Technology Square team faced throughout the development process, the project was delivered ahead of schedule, under budget, and has been an incredible success by any measure of the word. Each of the goals and aspirations that the university articulated for the development have come to fruition. Perhaps most importantly, Technology Square has blurred the line between Midtown and Georgia Tech, being fully recognized as an integral part of both. Moreover, there is an entirely new perception of the university, by both students and
members of the community, that it expresses an attitude of openness and inclusivity (Georgia Tech, 2011)

Additionally, the project has not only been a success from the standpoint of community perception, but also from a financial standpoint. Shortly after completion, both the Technology Square and Centergy components of the development achieved 100 percent occupancy. The Georgia Tech Hotel and Conference Center has also become a highly demanded space for the wide variety of conferences and conventions that are held in the City of Atlanta every year. Moreover, Technology Square has stimulated over four million square feet of new development and improvements on adjacent properties since the project was announced. The result of this combination of uses has been that a critical mass of people continually flow in and around the development, patronize the business, activate the street, and create the economic synergies that are celebrated in theory, but which are difficult to achieve in reality (Georgia Tech, 2011).

Furthermore, from a design and use integration standpoint, Technology Square has successfully become a unique place both on Georgia Tech’s campus and within the City of Atlanta. The block structure reinforces the existing street grid, the building fronts are oriented toward the streets, and the wide sidewalks with outdoor restaurant seating animate the streets. In addition, the restaurant and retail uses align with the needs of both the students and residents of the area, which maximizes interaction and synergy. Moreover, Fifth Street was transformed from a four-lane artery to a complete street with two traffic lanes, bicycle lanes, on-street parking, and wide sidewalks with trees, benches, and bike racks. Overall, Technology Square exemplifies the principles
of smart growth and, as a result of the project’s widespread success, it has received the following awards:

- 2004 ULI National Award for Excellence
- 2004 ULI Atlanta Development of the Year
- 2004 Atlanta Business Chronicle Deal of the Year
- 2003 ARC Development of Excellence
- 2003 PEDS Golden Shoe (Pedestrian Friendly Award)
- 2003 Southeast Construction Magazine Award of Merit (Georgia Tech, 2011)

So, with such ambitious goals for the project and challenges throughout the development process, how did the Technology Square development team deliver such a successful project? Moreover, what are the lessons that can be extracted and applied to future mixed-use developments?

According to Maria Bonau, an Associate Principal at TVS Design:

“It [was] a true partnership and collaboration among the members of the project team, which resulted in the achievement of our mutual goals. It took effective managing, sequencing, and expertise to deliver these buildings on time and in budget. This was a tremendous accomplishment and reflected the spirit and unity of purpose of the team” (Georgia Tech, 2011).
Furthermore, James Meyer, President of Atlantic Capital Partners, said the following with regards to the Technology Square and Centergy components of the development:

“Both difficult projects were not only under budget and ahead of schedule, but were both executed with a spirit of teamwork and a level of professionalism that was at the top of the list of the many projects with which I have been involved” (Georgia Tech, 2011).

Thus, two people possessing substantial experience with mixed-use developments and intimate knowledge of the process that lead to the success of Technology Square, credit the high degree of team work, professionalism, and collaboration that took place on this specific project. They elaborate that the project “owner, owner representatives, architect, contractors and consultants established an ‘open-forum’ for the free exchange of information” (Georgia Tech, 2011). The “open-forum” consisted of weekly meetings and breakout sessions that included each and every member of the development team going over budgets and drawings and discussing thoughts and concerns. It also included internal staff meetings, organized site visits, and team building events. In the end, the “open-forum” approach generated a significant amount of trust between the team members, which enabled them to provide each other with honest feedback and resolve issues expeditiously and cost effectively (Georgia Tech, 2011).
Atlantic Station

Atlantic Station is a 138-acre brownfield redevelopment located in the northwest corner of Midtown Atlanta at the nexus of Interstates 75 and 85. The massive infill project features a pedestrian- and transit-friendly design and is an embodiment of the city’s desire to address sprawl, and the wide variety of resultant issues, through smart growth principles. Atlantic Station features three main areas, namely The District, The Commons, and The Village, and each provides a live, work, play environment that together encourage a new model of growth in Atlanta. In addition, energy-efficient design standards were incorporated throughout the project and many of the buildings are Leadership in Energy and Environmental Design (LEED) certified. Moreover, the project facilitated the construction of the 17th Street bridge, which connects Atlantic

Figure 6: Atlantic Station Master Plan
Source: Atlantic Station, 2011
Station and the surrounding neighborhoods with Midtown Atlanta, and provides space for a variety of transportation options, including bike, pedestrian, automotive and mass transit travel. Upon full build-out, the project’s three districts will include roughly six million square feet of office space, 3,000 to 5,000 residential units, two million square feet of retail and entertainment space, 1,000 hotel rooms, and 11-acres of public parks (Atlantic Station, 2011).

**Project Context**

Atlantic Station sits on the site of the former Atlantic Steel Mill, which during its prime, was one of Georgia’s largest employers, but by the 1990’s, ran only skeletal operations to avoid the costs of closure (Cooperative Conservation, 2011). In 1997, Jim Jacoby, chairman and CEO of Atlanta-based Jacoby Development, Inc., recognized the site’s potential and commissioned a feasibility study to determine whether the property could realistically be remediated and redeveloped. The study concluded that it was possible to remediate the highly contaminated site and that the staggering costs associated with clean-up could be justified with a large redevelopment project.

However, Jacoby’s original vision for Atlantic Station fell far short of the ambitious mixed-use project it evolved into. In fact, the original plan was for a conventional suburban big-box project designed to move people in and out as quickly as possible, with large-scale, mass-market-oriented retail, gated garden apartments, and light-industrial uses. The catalyst for a new vision came from Brian Leary, a master’s student at Georgia Tech studying City and Regional Planning. Leary’s thesis topic was “Atlantic Station: A Place to Live, Work, and Play,” and he was able to
present his ideas to the Jacoby team. Leary ended up being hired to see the property through zoning and entitlements, and it was only after that point that the master plan began to incorporate a decidedly more mixed-use, new urbanist approach (Miller, 2006).

Jacoby partnered with CRB Realty Associates as master developers on the project and formed Atlantic Station, LLC to carry out the development. Additionally, Jacoby entered into a joint venture with AIG Global Real Estate Investment Corp, and while Atlantic Station was primarily a private venture from an ownership and financing standpoint, there was significant participation from the public sector throughout the process. Likewise, public and community partners included the U.S. Environmental Protection Agency, Georgia Department of Transportation, City of Atlanta, Home Park Community Improvement Association, Midtown Alliance, and the neighborhoods of Loring Heights and Ansley Park. Additionally, the design of the development evolved throughout the course of the project and included input from Post Properties, The Mills Corporation, Thompson, Ventulet, & Stainback, and Duany Plater-Zyberk & Company (Miller, 2006).

Furthermore, funding for the $2 billion project was provided by a variety of private and public sources. AIG Global Real Estate Investment Corp provided much of the private capital, backing the initial purchase of the land and financing many of the commercial and mixed-use buildings. Moreover, all of the financing for the hotel, office, retail and residential components of the development was provided by the private sector. On the public side, the City of Atlanta implemented a Tax Allocation District (TAD) for Atlantic Station that backed an initial $75 million in bonds that went into site
remediation and infrastructure improvements. In total, approximately $167 million of the $250 million needed for the cleanup, site preparation and infrastructure was provided by the TAD (Papa, 2008).

Development Challenges

As would be expected with a development that combines a massive mixed-use project with the largest brownfield redevelopment in U.S. history, there were many challenges that the Atlantic Station team confronted over the course of the project. Apart from the obvious issues relating to the remediation process, the team faced a series of challenges that resulted from the site’s disconnection from Midtown and the surrounding area. Additionally, the massive size of the project and its potential impacts on not only the surrounding community, but also on the city and region, presented the team with another set of challenges.

The first set of challenges that the Atlantic Station team confronted were the result of the extensive clean-up and remediation that was required to transform the property into a safe and livable development. The steel production process had left the land and ground water heavily contaminated with lead, and before any new construction could take place, those environmental problems had to be dealt with. That process began with the steel mill being deconstructed and the facility’s concrete foundations being dug-up, crushed and, wherever possible, used as backfill. Then, approximately 180,000 cubic yards, or roughly 20,000 truck loads, of contaminated soil had to be scraped and removed from the site. In addition, 164,000 cubic yards of granite had to be excavated and removed to create a level building area (Mundy, 2005).
Once the property was leveled and cleared of all contaminated materials, the entire site was capped with a 2 foot thick layer of clean soil. Furthermore, the remediation process required that a ground water monitoring and recovery system be incorporated into the new stormwater infrastructure to prevent any remaining contamination from migrating to near by areas (Papa, 2008).

The remediation process also resulted in the need to acquire a number of parcels that abutted the site, but which were not owned by Atlantic Steel and, consequently, were not part of the original deal. The need to purchase and remediate the abutting properties arose from further investigation into the extent of the lead contamination, which showed that a failure to remediate those properties would compromise the clean-up efforts on the actual site. Thus, roughly twelve additional acres of contaminated land had be purchased, remediated, and incorporated into the development’s master plan (Mundy, 2005).

The second major issue that the team faced was the product of the site’s disconnection from Midtown and the other surrounding neighborhoods. To the northwest, the development site was hemmed in by a main Norfolk Southern Railroad line, and to the east, the site was bound and severed from Midtown by I-75/I-85. While the railroad line was obviously not going to be moved or buried, building a bridge that spanned the interstate and reconnected Atlantic Station with Midtown was a viable solution to the project’s accessibility problems. However, as plans for the 17th Street Bridge were being developed, the Environmental Protection Agency (EPA) vetoed Georgia Department of Transportation spending on the bridge. The EPA did so because based on the City of Atlanta’s noncompliance with the air quality standards specified
under the Clean Air Act, new highway construction was prohibited and the new bridge was included in that category. The obstacle was only overcome after the Atlantic Station development team hired Duany Plater-Zyberk & Company (DPZ), an urban design firm specializing in new urbanism and smart growth, to alter the master plan and help convince the EPA that the smart growth aspects of the redevelopment would actually reduce air pollution in Atlanta, in addition to providing a number of other environmental benefits. DPZ’s design changes, coupled with the EPA's use of an innovative new program called Project XL, which sought to encourage smart growth development in non-attainment zones, allowed the development to proceed (Cooperative Conservation, 2011).

The final set of development challenges that the Atlantic Station team faced resulted from the massive size of the project and its potential to impact not only the surrounding community, but also the rest of the city and region. That greater potential for impact resulted in the need to involve a multitude of stakeholders in the entitlement process. As a result, Atlantic Station’s entitlement process, which for any real estate project can be complicated, time consuming, and expensive, was much more complex and arduous than the development team was expecting. The process included numerous rounds of public hearings, discussions with neighborhood and community groups, meetings with city and state officials, and continuous negotiations aimed at balancing the concerns of the variety of stakeholders; a list of which included the City of Atlanta Planning Department, the Atlanta Development Authority, the Atlanta Regional Commission, the Georgia Department of Transportation, the Environmental Protection Agency, the Georgia Institute of Technology, nine neighborhood organizations, and
several other business and community groups, including the Midtown Alliance (Papa, 2008).

**Outcome & Lessons**

Atlantic Station transformed a lead-contaminated wasteland into a bustling mixed-use neighborhood. The project remains the largest brownfield redevelopment in U.S. history and, in many ways, launched the effort to reorient Atlanta’s growth inward. Through the utilization of smart growth principles, it helped reduce Atlanta’s long term growth in vehicle miles traveled, decreased air emissions and saved open space. (Papa, 2008). Moreover, Atlantic Station’s efficient use of land reduced annual stormwater runoff by almost 20 million cubic feet a year. In addition, during construction the Atlantic Station team upgraded the sewer system that originally served the site by separating sanitary sewer from regular sewer and stormwater. The separated system, along with the incorporation of other stormwater best practices such as modified catch basins, has significantly reduced the flow of pollutants into the region’s river systems. In recognition of these positive environmental impacts, Atlantic Station was awarded the EPA’s 2004 Phoenix Award for the Best National Brownfield Redevelopment and was also listed on Sierra Club’s 2005 list of A Cooperative Conservation America. (2011 merica’s Best New Development Projects (EPA, 2011).

In addition, the benefits that Atlantic Station has provided are not limited to the natural environment. The development has also improved neighborhood amenities, created 30,000 new jobs and 5,000 new in-town housing options, and anchored a wave of development throughout Midtown and the west side of Atlanta (Cooperative
Conservation, 2011). The transformation of the site also significantly increased the tax revenues generated for both Fulton County and the City of Atlanta. In fact, prior to redevelopment, the Atlantic Steel site generated roughly $300,000 a year in property taxes; post redevelopment, Atlantic Station is now generating over $30 million a year in property taxes. And while most of the revenue increases are being utilized to back the TAD bonds that were issued to fund the infrastructure improvements, the project has undoubtedly increased property values throughout the Midtown area. Moreover, in addition to increases in property values, the retail component of the development is generating $10 to $20 million a year through a Special Interest Local Option Sales Tax (Papa, 2008).

However, while Atlantic station has certainly been a benefit to the City of Atlanta in a variety of ways, the development team missed an opportunity to create something truly special. As discussed earlier, it is vitally important for mixed-use projects to create a unique sense of place that provides residents and visitors with an experience that they cannot have anywhere else and which draws them back again and again. It is also essential that each use within the development complement the other uses and attract the types of residents and visitors that benefit the community. Unfortunately, the Atlantic Station team missed the mark with both of these important aspects of mixed-use development. Moreover, as evidenced by the project’s evolution from a suburban style, big-box center to a mixed-use, live-work-play community, the development team failed to distill a clear vision at the beginning of the development process to guide the project through design and implementation.
As a result of the team’s short-comings, Atlantic Station has become a mixed-use development that feels much more like an open-air mall than a unique in-town neighborhood. The retail and restaurants found in Atlantic Station can be found at any mall in the Atlanta area and the architecture is monotonous and uninspiring. Additionally, the night clubs that have been allowed to operate in the development have resulted in a night time atmosphere that encourages cruising and loitering and which has attracted people that negatively impact the development (Kelly, 2011). Consequently, there have been several shootings and robberies that have occurred at Atlantic Station and cast the development in a negative light. In addition to attracting an unsavory crowd, the noise generated by the clubs has deterred people from buying the loft and condo units positioned above the ground floor retail. These factors combined with the economic downturn and a struggling real estate market have contributed to Atlantic Station falling short of its potential (Miller, 2006).

Furthermore, this negative perception is shared by many experienced mixed-use experts. Architect and urbanist Andrés Duany of Duany Platter-Zyberk, whose firm worked on the Atlantic Station master plan, criticized the development team for “the large commercial buildings [which] are very banal architecture and the townhouses [which] are abysmally designed.” Moreover, Duany finds “the streets and open spaces too large and the major roads too speedy” (Miller, 2006).

Additionally, Ellen Dunham-Jones, a professor of architecture and urban design at Georgia Tech, summarizes her thoughts on Atlantic Station as follows:
“It’s a surreal project. On the eastern side, they dealt with the contaminated land by capping it with a 30-acre, two-story parking garage on top of which they built a new city. On the one hand it's innovative and provides significant amounts of 'underground' parking. On the other hand it's bizarre: You have a walkable, mixed-use, urban place, but it's two stories above the ground on three sides. The edges of the deck have not been closed in, so right now from certain views it appears a bit like a city on an aircraft carrier. [Moreover], all of the edges of the project and the interconnections between the parts are still undercooked and I wince at many of the architectural and urban streetscape details” (Miller, 2006).

However, Atlantic Station still possesses tremendous potential and the underlying structure of the development allows it to evolve over time. Recently, North American Properties, in a joint venture with CB Richard Ellis Investors, acquired Atlantic Station from AIG Global Real Estate Investment Corp with the hopes of reinventing the development. Over the next four years, the new owners plan to make a series of significant changes that they hope will transform the development into a unique and desirable community within the city. Their proposed changes will include new retail and restaurants that are geared toward in-town residents, the massive parking structure will be altered to make it easier for people to navigate, the night clubs will be shut down, and there will be an increased focus on safety and pedestrian activity (Kelly, 2011).

Perhaps most importantly, the new ownership team recognizes what is fundamentally wrong with Atlantic Station and has the desire and the means to correct the primary issues.
Glenwood Park

Glenwood Park is a 28-acre “new urbanist” development located two miles east of downtown Atlanta. It features a traditional neighborhood design that incorporates a fine-grained mix of different housing types, as well as retail stores, office space, civic buildings, people-friendly streets, parks, a town square, and recreational facilities. In
addition, Glenwood Park is a certified EarthCraft Community, which is an attestation to its focus on sustainable planning and design principles including brownfield redevelopment, storm water management, preservation landscaping, pedestrian-orientation, community involvement, and green building. Upon full build-out, the project will boast over 750,000 square feet of developed space, which includes roughly 400 residential units, 20,000 square feet of office space, and 50,000 square feet of retail space. Moreover, the on-site population, which includes both residents and workers, is expected to reach between 800-1200 people (Green Street Properties, 2011).

Project Context

Glenwood Park is located on a former industrial site that prior to redevelopment had most recently served as a concrete recycling facility. The area surrounding the development predominantly consists of century-old, single family neighborhoods that experienced sharp declines in the 1960s, but which have been gradually recovering over the past couple decades. The area is racially and economically diverse, and while property values have been steadily rising, prices are still far less than those seen in the more affluent neighborhoods in the northern parts of the city (Buntin, 2005).

The Glenwood Park site was first purchased in 2000 by Novare Group, an Atlanta based real estate development firm. Novare created a mixed-use development proposal that featured a large office component, condominiums, and a grocery-anchored shopping center. The land was successfully rezoned to allow for the initial mixed-use plan; however, due to the economic conditions of the time, the proposal was not developed. Subsequently, in the fall of 2001, Novare invited Green Street
Properties, also an Atlanta based real estate development firm, to take over the project and, given Green Street’s passion for cities, walkable neighborhoods, and environmental stewardship, a new vision for the project emerged (Buntin, 2005).

Green Street’s primary goal with Glenwood Park was to create “a nationally recognized model of responsible, sustainable development based upon the principles of new urbanism” (Dover, Kohl & Associates, 2006). Moreover, Green Street wanted to create a demonstration model proving that new urbanist concepts could succeed in the context of the American free market, serving as a precedent both financially and physically. Charles Brewer, a founding principal of Green Street, said he sought to show that, “we can once again create wonderful, walkable, loveable places,” and he hoped that, “Glenwood Park [would] help raise our collective confidence level and aspirations about the kind of places that we can build today and in the future” (Buntin, 2005).

To make their vision a reality, Green Street hired Dover, Kohl & Parters, a Miami based urban design firm specializing in traditional neighborhood design, to lead the design charrette for the project. Additionally, Tunnel-Spangler-Walsh & Partners (TSW), an Atlanta based urban design firm also specializing in traditional neighborhood design, assisted with the charrette and conducted the detailed design work that carried the project to fruition. Green Street also partnered with The Meddin Company, a leading Atlanta owner and developer of street-facing retail, to develop the mixed-use and retail portions of the community. Moreover, to create a unique sense of place, three different sets of architects were hired to design the mixed-use and commercial portions of the development, and three separate home builders were hired to design and construct the townhome and single family components (Buntin, 2005).
The $150 million of capital that was required to make Glenwood Park a reality was provided entirely by a small group of project “insiders”; eliminating the need for outside equity or bank debt. As a result, throughout the entire development process, Green Street was able to avoid outside financial pressure to do things in a conventional way. According to Charles Brewer:

“While we don’t know what the process would have been like with other investors, we suspect our financial independence at Glenwood Park made our life much easier and [was] one of the things that helped us stay true to our vision and avoid compromises that would have hurt the neighborhood” (Buntin, 2005).

Development Challenges

The primary challenges that Green Street Properties confronted during the development of Glenwood Park centered around two characteristics that many mixed-use developments possess. The first set of problems was the direct result of the project being an infill, brownfield redevelopment. Mixed-use developments often take advantage of the large, well-located sites that former industrial properties provide, however, those sites often present the developer with major challenges and that was certainly the case with Glenwood Park. The second set of challenges was the result of the new urbanist principles that informed Glenwood Park’s design. As is often the case with mixed-use developments, the design guidelines for the project did not conform to the city’s regulations, and the process of convincing the City of Atlanta and the other
relevant state agencies to make the changes that were necessary for Glenwood Park to become a reality, was a long and arduous task (Buntin, 2005).

The first issue that the Glenwood Park team faced involved a drainage ditch that entered the site in a storm sewer, emptied into a deep ditch gouged into industrial fill, and then re-entered another storm sewer before exiting the site. While Green Street wanted to fix the sewers and create a stormwater retention pond that would be used to collect, filter, and reuse the water, the development team had a difficult time receiving permission to alter the ditch due to jurisdictional issues between city and state officials. In fact, the issue actually threatened the viability of the entire development for several months. Ultimately, however, the Green Street’s proposed changes to the ditch were approved and the project was able to get back on track (Buntin, 2005).

The second main issue relating to the project site was the unforeseen discovery and required removal of large amounts of industrial materials. First, the site was covered with more than 40,000 cubic yards of concrete debris that required removal. Then, once the concrete was removed, nearly 40,000 cubic yards of buried wood chips, an amount large enough to cover a football field 36 feet deep, were discovered and also had to be hauled away. Lastly, thirteen underground storage tanks were discovered over the course of project, each of which caused construction to halt while the tanks’ contents were tested. Fortunately, none of the tanks presented any major contamination problems and each was able to be extracted and hauled away (Buntin, 2005).

Additionally, issues relating to Glenwood Park’s design centered on the project’s street widths and corner radii. Narrow streets and tight corners are key components of
pedestrian-friendly design, but the designs did not conform with city standards and
city officials had many concerns. In fact, it was only after the involvement of a few key
elected officials, including the mayor, that a resolution was reached; a resolution that
came in the form of a new city ordinance allowing specific street dimensions for
qualifying “traditional neighborhood developments” (Buntin, 2005).

The other issue relating to the design of Glenwood Park involved the inclusion of
on-street parking and street trees along Bill Kennedy Way, which was a main street that
passed through the development. Unfortunately, Bill Kennedy Way was under the
jurisdiction of the Georgia Department of Transportation (GDOT) and it was made clear
to Green Street that GDOT was not supportive of their designs. It was only after a
series of lengthy negotiations with the City of Atlanta and GDOT that Green Street was
able to get the street transferred to the city’s jurisdiction, which allowed the project to
continue progressing as designed (Buntin, 2005).

Outcome & Lessons

When setting out to develop Glenwood Park, Green Street Properties articulated
its goal of creating a compact, new urbanist community characterized by a fine-grained
mix of uses with a diversity of building types positioned along sidewalks and streets
that emphasized pedestrian comfort and safety (Buntin, 2005). Moreover, they sought
to prove that it is still possible to create such places within the confines of American
real estate markets. With these goals in mind, Glenwood Park has been a wildly
successful mixed-use development.
Even with the series of challenges and setbacks that the development team faced, the project was essentially delivered on-time and on-budget. Moreover, while the master plan evolved over the course of the project to address unforeseen issues that arose, the team was able to stay true to their underlying vision and ideals. Green Street was able to do so because they understood that developers of new urbanist communities are frequently forced to compromise away their visions to appease planning departments, neighborhood associations, and financial institutions, and they fought hard from the beginning to make sure that they did not meet the same fate (Buntin, 2005). The result is a community that celebrates pedestrians while still accommodating automobiles; that is seamlessly stitched into the existing urban fabric, but which is significantly denser than the surrounding areas; and that serves the everyday needs of the surrounding community, but also serves as a destination for people living throughout the City of Atlanta.

Charles Brewer summed up the development team’s sense of pride for Glenwood Park as follows:

“I don’t want to sound too boastful in saying this about Glenwood Park, but it is a pretty pure expression about the principles of urbanism and walkability that many of us are interested in. We [didn’t have] to make a lot of compromises there, and we’ve carried some of the principles to a more complete conclusion than typically gets done” (Jones Kendall, 2006).
Furthermore, in addition to successfully creating a pure expression of new urbanist principles, Glenwood Park has managed to remain profitable, albeit by a razor thin margin, even though the project was delivered shortly before the recent economic meltdown (Brown, 2009). All of the residences that have been completed, which includes the single family detached, townhomes, and condos, are occupied, and less than 10 percent of the residential lots remain undeveloped. Moreover, 100 percent of the office/condos have been sold. Additionally, while the retail has struggled to find its feet, the improving economy has brought in a number of new businesses and, currently, the 50,000 square feet of retail space is over 70% leased (Mijanovich, 2011).

All things considered, Glenwood Park has been widely recognized as a model mixed-use development and has received the following awards:

- 2005 Congress for the New Urbanism Charter Award
- 2005 EarthCraft House Development of the Year
- 2004 Greater Atlanta Home Builders Association Community of the Year
- 2004 Georgia Urban Forest Council Outstanding Community
- 2004 Creative Loafing Best Atlanta Real Estate Developer
- 2004 Georgia Conservancy Distinguished Conservationist Award (Buntin, 2005).

Achieving such a high level of success and recognition while overcoming so many different challenges, leads one to ask: how did the development team pull it off? In response to that question, Charles Brewer credits five primary factors for the development’s success:
First, the state and location of the development site proved to be a major advantage for Green Street Properties. The site was in such deplorable conditions prior to redevelopment and was so despised by local residents that pretty much anything that was proposed for the property would have received community support. The site was also located at a major intersection and had interstate access to the immediate north of the property, so there was not much concern among local residents about increased traffic through their neighborhoods. Furthermore, the surrounding area was significantly under-served by retail, so there was already a strong desire for a mixed-use project with a substantial commercial component (Buntin, 2005).

Second, the development team was comprised of a diverse set of experienced and talented partners, designers, and builders that shared a common vision for the project. Starting with the first design charrette that was lead by Dover Kohl and TSW, Green Street assembled a team that was experienced with both mixed-use and new urbanist principles. They also made sure to involve a diversity of architects and builders that possessed their same ideals regarding quality urban development, but which would produce a variety of building types. The common vision combined with a multitude of design styles, resulted in the development feeling cohesive while also feeling like a collection of individual buildings built over a much longer period of time (Buntin, 2005).

Third, the ability to utilize an insider only financing strategy eliminated the need for outside debt or equity capital and allowed the development team to avoid financial pressure to make compromises with regard to their vision. As mentioned earlier, while Green Street can’t predict what the development process would have been like with
outside financing, they are confident that the project would not have been as successful (Buntin, 2005).

Fourth, the development team built a positive relationship with the surrounding neighborhood groups that was founded on a mutual sense of trust. Early on in the process, Green Street reached out to the neighbors and incorporated their input into the planning and design of the project. In those early meetings, Green Street was able to win over the local residents by illustrating that their vision for Glenwood Park aligned with the community’s best interests. As a result, when the development team confronted opposition from the planning department over designs that failed to comply with City of Atlanta standards, the neighborhood groups provided the political support needed to get the regulations changed (Buntin, 2005).

Lastly, in addition to strong community support, the Glenwood Park team had the support of a few key city officials and, overall, had a good working relationship with the City of Atlanta. While the numerous issues involving sewer pipes, street widths, and zoning regulations might make it seem like the development team was constantly at odds with the city, in reality the two parties had a cordial relationship. Moreover, Atlanta Mayor Shirley Franklin and District 1 Councilwoman Carla Smith became strong advocates for Glenwood Park and were instrumental in pushing the project through rezoning and permitting (Buntin, 2005).
Mixed-use development remains an ambiguous concept. In theory, there are debates regarding its definition and conceptualization, in addition to arguments over its guaranteed and potential benefits. In practice, real estate professionals involved with mixed-use projects are confronted with added complexity and risk at nearly every stage of the development process. However, despite the uncertainty associated with the concept, mixed-use development has garnered a significant amount of attention and praise over the past several decades and, most likely, will continue to play a pivotal role in the real estate and planning worlds for some time to come.

The reason for mixed-use development’s rise to prominence is its potential to relatively quickly recreate the type of well structured urban environments that were regrettably abandoned over the course of the 20th century. In the past, mixed-use cities evolved gradually over centuries. The transformation of those dense, mixed-use urban areas into sprawling, monotonous metropolises occurred over many decades. The hope is that by incorporating a mixture of uses into single development projects, the process of once again restructuring our urban environments will be expedited.

However, simply combining a variety of different uses within individual development projects will not automatically lead to the reemergence of quality, pedestrian-oriented urban areas. Moreover, even well designed mixed-use projects can struggle to generate the returns needed to succeed from a financial perspective. Ensuring that future mixed-use developments live up to the concept’s expectations requires planners and real estate professionals to absorb the lessons that each completed project has to offer. In this vein, four essential criteria for creating successful
mixed-use developments can be distilled from the three Atlanta case studies described in detail above.

First, the project must be led by a diverse and experienced development team that is bound together by a common vision and is able to effectively communicate with one another. The success of both Glenwood Park and Technology Square can be directly attributed to the high degree of team work, collaboration, and professionalism that characterized the respective development teams. Moreover, both teams had a clear vision that guided decision making throughout each of the development processes. Atlantic Station, however, continues to suffer as a result of the development team’s lack of experience with mixed-use projects and their failure to develop a clear vision at the outset of the project.

Second, the development team must create a master plan that responds to the project site’s unique environment, creates a distinct sense of place, maximizes pedestrian activity, and integrates a variety of synergistic uses into the existing urban fabric. These characteristics are not only vital to the long term success of the project, but also to gaining the trust and support of the local community at the beginning of the development. The context-sensitive and pedestrian-oriented design of Technology Square has transformed a blighted portion of Midtown into a well-integrated and unique destination that has been embraced by both Georgia Tech and the surrounding community. Additionally, Glenwood Park would not be what it is today if the master plan had not inspired the local neighborhoods to support the development team as they fought to get the city’s zoning regulations changed. Additionally, Atlantic Station’s
lack of a distinct sense of place and poor integration of uses has unfortunately resulted in it being negatively perceived by many people within the local community.

Third, the project’s capital structure must allow the development team to retain control of their vision and be able to absorb setbacks from unforeseen challenges that are likely to arise. Each of the three Atlanta projects that were highlighted faced a variety of unforeseen challenges throughout the development process. The underlying capital structure of each project had a significant impact on the development team’s ability to deal with the issues while staying true to their vision for the project. Green Street Properties was able to fund Glenwood Park without having to utilize outside equity or bank debt. That allowed them to avoid having to make compromises on the project’s design and has resulted in a truly unique destination within the city. In contrast, the massive size and scope of Atlantic Station required significant debt financing from both the public and private sectors, and consequently, the lenders’ preferences for less risky national retailers has resulted in the development feeling more like an outdoor mall than a unique in-town neighborhood.

Fourth, the project must incorporate a physical design and legal structure that allows the project to evolve over time and change as needed. The ability to change with the times and accommodate a wide range of future uses ensures that even if a project is not successful in the short-term, it has the opportunity to succeed in the long-term. So, while Atlantic Station might have a number of different issues that need to be addressed, the development was recently purchased by a group that has a new vision for the property and the project now has the opportunity to be reinvented. However, in order for a property to evolve into something better than its current state,
the physical components must be able to be altered and the ownership structure and lease agreements must allow for the necessary changes to be made.

In sum, mixed land uses were an essential aspect of cities throughout most of human history. It was only during the early to mid 20th century that the growing pressures of technological and societal revolutions resulted in an alternative option being embraced. However, after several decades of living with the negative consequences of that alternative, a movement to reintroduce the mixed-use urban environments of the past has gained traction (Grant, 2004). Transforming the system that has governed planning and real estate development in America for the past half-century will undoubtedly be difficult, but such a transformation has occurred before and if recent trends hold, it is definitely possible. However, due to the variety of variables that influence the quality of urban areas, it will take much more than mixed-use development alone to bring about the widespread changes that are desired. In the end, “mixed use cannot resolve all the problems of the city, but cities that lack mixed use cannot hope to enjoy long-term prosperity or viability” (Grant, 2004).
References


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